MOUNTAIN VIEW AFFORDABLE HOUSING COMMUNITY PROJECT
LAKE FOREST, CALIFORNIA
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared for:

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June 2020

TABLE OF CONTENTS

Page

SECTION 1.0 – INTRODUCTION 1
1.1 CONTACT PERSON 1

SECTION 2.0 – PROJECT DESCRIPTION 2
2.1 PROJECT PURPOSE 2
2.2 PROJECT LOCATION AND SETTING 2
2.3 REQUIRED PERMITS AND APPROVALS 4

SECTION 3.0 – ENVIRONMENTAL DETERMINATION 11
3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: 11
3.2 DETERMINATION 11

SECTION 4.0 – EVALUATION OF ENVIRONMENTAL IMPACTS 12

SECTION 5.0 – CHECKLIST OF ENVIRONMENTAL ISSUES 14
5.1 AESTHETICS 14
5.1.1 Impact Analysis 14
5.2 AGRICULTURE AND FOREST RESOURCES 16
5.2.1 Impact Analysis 17
5.3 AIR QUALITY 18
5.3.1 Environmental Setting 18
5.3.2 Impact Analysis 21
5.4 BIOLOGICAL RESOURCES 29
5.4.1 Impact Analysis 29
5.5 CULTURAL RESOURCES 32
5.5.1 Impact Analysis 32
5.6 ENERGY 34
5.6.1 Impact Analysis 34
5.7 GEOLOGY AND SOILS 38
5.7.1 Impact Analysis 39
5.8 GREENHOUSE GAS EMISSIONS 42
5.8.1 Impact Analysis 42
5.9 HAZARDS AND HAZARDOUS MATERIALS 44
5.9.1 Environmental Setting 44
5.9.2 Impact Analysis 45
5.10 HYDROLOGY AND WATER QUALITY 48
5.10.1 Impact Analysis 49
5.11 LAND USE AND PLANNING 52
5.11.1 Impact Analysis 53
5.12 MINERAL RESOURCES 53

5.12.1 Impact Analysis 54
5.13 NOISE 54
5.13.1 Environmental Setting 55
5.13.2 Impact Analysis 57
5.14 POPULATION AND HOUSING 68
5.14.1 Impact Analysis 68
5.15 PUBLIC SERVICES 69
5.15.1 Impact Analysis 70
5.16 RECREATION 74
5.16.1 Impact Analysis 74
5.17 TRANSPORTATION 75
Impact Analysis 75
5.18 TRIBAL CULTURAL RESOURCES 77
5.18.1 Impact Analysis 77
5.19 UTILITIES AND SERVICE SYSTEMS 80
5.19.1 Impact Analysis 80
5.20 WILDFIRE 85
5.20.1 Impact Analysis 85
5.21 MANDATORY FINDINGS OF SIGNIFICANCE 86
5.21.1 Impact Analysis 87

SECTION 6.0 – REFERENCES 89

APPENDIX A – Air Quality and Greenhouse Gas Emissions
APPENDIX B – Biological Resources Technical Memorandum
APPENDIX C – Preliminary Geotechnical Investigation and Soils and Percolation Study
APPENDIX D – Phase I Environmental Site Assessment
APPENDIX E – Phase II Environmental Site Assessment
APPENDIX F – Preliminary Hydrological Report
APPENDIX G – Preliminary Water Quality Management Plan
APPENDIX H – Noise Analysis
APPENDIX I – Transportation Assessment

LIST OF FIGURES

Figure 1: Project Vicinity and Location Map 6

Figure 2: Project Aerial 7

Figure 3: Site Plan 8

Figure 4: General Plan Amendment 9

Figure 5: Zone Change 10

Figure 6: Noise Receiver Locations 61

Figure 7: Operational Noise Source Locations 64

LIST OF TABLES

Table 1: Designations/Classifications for the Project Area 8

Table 2: Regional Thresholds of Significance 12

Table 3: Local Thresholds of Significance 24

Table 4: Project Construction Emissions and Regional Thresholds (Without Mitigation) 13

Table 5: Localized Significant Summary of Construction (Without Mitigation) 14

Table 6: Project Operational Emissions and Regional Thresholds (Without Mitigation) 15

Table 78: Total Project GHG Emissions (Annual) 32

Table 8:24-Hour Ambient Noise Level Measurements 44

Table 9: Significance Criteria Summary 46

Table 10: Construction Reference Noise Levels 47

Table 11: Unmitigated Construction Equipment Noise Level Summary 48

Table 12: Construction Noise Level Compliance 48

Table 13: Daytime Project Operational Noise Levels 51

Table 14: Nighttime Project Operational Noise Levels 51

Table 15: Operational Noise Level Compliance 52

Table 16: Daytime Project Operational Noise Level Increase 54

Table 17: Nighttime Project Operational Noise Level Increase 54

Table 18: Nighttime Project Operational Noise Level Contributions 55

Table 19: Unmitigated Construction Equipment Vibration Levels 56

SECTION 1.0 – INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the State CEQA Guidelines, the City of Lake Forest's (City) Local CEQA Guidelines, and the City's CEQA Significance Thresholds Guide, this Initial Study has been prepared for the proposed 71-unit affordable housing apartment complex (Project) at 24451 Raymond Way and 23591 El Toro Road, located near the northeast corner of El Toro Road and Raymond Way in the City of Lake Forest.

Pursuant to Section 15063(a) of the State CEQA Guidelines, the City is required to undertake the preparation of an Initial Study to determine whether the proposed action will have a significant effect on the environment. The purposes of this Initial Study are to: (1) identify potential environmental impacts, (2) provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration, (3) enable the Lead Agency to modify the Project (through mitigation of potential adverse impacts, if any), (4) facilitate assessment of potential environmental impacts early in the design of the Project, and (5) provide documentation for the potential finding that the Project will not have a significant effect on the environment or can be mitigated to a level of insignificance (CEQA Guidelines, Section 15063[c]). This Initial Study is also an informational document providing an environmental basis for subsequent discretionary actions that could be required from other Responsible Agencies.

This Initial Study evaluates the potential environmental impacts that may result from development of the Project. Consistent with State CEQA Guidelines Sections 15050, 15051, and 15368, the City is the Lead Agency under CEQA, and it is responsible for adoption or certification of the environmental document and approval of the Project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this Initial Study, its assumptions, or its conclusions should be referred to:

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SECTION 2.0 – PROJECT DESCRIPTION

2.1 PROJECT PURPOSE

National Community Renaissance of California (NCRC) , the Applicant, in coordination with the City of Lake Forest (City), proposes a 71-unit affordable housing apartment complex project located near the northeast corner of El Toro Road and Raymond Way in the City. The proposed Project requires approval of a General Plan Amendment, Zone Change, Tentative Parcel Map, Site Development Permit, Affordable Housing Agreement, and Planned Sign Program. The purpose of the Project is to provide affordable units to households earning less than 60 percent of the Area Median Income; of which 12 of the units will be set aside for Permanent Supporting Housing.

The City has prepared this Initial Study (IS) to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the proposed Project. This IS includes a project-level analysis of the potential effects associated with the Project.

2.2 PROJECT LOCATION AND SETTING

Located near the northeast corner of El Toro Road and Raymond Way, the proposed Project site is situated in the southwestern quadrant of the City, in Orange County, California, just a few blocks north of Interstate 5.

The Project site is generally L-shaped and comprises a single parcel (APN 617-441-02) totaling 3.76 acres. The parcel is fully developed with two 2-story office buildings, surface parking lots, and landscaped areas. One office building (approximately 28,820 square feet) is situated on the eastern end of the site fronting El Toro Road (23591 El Toro Road).

The second office building (approximately 31,573 square feet) is located on the western edge of the site, fronting Raymond Way (24551 Raymond Way). Access to the site is provided at three points, from El Toro Road, Raymond Way, and Packer Place.

The Project site is currently zoned Professional Administrative (PA) and has a Professional Office land use designation in the City's General Plan. The current land use designation and zoning do not allow for the development of residential uses on site.

Tentative Parcel Map

The proposed Project will require a Tentative Parcel Map to divide the parcel into two. Parcel 1 will be approximately 1.965 acres (85,596 square feet (net)) on the western and northern portion of the site fronting Raymond Way and Packer Place. Parcel 2 will be a rectangular parcel on the southeastern half of the site, approximately 1.798 acres (78,306 square feet), fronting El Toro Road. Though subdivided, no barriers between the parcels are proposed, and access through both sites will be reciprocal.

Site Development Permit

The proposed Project will require approval of a Site Development Permit (SDP) application. The purpose of the SDP would ensure that the proposed Project would conform to the development and design standards of the City.

Parcel 1: Residential

To develop Parcel 1, the existing 31,573-square-foot office building located at 24551 Raymond Way will be demolished. The then vacant 1.965-acre site would be developed with one 4-story residential building to provide a total of 71 apartment homes with a community center and recreational amenities located at the northern end of the site. Developed at an overall density of 36.13 units per acre, the new building will include 18 one-bedroom units (522 net square feet), 35 two-bedroom units (750 net square feet), and 18 three-bedroom units (1,020 net square feet). In total, the plan for Parcel 1 proposes 54,771 square feet of residential development, 8,610 square feet of outdoor balconies/patio, and 17,801 square feet of community facilities/common areas. The total gross building area is 81,182 square feet.

The residential building will be located on the southwest side of the parcel, adjacent to Raymond Way. The building is three and four stories with varying roof styles and heights, with a maximum height of 51 feet 2 inches. The building design provides articulation with the incorporation of wall plane changes, balconies, material changes, and tower elements. The building architecture features a variety of building materials, including stone, horizontal siding, vertical siding, roof shingles, and metal roofs. The proposed color palette for the building will consist of earth tone colors. In the center of the site, centrally located from the residential buildings, the development will provide several recreational amenities, including an approximately 2,050-square-foot community center, a small playground for young children ("tot lot"), outdoor fireplace with seating areas, and large activity lawn. A trash enclosure will be provided at a central location and will match the architectural style of the main building.

The residential development proposed on Parcel 1 will provide 70 units affordable to households earning less than 60 percent of the Area Median Income (AMI), of which 12 of the units will be set-aside for Permanent Supportive Housing (PSH). A two-bedroom manager's unit will be included on site that will not be income-restricted. National CORE will employ staff and provide a range of supportive services on site for the PSH and traditional affordable housing units based on the specific needs of the households selected to live in the community. Typical supportive services include counseling, financial literacy, youth programs, healthy living education, and job training.

One vehicular entry point to the site is provided off of Packer Place. The entry point to the site is a 24-foot driveway providing direct access to surface parking. Two pedestrian walkways will also be provided: one located at the western edge of the property providing egress to and from Raymond Way and another pedestrian access point next to the driveway allowing pedestrians to enter off Packer Place. The site plan for Parcel 1 proposes 108 uncovered parking spaces on site to accommodate resident parking needs, including five spaces (one van and four standard spaces) that are Americans with Disabilities Act (ADA) accessible. Of the 108 spaces, two will be reserved for electric vehicle charging (one for cars and one that is ADA van accessible). Parcel 1 will also include seven long-term bicycle parking spaces. A monument sign for the residential building is proposed on the property, at the corner of Raymond Way and Packer Place.

Parcel 2: Office Building

Parcel 2 would maintain the two-level, garden-style, multi-tenant 28,827-square-foot office building in its current location. To accommodate employees and visitors on Parcel 2, the parking lot on Parcel 2 will be re-striped to increase the total number of parking stalls from 113 stalls to 115 stalls (including three ADA accessible stalls). This meets the City's code requirement of 115 spaces based on the required ratio of 1 space per 250 square feet.

General Plan Amendment

Based on the City's General Plan, the proposed Project would require a General Plan Amendment from Professional Office to High Density Residential (25-43 DUs/acre) to allow residential uses on Parcel 1.

Zone Change

Based on the City's current Zoning Map, the Project will also necessitate a Zone Change from the Professional and Administrative (PA) district to the Multi-Family Dwelling District (R2) for Parcel 1 to allow residential use of the property. Per Chapter 9.152.010, *Affordable Housing Incentives and Density Bonus Provisions,* of the City of Lake Forest Municipal Code (LFMC), the development qualifies for an increase in density and development incentives to increase the provision of affordable housing. The development is requesting four development incentives: (1) an increase in the maximum allowed height (LFMC Section 9.56.070(B)) from 35 feet to 51 feet and 2 inches, (2) a reduction in the required front setback (LFMC Section 9.56.070 (E)) from a minimum of 20 feet to 13 feet 9 inches and (3) a reduction in the required rear setback (LFMC Section 9.56.070 (E)) from 25 feet to 12 feet 1 inch, and (4) a reduction in the number of parking stalls within 200 feet of their corresponding residential unit (LFMC Section 9.168.040(E)(1)).

Construction

Construction activities occurring on site will include the demolition of the building located on Parcel 1, construction of the 71-unit building, minor site grading, excavation, and recompaction of existing surficial soils to provide a uniform surface. In addition to contractor vehicles, heavy equipment will be used on site which includes excavators, backhoe, bulldozer, graders, compactors, and dump trucks. All equipment will be staged within the existing parking lot. The proposed Project is anticipated to begin construction by summer of 2021 and will be completed by summer of 2023

Operation

It is anticipated that the residential apartments will start leasing around spring of 2023. The existing office building, located on Parcel 2, will continue to operate during the construction of the new residential building. Onsite maintenance and security will be provided by private third-party companies.

2.3 REQUIRED PERMITS AND APPROVALS

The City is the Lead Agency for the Project as it has principal responsibility for issuing discretionary approvals for the Project. There are no responsible agencies with discretionary approval authority over the Project. The City will issue discretionary approvals in connection with the following:

Discretionary Permits

Affordable Housing Agreement

General Plan Amendment

Zone Change

Tentative Parcel Map

Site Development Permit

Planned Sign Program

Responsible Agencies

California Department of Fish and Wildlife

Reviewing Agencies

California Air Resources Board

County of Orange Housing and Community Development

El Toro Water District

Orange County Fire Authority

State Water Resources Control Board

South Coast Air Quality Management District

Native American Heritage Commission

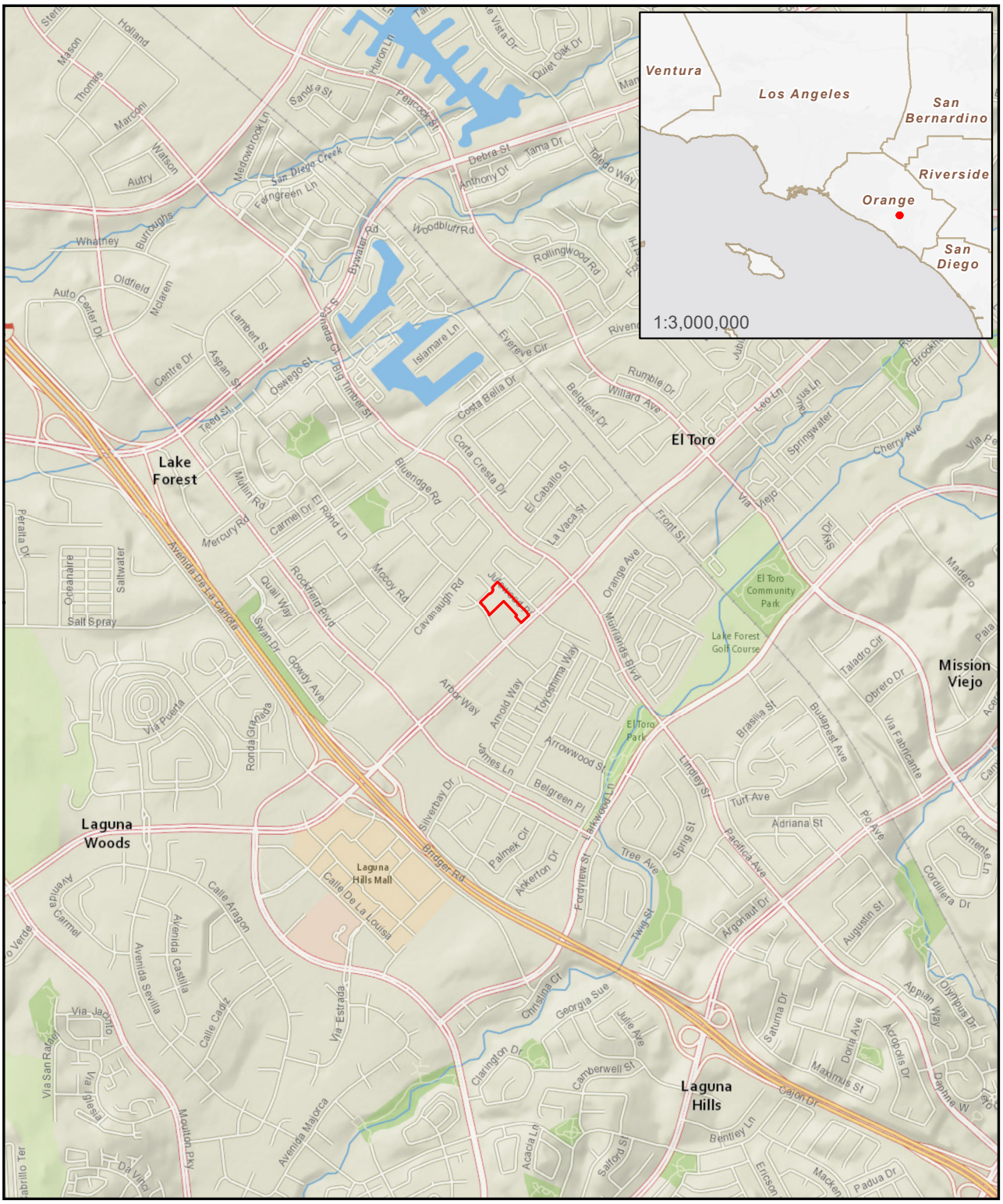
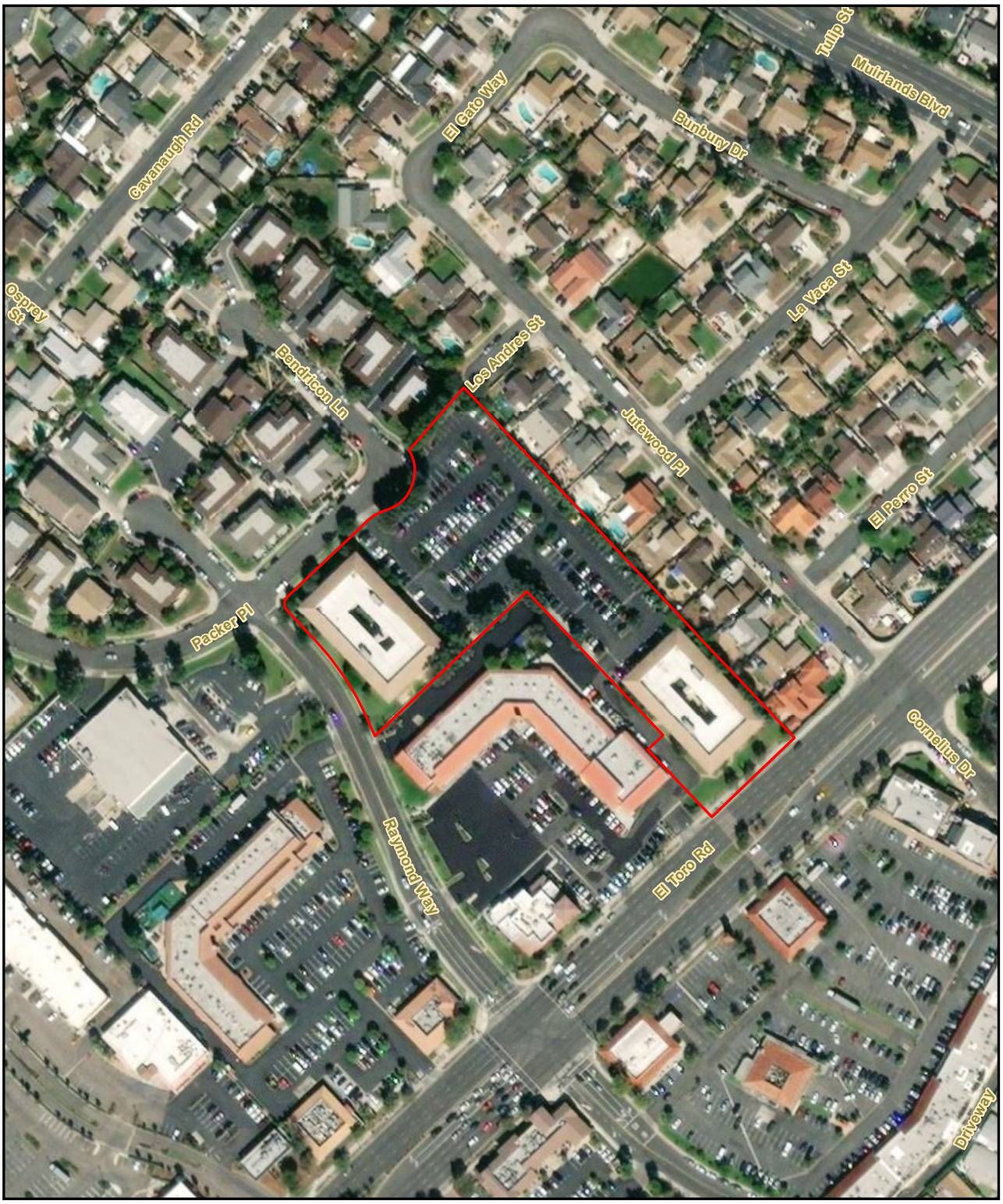


Figure 1
Mountain View Affordable Complex
Location and Vicinity

Name: 21218 PLAN Fig 1 Location and Vicinity.Mxd
Print Date: 5/7/2020, Author: pcarlos



Project Location

Figure 2
Mountain View Affordable Complex
Project Aerial

N

0 75 150 300
Feet

Name: 21218 PLAN Fig 2 Project Aerial.Mxd
Print Date: 5/7/2020, Author: pcarlos

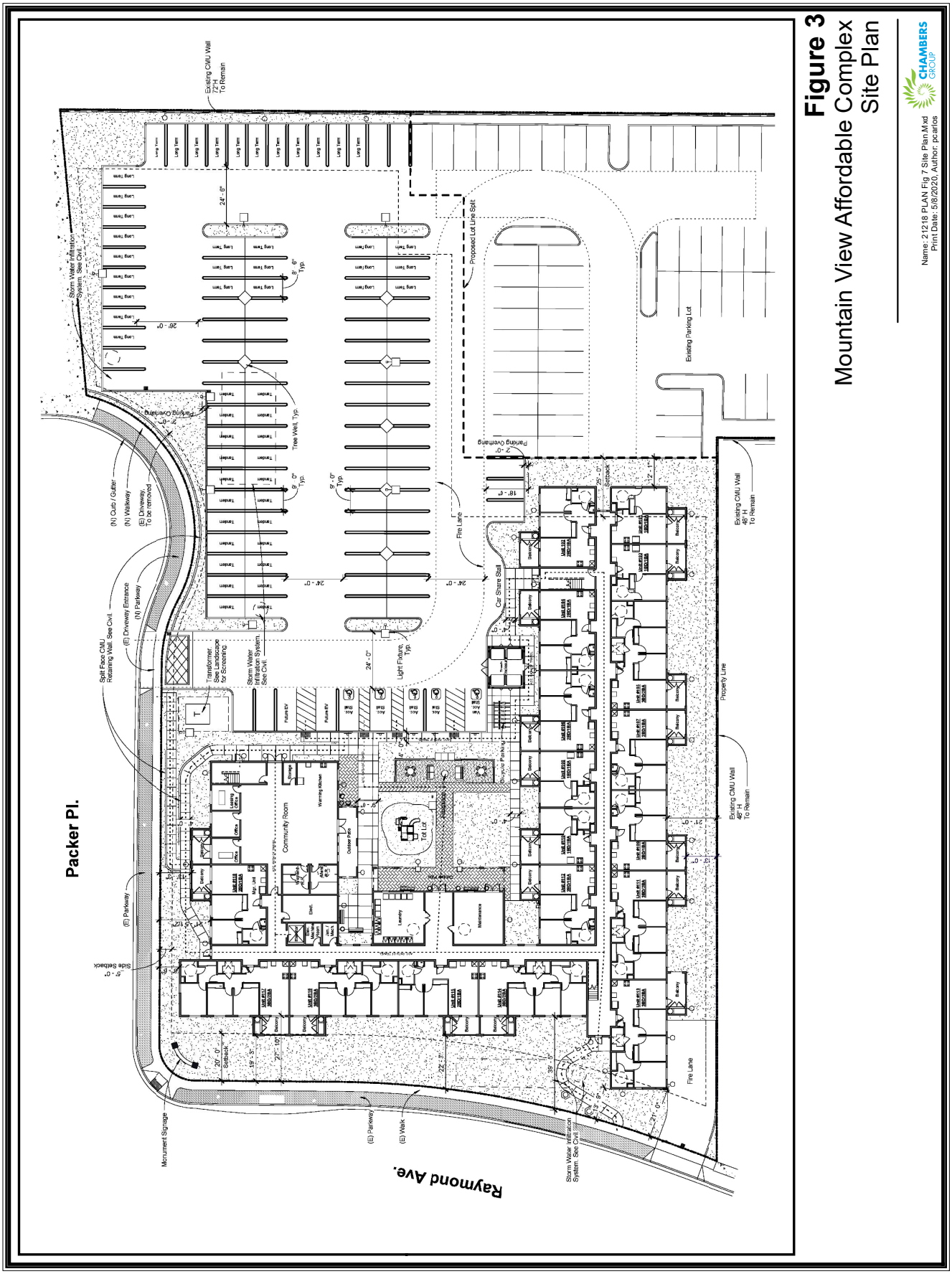
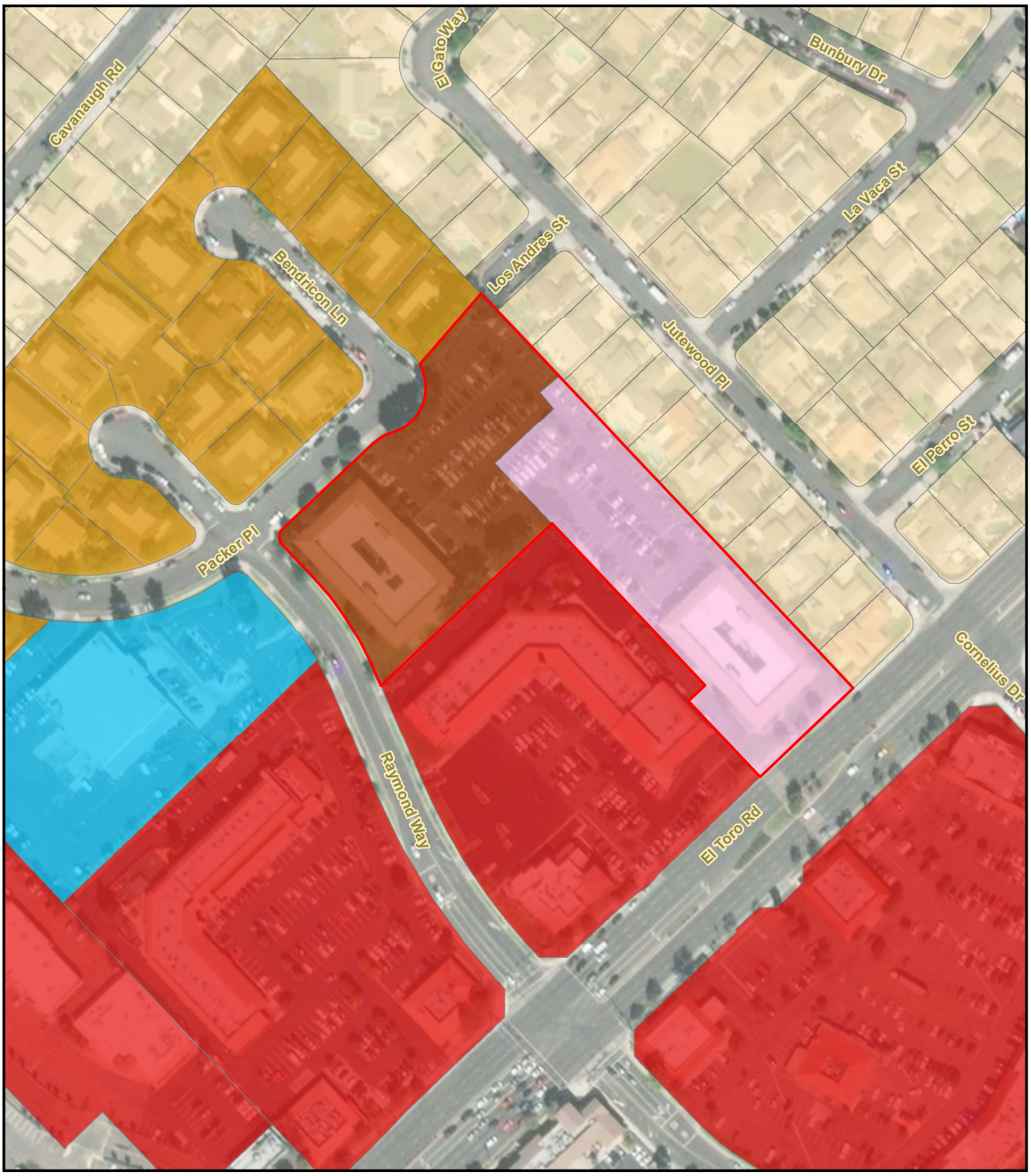


Figure 3
Mountain View Affordable Complex
Site Plan

CHAMBERS GROUP

Name: 21218 PLAN Fig 7 Site Plan.Mxd
Print Date: 5/8/2020, Author: pcarlos



Project Location

Land Use

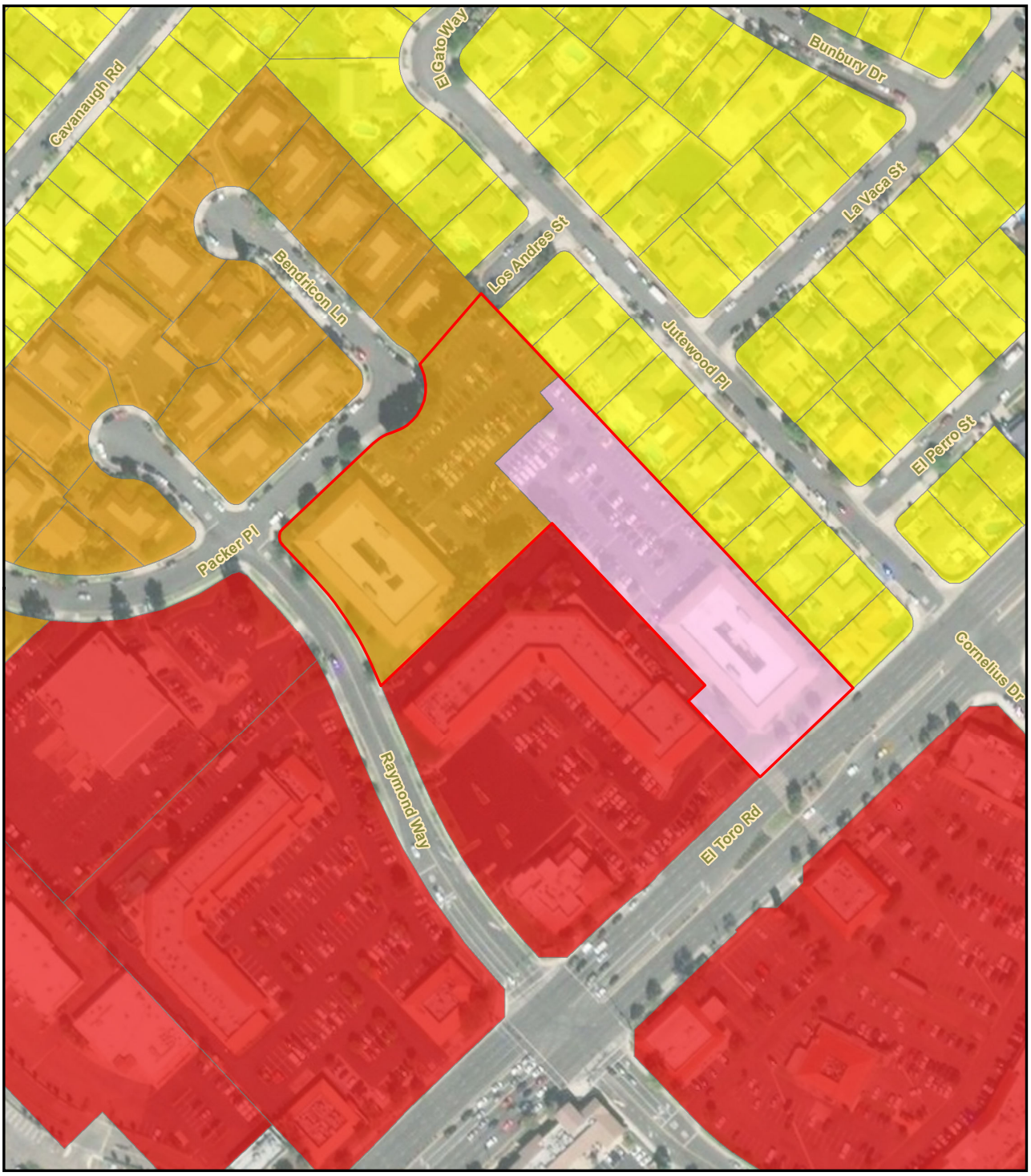
- Commercial
- High Density Residential
- Low Density Residential
- Low-Medium Density Residential
- Professional Office
- Public Facility

N

0 75 150 300
Feet

Figure 4
Mountain View Affordable Complex
General Plan Amendment

Name: 21218 PLAN Fig 5 General Plan Amendment.Mxd
Print Date: 5/12/2020, Author: pcarlos



Project Location

Zoning

Community Commercial

Professional and Administrative

R1 - Single Family Residence

R2 - Multifamily Dwellings

N

0 75 150 300

Feet

Figure 5

Mountain View Affordable Complex
Zone Change

Name: 21218 PLAN Fig 6 Zone Change.Mxd
Print Date: 5/12/2020, Author: pcarlos

SECTION 3.0 – ENVIRONMENTAL DETERMINATION

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklists on the following pages. For each of the potentially affected factors, mitigation measures are recommended that would reduce the impacts to less than significant levels.

☐ *Aesthetics*	☐ *Agriculture and Forestry Resources*	☐ *Air Quality*
☒ *Biological Resources*	☒ *Cultural Resources*	☐ *Energy*
☒ *Geology /Soils*	☐ *Greenhouse Gas Emissions*	☒ *Hazards & Hazardous Materials*
☐ *Hydrology /Water Quality*	☐ *Land Use / Planning*	☐ *Mineral Resources*
☐ *Noise*	☐ *Population / Housing*	☒ *Public Services*
☐ *Recreation*	☐ *Transportation*	☒ *Tribal Cultural Resources*
☐ *Utilities /Service Systems*	☐ *Wildfire*	☒ *Mandatory Findings of Significance*

3.2 DETERMINATION

On the basis of this initial evaluation:

1. I find that the project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. ☐
2. I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒
3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐
4. I find that the proposed project **may have a "potentially significant impact" or "potentially significant unless mitigated impact"** on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐
5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Niki Wetzel — 6/11/2020

Signature — Date

Niki Wetzel — Assistant Director of Community Development

Name — Title

SECTION 4.0 – EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if substantial evidence exists that an effect may be significant. If one or more "Potentially Significant Impact" entries are marked when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines, Section 15063(c)(3)(D).) In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

    b. the mitigation measure identified, if any, to reduce the impact to less than significant.

    *Note: Instructions may be omitted from final document.

SECTION 5.0 – CHECKLIST OF ENVIRONMENTAL ISSUES

5.1 AESTHETICS

1.	**AESTHETICS.** **Except as provided in Public Resources Code Section 21099, would the project:**	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
(c)	Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

5.1.1 <u>Impact Analysis</u>

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The proposed Project is located within a commercial business center and is fully developed. Views from the proposed Project consist of single and multi-family residents to the north, a block wall to the east followed by a residential area, and various commercial businesses to the south and west. Trees of varying heights surround the property to the north.

While the City of Lake Forest contains numerous areas and viewsheds with relatively high scenic value, such as views of Saddleback Mountain, there are no officially designated scenic vista points or scenic highways in the City. Regardless, there are no direct views to any mountains, ridgelines, or other visible scenic resources at ground level on the project site. As such, equipment operating during project construction would not block any scenic resources. Further, once operational, the proposed Project would be built and designed to blend with the existing surroundings. The surrounding area consists mostly of two-story buildings. Application of an Affordable Housing Incentive would allow an increase of the building heights to allow the construction of the four-story residential building. The increase of the building height would not result in adverse impacts because there are no designated scenic vistas within the area. Furthermore, the proposed Project would have an architectural design and style that would be compatible with existing development. Impacts would be less than significant.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. The City's CEQA Significant Thresholds Guide has not designated any scenic vistas or corridors within the City (City of Lake Forest 2009). The County of Orange Transportation Element identifies El Toro Road as a landscape corridor, according to their Scenic Highway Plan figure. Landscape corridors traverse developed areas and are designated for special treatment to provide a pleasant driving environment. Any development occurring within the landscape corridor must complement the scenic highway (County of Orange 2005).

The proposed development would not occur along El Toro Road. The proposed activities would not substantially damage scenic resources, trees, rock outcroppings, or historic buildings within a state scenic highway because the proposed Project is not located along a state scenic highway. Furthermore, while El Toro Road is designated as a landscape corridor for the County of Orange, the proposed Project would not involve any modifications to El Toro Road. Therefore, impacts would be less than significant.

c) *Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less than Significant Impact.

According to the City's CEQA Thresholds, a project would result in a significant visual impact if it does not meet the following thresholds:

- The project is proposed to have an architectural style or to use building materials that will be in vivid contrast to an adjacent development where that development had been constructed adhering to a common architectural style or theme.
- The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area.
- A project would include unscreened outdoor uses or materials.
- A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.

The proposed Project will be constructed and designed to maintain the neighborhood compatibility. The proposed Project is in a fully urbanized area and is not considered to be a visually prominent site. Any proposed outdoor uses would remain within the new residential facility and would be screened off from public view. Furthermore, there are no zoning regulations directly related to scenic quality. The General Plan does not include any specific policies related to scenic quality, but does include policies that promote a high-quality design, encourage new development projects to achieve visual compatibility with surrounding development, and ensures that the scale and character of new development is appropriate to the setting and intended use. The project has been designed in compliance with these General Plan policies in that the proposed building will provide quality architecture, reflects well-

articulated elevations, with varying roof lines, changes in building materials, and different wall planes. Therefore, impacts on the visual quality would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. The proposed Project site and its surroundings are fully developed. Other existing sources of light are present within and adjacent to the proposed Project. Sources of illumination include the existing building lighting in the proposed Project site, street lighting, interior building lighting of the other businesses and homes, street lamps, lighting in parking lots, security lighting, business signage, and vehicle lights.

Construction would provide additional sources of illumination with the presence of construction equipment and vehicles. The proposed construction activities and any grading activities would be limited to the hours of 7:00 a.m. and 8:00 p.m. Monday, through Saturday as listed in Chapter 11.16 of the City's Municipal Code. Construction is not allowed on Sundays or a Federal holiday. Once operational, the new sources of illumination would come from the newly constructed residential building. No changes would be made to the existing office building.

Because the proposed Project site is currently developed and has existing sources of illumination, the construction of the residential building and modifications to the parking lots would not create a new and substantial source of illumination or glare. Furthermore, as shown on a Photometric Plan submitted for the project, the lighting has been designed and located so that direct light rays are confined to the premises. Impacts would be less than significant.

5.2 AGRICULTURE AND FOREST RESOURCES

2.	**AGRICULTURE & FOREST RESOURCES. (In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:**	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**

(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use?	☐	☐	☐	☒

5.2.1 Impact Analysis

a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The proposed Project site is in a highly urbanized area, and no farmlands or agricultural resources are on site or in the adjacent areas. According to the California Department of Conservation, the proposed Project site is classified as Urban and Built Land and does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2020a). Therefore, implementation of the proposed Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impact would occur.

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The proposed Project site is not zoned for agricultural use, and Williamson Act contracts do not occur on this property (County of Orange 2001). No impact would occur.

c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The proposed Project site is within a highly urbanized area, and no forest land or timber resources are on site or in the adjacent areas. The Project site is not zoned as forestland, timberland, or timberland zoned Timberland Production (City of Lake Forest 2020a). No impact would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As described in Impact c), the proposed Project site is within an urbanized area, and no forest land exists on the proposed Project site. No impact would occur.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use?

No Impact. The proposed Project site is developed and is located within a highly urbanized area. As described in Impacts a) and c), no farmland or forest land is located on or adjacent to the site. No impact would occur.

5.3 AIR QUALITY

3.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
(c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

5.3.1 Environmental Setting

The proposed Project site is located in the City of Lake Forest within the County of Orange. The proposed Project site is located within the South Coast Air Basin (Air Basin), and air quality regulation is administered by the South Coast Air Quality Management District (SCAQMD). The SCAQMD implements the programs and regulations required by the federal and State Clean Air Acts.

Regulatory Setting

The proposed Project site lies within the Air Basin, which is managed by the SCAQMD. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Areas are classified under the federal Clean Air Act as either "attainment" or "nonattainment" areas for each criteria pollutant, based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The Air Basin has been designated by the federal Environmental Protection Agency (EPA) as a nonattainment area for O_3 and $PM_{2.5}$. Currently, the Air Basin is in attainment with the NAAQS for CO, SO_2, NO_2, and PM_{10}. The Air Basin is designated as partial nonattainment for lead and is based on two source-specific monitors in Vernon and in the City of Industry that are both near battery recycling facilities. The 2012 Lead State Implementation Plan (SIP) for Los Angeles County provides measures to meet attainment of lead by December 31, 2015. Current monitoring data shows that lead is now below the standards at all monitoring stations; however, it will take three years of meeting the standards before Los Angeles County can request to be redesignated by the EPA.

The EPA has designated the Air Basin as extreme nonattainment for the 8-hour average ozone standard. In 2015, the EPA strengthened its 8-hour "primary" and "secondary" ozone standards to 0.070 parts per million (ppm). The previous standard, set in 2008, was 0.075 ppm. The SCAQMD, the agency principally responsible for comprehensive air pollution control in the Air Basin, adopted the 2016 Air Quality Management Plan (AQMP) in March 2016 that provides measures to reduce 8-hour ozone levels to below the federal standard by 2037.

Additionally, the EPA has designated the Air Basin as nonattainment for $PM_{2.5}$. In 1997, the EPA established standards for $PM_{2.5}$ (particles less than 2.5 micrometers), which were not implemented until March 2002. The 1997 $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu g/m^3$) was attained on August 24, 2016. However, on December 14, 2012, the EPA revised the primary annual $PM_{2.5}$ NAAQS from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. The 2012 AQMP provides measures to reduce $PM_{2.5}$ emissions to within the federal standard by December 31, 2025. $PM_{2.5}$ is a subset of the PM_{10} emissions whose standards were developed to complement the PM_{10} standards that cover a full range of inhalable particle matter. For the PM_{10} health standards, the annual PM_{10} standard was revoked by the EPA on October 17, 2006; and the 24-hour average PM_{10} attainment status for the Air Basin was redesignated to attainment (maintenance) on July 26, 2013.

The Air Basin has been designated by CARB as a nonattainment area for O_3, NO_2, PM_{10}, and $PM_{2.5}$. Currently, the Air Basin is in attainment with the State ambient air quality standards for CO, SO_2, and sulfates and is unclassified for visibility-reducing particles and hydrogen sulfide. The adopted AQMPs provide measures to meet the State standards for ozone, NO_2, PM_{10}, and $PM_{2.5}$. Table 1 presents the designations and classifications applicable to the proposed Project area.

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date[1]	California Standards[2]
1979 1-Hour Ozone (O_3)[3]	1-Hour (0.12 ppm)	Nonattainment (Extreme) 2/6/2023	Nonattainment
1997 8-Hour Ozone (O_3)[4]	8-Hour (0.08 ppm)	Nonattainment (Extreme) 6/15/2024	
2008 8-Hour Ozone (O_3)	8-Hour (0.075 ppm)	Nonattainment (Extreme) 7/20/2032	

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date[1]	California Standards[2]
2015 8-Hour Ozone (O_3)	8-Hour (0.070 ppm)	Nonattainment (Extreme) 8/3/2038	
Carbon Monoxide (CO)	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance) 6/11/2007 (attained)	Maintenance
Nitrogen Dioxide (NO_2)[5]	1-Hour (100 ppb)	Unclassifiable/Attainment Attained	Attainment
	Annual (0.053 ppm)	Attainment (Maintenance) 9/22/1998	
Sulfur Dioxide (SO_2)[6]	1-Hour (75 ppb)	Designation Pending/ Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment 3/19/1979 (attained)	
Particulate Matter (PM_{10})	24-Hour (150 µg/m^3)	Attainment (Maintenance) 7/26/2013	Nonattainment
Particulate Matter ($PM_{2.5}$)	24-Hour (35 µg/m^3)	Nonattainment (Serious) 12/31/2019	Nonattainment
	1997 Annual (15.0 µg/m^3)	Attainment 8/24/2016	
	Annual (12.0 µg/m^3)	Nonattainment 12/31/2025	
Lead (Pb)	3-Months Rolling (0.15 µg/m^3)	Nonattainment (Partial)[7] 12/31/2015	Nonattainment

Note:

1 Obtained from http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14

2 Obtained from http://www.arb.ca.gov/desig/adm/adm.htm.

3 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.

4 1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm) in 2008; the 1997 O_3 standard and most related implementation rules remain in place until the 1997 standard is revoked by U.S. EPA.

5 New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.

6 The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are expected in 2012, with Basin designated Unclassifiable/Attainment

7 Partial Nonattainment designation – Los Angeles County portion of Basin only. Expect redesignation to attainment based on current monitoring data.

California Emissions Estimator Model™ Employed To Estimate AQ Emissions

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to more accurately

calculate construction-source and operational-source criteria pollutants (nitrogen oxides [NO_X], volatile organic compounds [VOCs], particulate matter less than 10 microns [PM_{10}], particulate matter less than 2.5 microns [$PM_{2.5}$], sulfur oxides [SO_X], and carbon monoxide [CO]) and greenhouse gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this proposed Project to determine construction and operational impacts related to the proposed Project. Outputs from the model runs are provided in the Air Quality and Greenhouse Gas Emissions Memo, Appendix A.

5.3.2 Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The proposed Project site is located within the Air Basin, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Air Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as State and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet State and federal ambient air quality standards.

Currently, these State and federal air quality standards are exceeded in most parts of the Air Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the State and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements. The proposed Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (11). These indicators are discussed below:

Consistency Criterion No. 1: As detailed below, both construction and operation of The proposed Project will not result in an increase in the frequency or severity of existing air quality

violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if Localized Significance Thresholds (LSTs) or regional significance thresholds were exceeded. As evaluated in Impact b) below, the proposed Project's regional and localized construction-source emissions would not exceed applicable regional significance thresholds and LSTs. As such, the Project would result in a less than significant impact.

Operational Impacts – Consistency Criterion 1

As evaluated in Impact b) below, the proposed Project's regional and localized operational-source emissions would not exceed applicable regional significance thresholds and LSTs. As such, a less than significant impact is expected.

On the basis of the preceding discussion of construction and operational impacts, the proposed Project is determined to be consistent with the first criterion.

Consistency Criterion No. 2: The proposed Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the district are provided to SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of Lake Forest General Plan is considered to be consistent with the AQMP.

Although the proposed Project is not consistent with the current land use zoning designation, the proposed Project would result in fewer trips and consequently fewer vehicular-related emissions than the existing office designation. Additionally, as noted above, the proposed Project would not exceed any regional or localized emissions thresholds. Lastly, the purpose of the proposed Project is to provide affordable housing in the region and supports the goals and objectives of the AQMP by reducing vehicle miles traveled (Appendix H).

On the basis of the preceding discussion, the proposed Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The proposed Project would not have the potential to result in or cause NAAQS or CAAQS violations. Since the proposed Project would generate less vehicle miles traveled than what would occur with the current land use designation, the proposed Project's development intensity is consistent with the development intensities allowed within the General Plan. Additionally, proposed Project construction and operational-source emissions would not exceed

the regional or localized significance thresholds as previously indicated. The proposed Project is therefore considered to be consistent with the AQMP. Accordingly, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less than Significant Impact. The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. As shown above in Table 1, the proposed Project area is designated as a federal and/or State nonattainment area for ozone and $PM_{2.5}$. To estimate if the proposed Project may adversely affect the air quality in the region, the SCAQMD has prepared the CEQA Air Quality Handbook (SCAQMD 1993) to provide guidance to those who analyze the air quality impacts of proposed projects. The SCAQMD CEQA Air Quality Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes of this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 2.

Table 2: Regional Thresholds of Significance

	Pollutant Emissions (Pounds/Day)						
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$	Lead
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Source: SCAQMD, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

In order to assess local air quality impacts, the SCAQMD has developed LSTs to assess the Project-related air emissions in the Project vicinity. SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO_2, CO, PM_{10}, and $PM_{2.5}$.

The LST Methodology provides look-up tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The look-up tables provide 1-acre, 2-acre, and 5-acre project sizes; the 2-acre project site was utilized here, since that is the nearest size to the 1.965-acre proposed Project site. As detailed above, the proposed Project site is located in Air Monitoring Area 19, which covers the Saddleback Valley. The nearest sensitive receptors to the proposed Project site are single-family homes located approximately 22 feet (7 meters) north of the proposed Project site and the existing Montessori Children's School that is located approximately 67 feet (20 meters) southeast of the proposed Project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. Table 3 shows the LSTs for NOx, CO, PM_{10}, and $PM_{2.5}$ for both construction and operational activities.

Table 3: Local Thresholds of Significance

Activity	Allowable Emissions (pounds/Day) [1]			
	NOx	CO	PM_{10}	$PM_{2.5}$
Construction	131	993	6	4
Operation	131	993	2	1

[1] The nearest sensitive receptors are single-family homes located approximately 22 feet (7 meters) north of the Project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: SCAQMD's Mass Rate Look-Up Tables for two acres in Air Monitoring Area 19 found at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2

The following section calculates the potential air emissions associated with the construction and operations of the proposed Project and compares the emissions to the SCAQMD standards.

Construction

Construction of the proposed Project would create air emissions primarily from equipment exhaust and fugitive dust. The proposed Project is anticipated to include demolition of existing structures currently occupying the Project site. It is estimated that the existing 31,573-square-foot office building will be demolished and hauled off-site. The model default trip length of 20 miles has been utilized accordingly, which provides for a conservative analysis, since Bowerman Landfill is located 11 miles away and Prima Deshecha Landfill is located 15 miles away (driving distances). The proposed Project is anticipated to require approximately 500 cubic yards (CY) of fill during grading activities. As such, the soil import function in CalEEMod was enabled, and 500 CY of import was modeled accordingly.

The estimated maximum daily construction emissions without mitigation are summarized in Table 4. Under the assumed construction modeling scenario discussed above, emissions resulting from the proposed Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related construction-source emissions, and no mitigation is required.

Table 4: Project Construction Emissions and Regional Thresholds (Without Mitigation)

	Emissions (lbs/Day)					
	VOC	NO_X	CO	SOX	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	45.90	22.94	15.86	0.03	3.17	1.93
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

In addition to evaluating the proposed Project's regional impacts to the Air Basin, analysis has been completed to determine the proposed Project's potential to exceed the State and federal air quality standards in the Project vicinity. The nearest sensitive receptors to the proposed

Project site are single-family homes located approximately 22 feet (7 meters) north of the proposed Project site.

Table 5 identifies the localized impacts at the nearest receptor location in the vicinity of the proposed Project. Outputs from the model runs for construction LSTs are provided in Appendix A. Under the assumed construction modeling scenario (as previously discussed), emissions resulting from the proposed Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant; accordingly, the proposed Project's construction will not expose sensitive receptors to substantial pollutant concentrations. Thus, a less than significant impact related to sensitive receptors exposure to pollutants concentrations from Project construction would occur, and no mitigation is required.

Table 5: Localized Significant Summary of Construction (Without Mitigation)

On-Site Demolition Emissions	Emissions (Pounds/Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	20.95	14.66	1.72	1.17
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Site Preparation Emissions	**Emissions (Pounds/Day)**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	**18.35**	**7.71**	**3.08**	**1.91**
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Grading Emissions	**Emissions (Pounds/Day)**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	**15.09**	**6.45**	**2.60**	**1.61**
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

Operations

Operational activities associated with the proposed Project would not result in significant emissions of CO, VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Less than significant operational-related emissions are expected from the following primary sources: area source emissions, energy source emissions, mobile source emissions, and onsite equipment emissions. The proposed Project-related operational air quality impacts derive primarily from vehicle trips generated by the proposed Project. According to the Trip Generation Assessment, the proposed Project would generate 263 two-way trips per day (131 inbound and 132 outbound trips) (Fehr & Peers 2019).

Table 6 summarizes the proposed Project's daily regional emissions from ongoing operations. Detailed construction model outputs are presented in Appendix A. During operational activity, the proposed Project will not exceed any of the thresholds of significance and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the

Project region is nonattainment under an applicable federal or State ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related operation-sources emissions, and no mitigation is required.

Table 6: Project Operational Emissions and Regional Thresholds (Without Mitigation)

Operational Activities – Summer Scenario	Emissions (Pounds/Day)					
	VOC	NO_X	CO	SOX	PM_{10}	$PM_{2.5}$
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.42	1.66	5.71	0.02	1.92	0.52
Total Maximum Daily Emissions	**2.17**	**1.99**	**11.70**	**0.02**	**1.98**	**0.58**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Operational Activities – Winter Scenario	**Emissions (Pounds/Day)**					
	VOC	**NO_X**	**CO**	**SOX**	**PM_{10}**	**$PM_{2.5}$**
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.41	1.71	5.45	0.02	1.92	0.52
Total Maximum Daily Emissions	**2.16**	**2.04**	**11.44**	**0.02**	**1.98**	**0.58**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. The proposed Project would not expose nearby sensitive receptors to substantial toxic air contaminants (TACs). According to SCAQMD methodology, health effects from TACs are usually described in terms of "individual cancer risk." "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Construction-Related TAC Emissions

Construction of the proposed Project would generate TAC emissions from the onsite operation of diesel-powered equipment in the form of diesel particulate matter (DPM). Cancer potency factors for DPM and other TACs are based on animal lifetime studies or worker studies where there is a long-term exposure to the carcinogenic agent (OEHHA 2015). Given the relatively limited number of heavy-duty construction equipment, the varying distances to the nearby sensitive receptors that construction equipment would operate, and the short-term construction schedule, the proposed Project would not result in a long-term (i.e., 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes and requires equipment operators to label each piece of

equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet; currently, no commercial operator is allowed to purchase Tier 0 or Tier 1 equipment and by January 2023 no commercial operator is allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. Therefore, less than significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

Operations-Related TAC Emissions

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas; and, according to The California Almanac of Emissions and Air Quality 2013 Edition, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. According to *Health Risk Assessments for Proposed Land Use Project*, prepared by CAPCOA, July 2009, recommends that sensitive receptors should not be placed near distribution centers that generate more than 100 truck deliveries per day or more than 40 truck deliveries per day with transport refrigeration units (TRUs). Since the proposed project would generate well below the 100 trucks per day threshold that would have the potential to create a significant TAC impact at the nearby sensitive receptors as determined by CAPCOA's screening criteria, , a less than significant TAC impact would occur during the ongoing operations of the proposed Project, and no mitigation would be required.

Therefore, operation of the proposed Project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

CO "Hot Spot"

The proposed Project would not result in potentially adverse CO concentrations or "hot spots." At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technologies on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. According to the SCAQMD Air Quality Data Tables, in 2007 the Saddleback Valley had maximum CO concentrations of 3 ppm for 1 hour and 2.2 ppm for 8-hours and in 2018 the Saddleback Valley had maximum CO concentrations of 1.2 ppm for 1-hour and 0.9 ppm for 8-hours, which represent decreases in CO concentrations of 60 percent and 59 percent, respectively between 2018 and 2007 (SCAQMD 2007). In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS. SCAQMD conducted a CO hot spot analysis for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards. The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

Since the nearby intersections to the proposed project are much smaller with less traffic than what was analyzed by the SCAQMD and since the CO concentrations are now approximately 60 percent lower than when CO was designated in attainment in 2007, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed Project.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less than Significant Impact. The potential for the proposed Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The proposed Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant, and no mitigation is required (SCAQMD 1976).

Based on an aerial review of the proposed Project vicinity, none of the uses listed above associated with odor complaints are located in the immediate vicinity of the proposed Project. Therefore, construction and operation of the proposed Project would not create objectionable odors affecting a substantial number of people, and impacts would be less than significant.

5.4 BIOLOGICAL RESOURCES

4.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☒	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

LSA Associates (LSA) was retained by National CORE to provide a Biological Resources Technical Memorandum for the proposed Project in November 2019 (Appendix B). A literature review was conducted to assist in determining the existence or potential occurrence of special status plant and animal species within the Project site and in the Project vicinity. A site assessment was conducted on November 10, 2019, by an LSA Biologist. Notes were made on general site conditions, the vegetation, potential jurisdictional waters, wildlife species observed, and the suitability of habitat for various special status species. Plant and animal species observed during the field survey were recorded.

5.4.1 <u>Impact Analysis</u>

a) Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less than Significant Impact. Vegetation within the proposed Project site is not associated with any natural vegetation communities (Appendix B). Rather, the vegetation consists of ornamental lawn, trees, and shrubs associated with the landscaped areas of the Project site. Plant species observed on site include Indian hawthorn (*Rhaphiolepsis indica*), English ivy (*Hedera helix*), and turfgrass. Approximately 100 ornamental/non-native trees were noted within the proposed Project site, including red ironbark eucalyptus (*Eucalyptus sideroxylon*), blue gum eucalyptus (*Eucalyptus globulus*), ficus (*Ficus* sp.), Brazilian pepper (*Schinus terebinthifolius*), and alder (*Alnus spaethii*). Animal species observed on site include common raven (*Corvus corax*). Approximately 45 trees are proposed to be removed to accommodate the construction of the new residential project.

According to the Biological Resources Technical Memorandum, the proposed Project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. Additionally, the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), local agencies, and special status groups such as the California Native Plant Society (CNPS), maintain lists of species that they consider to be in need of monitoring. Legal protection for these special status species varies widely. No other special status species are expected to occur within the proposed Project site due to lack of suitable habitat. Additionally, the proposed Project site does not lie within any federally designated critical habitat or riparian habitat (Appendix B). Impacts would be less than significant.

c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. According to the Biological Resources Technical Memorandum, no drainage features, ponded areas, or riparian habitat potentially subject to jurisdiction by the CDFW or U.S. Army Corps of Engineers (USACE) were found within the proposed Project site. No impacts would occur.

d) *Would the project Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less than Significant Impact with Mitigation Incorporated. The proposed Project site is developed and within a highly urbanized area. No undeveloped open space or riparian habitat borders the Project site that could act as a wildlife corridor.

The Biological Resources Technical Memorandum states that the site does contain suitable habitat for nesting birds. During the bird breeding season (typically February 1 through August 31), large trees on or adjacent to the Project site may be used by hawks, ravens, or other large birds for nesting. Smaller trees, shrubs, and other vegetation may provide nest sites for

smaller birds. Nesting bird species with potential to occur are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800 and by the Migratory Bird Treaty Act (MBTA) (16 United States Code 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. To prevent any impacts to protected nesting birds, the proposed Project will implement mitigation measure (MM)-BIO-1 below.

MM-BIO-1: A nesting bird pre-construction survey will be conducted by a qualified biologist and submitted to the City three days prior to demolition and/or vegetation removal activities during nesting bird season (September to January). Should nesting birds be found, an exclusionary buffer will be established by a qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the Project site will be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.

With implementation of MM-BIO-1, impacts would be less than significant.

Implementation of MM-BIO-1 would reduce Project-related impacts to nesting birds to less than significant. Therefore, impacts to migratory wildlife or native wildlife nursey sites would be less than significant.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact. As mentioned above in Impact a), approximately 100 ornamental/non-native trees were noted within the Project site, including red ironbark eucalyptus, blue gum eucalyptus, ficus, Brazilian pepper, and alder. The City's Eucalyptus Tree Conservation Ordinance (Title 6, Chapter 6.20, City of Lake Forest Code of Ordinances; "Ordinance") was established to control infestation of the eucalyptus longhorn borer. The eucalyptus longhorn borer attacks stressed or damaged plants. The Ordinance regulates the maintenance and removal of eucalyptus trees. Removal of trees on the proposed Project site would comply with the Ordinance to prevent impacts from tree removal. Impacts would be less than significant.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservancy Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed Project site is not within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) or any other adopted natural community conservation plan, habitat conservation plan, or adopted natural resource protection plan. No impact would occur.

5.5 CULTURAL RESOURCES

5.	CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
(c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

5.5.1 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less than Significant Impact. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, the National Register of Historic Places (NRHP) requires a property be at least 50 years old to be considered for the register (NPS 2020).

Appendix D of the City's 2040 General Plan includes a Paleontological and Cultural Resources Assessment for the entirety of the City. Six historic resources were identified within the City boundaries, but no historic resources were identified within the Project site. The closest historic resources are the Big Shots/El Toro Meat Market and the Prothero House, approximately 200 feet and 1,000 feet from the proposed Project site respectively. These sites were listed by the

local Saddleback Valley Historical Society (City of Lake Forest 2018a). Additionally, the existing office buildings on site were built in the late 1970s and therefore are less than 50 years old (City of Lake Forest 2018a). Moreover, they are not anticipated to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; be associated with the lives of persons important in our past; embody the distinctive characteristics of a type, period, region, or method of construction; or represent the work of an important creative individual or possess high artistic values; or yield information important in prehistory or history. Impacts would be less than significant.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less than Significant Impact with Mitigation Incorporated. The Native American Heritage Commission (NAHC) Sacred Lands File search was conducted for the proposed Project. The results identified sacred sites or tribal cultural resources within the search radius or surrounding vicinity of the proposed Project site. Tribal Consultation was conducted for the proposed Project. The discussion on tribal cultural resources is provided in Section 5.18. The Paleontological and Cultural Resources Assessment included as Appendix D of the City's 2040 General Plan determined through a record search that 138 previously recorded cultural resources are located within the City's boundaries (City of Lake Forest 2018a). The proposed Project site is within a highly urbanized area, and much of the site has been previously disturbed through major grading for the existing office buildings and parking lots. The proposed Project will include minor site grading, excavation, and recompaction. No records indicate that any archaeological resources could be present within the previously disturbed areas.

Native soils are soils that have not been previously disturbed. Should the excavation work reach native soils, the proposed Project would implement the following mitigation measure to minimize impacts to undiscovered cultural and archaeological resources during ground-disturbing activities.

MM CUL-1: A qualified archaeological monitor shall be present during ground-disturbing activities, such as trenching and excavation, that could expose native soils. If archaeological resources are discovered during ground-disturbing activities, the monitor shall temporarily halt all construction activities in the general area of discovery until the resources area examined by a qualified monitor, to be retained by the Applicant. The monitor shall recommend next steps (i.e., additional excavation, curation, preservation, etc.) in a written document submitted to the City for review and approval. Prior to issuance of the building permit, the archaeological monitor shall prepare and submit a final report documenting the construction activities of the day, identifying survey sites, discuss the existing condition of the monitored areas, and discuss any resources that were discovered.

With the Implementation of MM CUL-1, the proposed Project would result in less than significant impacts to archaeological resources.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. The proposed Project site and surrounding area is developed and highly urbanized. No current information suggests that the site has any uncovered human remains or has been historically used as a burial ground. Therefore, it is highly unlikely that the proposed Project would disturb any human remains during implementation of the proposed Project. Should human remains be uncovered during construction, as specified by State Health and Safety Code Section 7050.5, no further disturbance would occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, excavation or construction would halt in the area of the discovery, the area would be protected, and consultation and treatment would occur as prescribed by law. If the County Coroner recognizes the remains to be Native American, he or she would contact the Native American Heritage Commission, who would appoint the Most Likely Descendant. Additionally, if the bones are determined to be Native American, a plan would be developed regarding the treatment of human remains and associated burial objects; and the plan would be implemented in coordination with the Most Likely Descendant. Therefore, impacts would be less than significant.

5.6 ENERGY

6.	ENERGY Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

5.6.1 Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The proposed Project would not result in a significant environmental impact due to use of energy resources during construction and operation. Energy resources that would potentially be impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed Project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources is provided below.

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar,

geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for onsite distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the state, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network; and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet.

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on developing strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, petroleum-based fuel consumption in California has declined.

The following section calculates the potential energy consumption associated with the construction and operations of the proposed Project and provides a determination if any energy utilized by the proposed Project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The construction activities for the proposed Project are anticipated to include demolition and grading of the Project site, building construction and application of architectural coatings to the proposed 71-unit affordable housing apartment complex, and paving of the proposed parking lot and onsite roads. The proposed Project would consume energy resources during construction in three general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site and construction worker travel to and from the Project site, as well as delivery and haul truck trips (e.g., hauling of demolition material to offsite reuse and disposal facilities)

2. Electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power

3. Energy used in the production of construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass

Construction-Related Electricity

During construction the proposed Project would consume electricity to construct the new structures and infrastructure. Electricity would be supplied to the Project site by Southern California Edison (SCE) and would be obtained from the existing electrical lines in the vicinity of the Project site. The use of electricity from existing power lines rather than temporary diesel- or gasoline-powered generators would minimize impacts on energy use. Electricity consumed during Project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary and nominal and would cease upon the completion of construction. Overall, construction activities associated with the proposed Project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during Project construction would not be wasteful, inefficient, or unnecessary.

Construction-Related Natural Gas

Construction of the proposed Project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support construction activities, thus construction would not create a demand. Since the Project site is currently developed and currently has natural gas service to the Project site, construction of the proposed Project would be limited to installation of new natural gas connections within the Project site. Development of the proposed Project would likely not require extensive infrastructure improvements to serve the Project site. Construction-related energy usage impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface. Therefore, construction-related impacts to natural gas supply and infrastructure would be less than significant.

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the proposed Project site and on-road automobiles transporting workers to and from the Project site and on-road trucks transporting equipment and supplies to the Project site.

Construction activities associated with the proposed Project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the proposed Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed Project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete; therefore, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Operational Energy

The ongoing operation of the proposed Project would require the use of energy resources for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment, and vehicle trips.

Operations-Related Electricity

Operation of the proposed Project would result in consumption of electricity at the Project site. The proposed Project would comply with all federal, State, and City requirements related to the consumption of electricity, including California Code of Regulations (CCR) Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed building, including enhanced insulation, use of energy efficient lighting and appliances, as well as requiring a variety of other energy-efficiency measures to be incorporated into all of the proposed structure. Therefore, it is anticipated the proposed Project will be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed Project's electricity demand. Thus, impacts with regard to electrical supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Natural Gas

Operation of the proposed Project would result in increased consumption of natural gas at the Project site. The proposed Project would comply with all federal, State, and City requirements related to the consumption of natural gas, including CCR Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structures, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the proposed Project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed Project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Vehicular Petroleum Fuel Usage

As detailed in the *Final Memorandum 23591 El Toro Road Trip Generation Assessment,* prepared by Fehr & Peers, October 15, 2019, the proposed Project would generate 263 daily trips, while the existing office building generates 321 daily trips, which results in a net reduction of 58 daily trips with implementation of the proposed Project. As such, operation of the proposed Project would result in a decreased in consumption of petroleum-based fuels related to vehicular travel to and from the Project site. In addition, the proposed project would provide affordable housing near existing public transit and employment opportunities, which would further reduce vehicle-related petroleum fuel usage. The proposed Project would comply with regulatory compliance measures outlined by the State and county related to Air Quality, Greenhouse Gas Emissions (GHG),

Transportation/Circulation, and Water Supply. Additionally, the proposed Project would be constructed in accordance with all applicable county Building and Fire Codes. Therefore, the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Energy consumption from new residential projects are primarily controlled by Title 24, Part 6 building energy efficiency requirements that require incorporation of several energy efficiency measures into the design of the proposed residential project, that includes use of LED lighting, enhanced insulation and windows, and high efficiency ventilation and appliances. In addition, the Proposed Project would be required to meet the Part 11 California Green Building Standards Code (CalGreen), which provides minimum requirements for bicycle parking, carpool/vanpool/electric vehicle parking spaces, use of water-efficient plumbing and landscaping fixtures, recycling and use of recycled materials in building products. Specific CalGreen requirements that are applicable to the proposed Project include requiring that a minimum of 65 percent of construction waste be diverted from landfills, providing bicycle parking spaces, as well as providing electric vehicle charging stations within the proposed parking lot. Through implementation of the above programs, regulations, and policies, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

5.7 GEOLOGY AND SOILS

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
	ii) Strong seismic ground shaking?	☐	☐	☒	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv) Landslides?	☐	☐	☐	☒
(b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

Albus-Keefe & Associates, Inc. (Albus-Keefe) prepared a Preliminary Geotechnical Investigation Report (Geotechnical Report) for the proposed Project in April 2020 (Appendix C). In order to make geotechnical recommendations for design and construction of the proposed Project, the report includes review of the Project's conceptual site plan; review of published geologic and seismic data for the Project site and surrounding area; review of historical aerial photographs; exploratory drilling and soil sampling; laboratory testing of selected soil samples; engineering analyses of data obtained from review, exploration, and laboratory testing; and evaluation of site seismicity, liquefaction, and settlement potential. Results of the Geotechnical Report have been summarized and incorporated below.

5.7.1 Impact Analysis

a) *i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

Less than Significant Impact. The proposed Project would not directly or indirectly cause potential substantial adverse effects relating to an earthquake fault. The geologic literature and field exploration discussed in the Preliminary Geotechnical Study do not indicate the presence of active faulting within the site. The site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Earthquake Fault Zoning Act. The potential for ground rupture due to fault displacement beneath the Project site is considered very low. In addition, the proposed Project would not involve any construction activities that would indirectly or directly rupture a known fault. (Appendix C). Impacts would be less than significant.

ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Less than Significant Impact. While the Project site lies relatively close to several seismically active faults as discussed above, the design of the proposed Project in accordance with the

current California Building Code would minimize impacts related to ground shaking, as noted in the geotechnical report attached as Appendix C. Impacts would be less than significant. (Appendix C)

iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Less than Significant Impact. As previously mentioned, no active faults are known to travel through the proposed Project site nor does the site lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the Project site is considered very low. Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the proposed Project site is also considered to be low. Additionally, the Project site is underlain by Pleistocene-aged deposits, typically not susceptible to liquefaction, and is not located within a San Diego Seismic Study liquefaction zone (Appendix C). Impacts would be less than significant.

iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

No Impact. According to the Preliminary Geotechnical Investigation, geologic hazards associated with landslides are not anticipated at the proposed Project site due to the site not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability. In addition, the proposed Project site is relatively flat with no sloped areas that could result in landslides (Appendix C). No impact would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The proposed Project would not result in substantial soil erosion or the loss of topsoil. According to the Lake Forest Existing Conditions Report, any construction associated within the City that could disturb more than one acre of land would be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit [CGP]), as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). The CGP requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to implement stormwater Best Management Practices (BMPs) (City of Lake Forest 2018b). Compliance with the applicable SWPPP regulations and implementation of BMPs would reduce all Project-related impacts concerning topsoil and soil erosion to a less than significant impact. Moreover, the Project will be required to comply with the Orange County Grading Manual, which the City has adopted as part of their municipal code (Chapter 8.30, Section 012). Compliance with this compilation of rules, procedures, and interpretations ensures compliance with the provisions of the City's Grading and Excavation Code (County of Orange 2017).

c) *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less than Significant Impact with Mitigation Incorporated. As mentioned above, geologic hazards associated with landslides, ground rupture, and liquefaction are not anticipated at the proposed Project site. Lateral spreading are like landslides that occur on gentle slopes or relatively flat terrain. Because the proposed Project is not located within a flood zone, it is unlikely that lateral spreading could occur on the Project site (Appendix F).

To address potential subsidence on site, Albus-Keefe performed analyses to evaluate the potential for settlement of the underlying alluvial fan deposits. Results of the testing indicate the alluvial fan deposits have low compressibility. Based on the data from field exploration and laboratory testing, subsidence from these materials is estimated to be less than 1.0 inch in the Project site. According to the geotechnical repot, the existing artificial fills on site consist of variable materials that are inadequately compacted for support of the proposed Project in its current condition. Therefore, additional measures referenced in MM-GEO-1 are recommended to result in less than significant impacts. excavation and recompaction of the existing surficial soils to provide a uniform compacted blanket will be performed.

MM-GEO-1: Prior to the issuance of a grading permit, the Applicant shall submit grading plans and construction drawings that comply with the recommendation provided in Section 6.0 of the Geotechnical Report, subject to approval of the City's Engineer and Building Official. These recommendations address design considerations for earthwork, seismic design parameters, foundation design, retaining and screening walls, exterior flatwork, concrete mix design, corrosion, preliminary pavement design, and post grading considerations.

d) *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Less than Significant Impact with Mitigation Incorporated. Based on Albus-Keefe laboratory test results and visual manual classification from the Geotechnical Report, the near-surface soils within the proposed Project site are generally anticipated to possess a low expansion potential. However, in order to confirm the conditions on site, the Geotechnical Report recommends additional testing for soil expansion subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions. This additional testing will be implemented through mitigation measure MM GEO-1. Implementation of MM GEO-1 would lower impacts related to soil expansion to less than significant.

e) *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. The proposed Project would use and expand upon the existing utilities on site, including available wastewater connections. No septic tanks are proposed as a part of the Project. No impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact. The City's 2040 General Plan includes a Paleontological and Cultural Resources Assessment for the entirely of the City. The Paleontological and Cultural Resources Assessment uses a multilevel ranking system developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings. The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria. According to the Paleontological and Cultural Resources Assessment, the proposed Project site is located within an area dominated by late Miocene to early Pliocene deposits, specifically the Capistrano Formation, which consists of marine siltstone and sandstone. The Appendix reports this area of the City to be of low paleontological sensitivity (City of Lake Forest 2018b). Furthermore, the proposed Project is fully developed and previously disturbed with no identifiable unique geological features. The proposed activities will include minor site grading and excavation and recompaction of existing surficial soils. Impacts would be less than significant.

5.8 GREENHOUSE GAS EMISSIONS

8.	GREENHOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

5.8.1 Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The City has not established thresholds applicable to the Project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For

the proposed Project, which is located in the Air Basin, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the proposed Project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 metric tons of carbon dioxide equivalent ($MtCO_2e$) per year.

GHGs are naturally present in the atmosphere and are released by natural sources or formed from secondary reactions taking place in the atmosphere. In addition, human activities over the past 200 years have caused greatly increased quantities of GHGs to be released into the atmosphere, which in turn increases the natural greenhouse effect and are thought to cause global warming. Human-induced GHGs include the following:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 602.17 $MtCO_2e$ per year as summarized in Table 7. Direct and indirect operational emissions associated with the proposed Project are compared with the SCAQMD's proposed Tier 3 threshold of significance for non-industrial projects, which is 3,000 $MtCO_2e$ per year. As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions.

Further, the proposed Project will comply with all applicable regulations intended to reduce GHG emissions. Finally, the proposed Project is consistent with the general goals and objectives identified in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which, pursuant to SB 375, calls for the integration of transportation, land-use, and housing policies to plan for achievement of the GHG emissions target for the region. Thus, a less than significant impact related to GHG emissions from proposed Project construction and operation would occur, and no mitigation is required.

Table 7: Total Project GHG Emissions (Annual)

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	10.87	0.001	0.00	10.91
Area	23.23	0.02	5.10E-4	23.98
Energy	164.20	5.54E-3	1.95E-3	164.92
Mobile Sources	349.65	0.01	0.00	350.02
Waste	6.63	0.39	0	16.42
Water Usage	30.98	0.15	3.81E-3	35.92
Total CO_2e (All Sources)				**602.17**
Screening Threshold (CO_2e)				**3,000**

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Threshold Exceeded?				**NO**

Source: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

5.9 HAZARDS AND HAZARDOUS MATERIALS

9.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

5.9.1 Environmental Setting

Converse Consultants was contracted to produce a Phase I and Phase II Environmental Site Assessment Report (Phase I ESA, Phase II ESA) of the proposed Project site in July and August 2019, respectively (Appendix D and Appendix E). The Phase I ESA was conducted in order to identify, to the extent practical, Recognized Environmental Conditions (RECs) in connection with the Project site. The term Recognized Environmental Conditions is defined by the American Society of Testing and Materials (ASTM) Standard Practice as the presence or likely presence of any hazardous substances or petroleum products in, at, or on a property due to any release to the environment; and under conditions indicative of a release to the environment; under conditions that pose a material threat of a future release to the

environment. The Phase II ESA was performed to follow up on the ongoing open site investigation of contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way) identified and discussed in the Phase I assessment.

5.9.2 Impact Analysis

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less than Significant Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building. These Project construction activities would require grading operations, utility work, surface paving operations, and landscaping. This would necessitate the routine transport of potentially hazardous commercial materials, including but not limited to gasoline, oil, solvents, cleaners, paint, pesticides, and fertilizer. However, any potentially hazardous materials used or found on site would be handled in accordance with state and federal regulations regarding the transport, use, and storage of hazardous materials.

Once operational, the proposed Project would utilize substances typically used in residential and office settings. These include household and office cleaning products, household goods, and other materials needed for maintenance of the properties including commercial grade cleaning products or chemicals required for landscaping and gardening purposes.

All construction and operational activities would be required to adhere to local standards set forth by the City, as well as state and federal health and safety requirements that are intended to minimize risk to the public from hazardous materials, such as California Division of Occupational Safety and Health (Cal/OSHA) requirements, the Hazardous Waste Control Act, the California Accidental Release Prevention (CalARP) Program, and the California Health and Safety Code. As a result, the proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or result in a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, the proposed Project would implement a Spill Prevention Control Plan to minimize and address accidental releases of any potentially hazardous chemicals. Therefore, construction and operational impacts for these issues would be less than significant.

c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less than Significant Impact with Mitigation Incorporated. The proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

In particular, the proposed Project does not entail the construction of a factory or industrial use that would emit hazardous emissions or require handling of hazardous or acutely hazardous materials, substances or waste. Rather, the proposed Project consists of the demolition of an existing building to construct a building with 71 residential units.

While asbestos (ACMs), lead (LBP) and Polychlorinated Biphenyls (PCBs)are likely present in the building to be demolished as part of the Project based on the construction date of the building, demolition of the existing building would not emit any hazardous emissions with the incorporation of mitigation set forth herein. MM-HAZ 1 requires that all demolition that could result in the release of ACMs or LBP must be conducted according to South Coast Air Quality Management District Rules 1403 Asbestos Emissions from Demolition Activities. This will ensure that the proposed Project would not emit hazardous emissions based on completion of hazardous materials surveys prior to demolition, adherence to existing regulatory standards for site demolition and hazardous materials handling through regulatory notifications, engineering controls, off-site disposal at licensed facilities and recordkeeping.

Moreover, the Project would require only minimal handling of hazardous materials, substance, or waste during construction. For example, construction activities on Project Site may involve the temporary use of vehicle fuels, paints, oils, and transmission fluids. Because all potentially hazardous materials would be used and stored in compliance with applicable federal, State, and local regulations, including Cal-OSHA Title 8 Section 5194 Hazard Communication impacts to the surrounding community would be less than significant. Notably, this compliant use would reduce the likelihood of any improper handling, potential releases or spills to below levels of significant concern. Hazardous materials used during construction activities will be in used accordance with Cal-OSHA safety guidance and accompanied by Safety Data Sheets to be kept on-site. Additionally, the Orange County Fire Authority (OCFA) would have the authority to perform inspections and enforce federal and State laws governing the storage, use, transport, and disposal of hazardous materials and wastes. In addition, construction excavation activities will be completed in accordance with applicable South Coast Air Quality Management District Rule 403 Fugitive Dust regulations for nuisance or fugitive dust. Compliance with these regulations will reduce the likelihood of any dust releases across the property line to below levels of concern by using best available dust control measures such as wet methods and track out devices.

Operation on the site would not create a hazard through upset or accident conditions involving hazardous materials. The types and amounts of hazardous materials that would be used in connection with the proposed Project would be typical of those used for residential purposes (e.g., cleaning solutions, solvents, landscaping pesticides, painting supplies, and petroleum products).

All materials and substances would be subject to applicable health and safety requirements. Compliance with existing regulations would result in no reasonably foreseeable upset or accident conditions that would create a significant hazard to the public due to the release of hazardous materials during construction. Compliance with Titles 17, 19 and 27 of the California Code of Regulations and their enabling legislation in Chapter 6.5 of the California Health Safety code would reduce the likelihood of any improper handling, potential releases or spills to below levels of significant concern.

To minimize impacts to the adjacent school, the following mitigation measures would be implemented to reduce impacts related to hazardous materials to a less than significant level.

MM HAZ-1: Prior to issuance of demolition permit for the demolition of structures that were constructed before 1980, the Applicant shall conduct a thorough investigation to determine if asbestos, lead, or polychlorinated biphenyls (PCBs) exist on the site. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards, Title 8, Division 1, Chapter 4, Subchapter 4, Article 4, Section 1529 and 1523.2. Compliance with Cal/OSHA standard would result in use of licensed contractors, licensed waste transporters and licensed waste disposal facilities and therefore potential impacts would be mitigated to a level of less than significant if the demolition is conducted according to Cal/OSHA standards.

Therefore, construction and operational impacts for these issues would be less than significant with mitigation incorporated.

d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Less than Significant Impact. The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and therefore, would not create a significant hazard to the public or the environment. The site is not listed on government databases as Superfund site, past or present landfill or site with known hazardous materials releases or impacts.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. The closest airport to the proposed Project site is John Wayne Airport, approximately 10 miles northwest. The proposed Project site is not located within 2 miles of a public airport and is not within the John Wayne Airport runway protection and accidental potential zones (ALUC 2008). No impact would occur.

f) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. The City is located within the County's "Operational Area" for emergency preparedness and response programming providing guidance during disasters. The Orange County Emergency Operations Center (EOC) functions as the communication and coordination center for both the County and Operational Area emergency response organization and disaster preparedness. This provides a central point for coordinating operational, administrative, and support needs of the County and Operational Area Members (County of Orange 2020a). Additionally, the County's Emergency Management Division provides emergency management and preparedness services to the unincorporated areas of the County and supports the efforts of the County Operational Area (County of Orange 2020b). All roads in the

vicinity of the proposed Project would remain open for travel during both operations and construction. The proposed Project would not impair or interfere with decisions made by the County's Office of Emergency Communications (OEC) or Emergency Management Division. The proposed Project would not block or close any roadways that may affect emergency accesses to and from the proposed Project or the existing neighborhood. Impacts would be less than significant.

g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less than Significant Impact. The proposed Project site is not located within an identified Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2011). Additionally, the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace. Operation of the outdoor fireplace will be in compliance with City's Municipal Code Chapter 8.06, Section R1001.13: Outdoor Fireplaces, Fire Pits, Fire Rings, or similar devices, as well as Chapter 8.24, Section 307: Open Burning, Recreational Fires, Fire Pits, Fire Rings, and Portable Outdoor Fireplaces (City of Lake Forest 2020b). The outdoor fireplace would also not be operated on red flag warning days which indicate that environmental conditions are ideal in extreme fire behavior. This includes days with low humidity, strong winds, and potential lightning strikes. Overall, the proposed Project would not expose people or structures to significant wildland fire-related risks. This impact is less than significant.

5.10 HYDROLOGY AND WATER QUALITY

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
	i) Result in substantial erosion or siltation on- or offsite;	☐	☐	☒	☐
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flood on or off site;	☐	☐	☒	☐
	iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
	iv) Impede or redirect flood flows?	☐	☐	☒	☐

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

5.10.1 Impact Analysis

a) *Would the project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?*

Less than Significant Impact. The proposed Project would not violate any water quality standards or waste discharge requirements, and it would not substantially degrade surface or ground water quality. The City's Stormwater Quality Management Chapter of the Municipal Code lists prohibited illicit connections and discharges within the City. Further prohibited discharges are provided in the City's Local Implementation Plan which refers to the compliance requirements with the City's Municipal Separate Storm Sewer System (MS4). According to the Preliminary WQMP, the applicable total maximum daily loads (TMDLs) of the watershed include metals, nutrients, pesticides, and turbidity/siltation. Pollutants of concern for the proposed Project are sediment, nutrients, pathogens, and pesticides.

Because the proposed Project would disturb greater than one acre, the proposed Project would require a National Pollutant Discharge Elimination System (NPDES) permit under the California General Permit and Construction General Permit according to the California Water Boards. The Construction General Permit would require preparation of and implementation of a SWPPP. The SWPPP would include BMPs to mitigate any stormwater pollutants. Types of BMPs to minimize pollutants to water quality include the use of sand filter to filter water or coverings to prevent rain or water from carrying any contaminants in the runoff. An example of these BMPs include the following, with additional details provided in the Preliminary WQMP (Appendix G).

Non-Structural Source Control BMPs:

- Education for Property Owners, Tenants and Occupants
- Activity Restrictions
- BMP Maintenance
- Activity Restrictions

Structural Source Control BMPs:

- Storm drain system stenciling and signage

- Trash and waste storage areas to reduce pollution introduction
- Efficient irrigation system, landscape design, water conservation, smart controllers, and source control

Furthermore, a dry well BMP was chosen for the site to capture on-site flows. Dry wells would capture and store urban runoff to improve surface water quality and reduce localized flooding. During operations, general housekeeping practices such as regulating proper waste disposal of office and household wastes, removal of litter within the properties and parking lots, and preventing any car maintenance activities within the parking lot would minimize the amount of polluted runoff generated from the Project site. Therefore, implementation of the SWPPP and associated BMPs, as well as general housekeeping activities, would result in less than significant impacts.

b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less than Significant Impact. The proposed Project would not result in the substantial decrease of groundwater supplies or interfere with groundwater recharge. The proposed Project is currently developed and would not create additional impervious surfaces that would interfere with groundwater recharge. According to the Preliminary Water Quality Management Plan (WQMP) prepared for the Project on April 2020 by RRM Design Group, the pre-Project conditions consists of 1.07 acres of pervious surfaces, with 2.70 acres of impervious surfaces. After development of the proposed Project, the area of pervious surfaces would be 0.94 acres, with impervious surfaces at 2.82 acres (Appendix G). In addition, the proposed Project also does not include activities involving groundwater extraction. Impacts would be less than significant.

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i) *result in substantial erosion or siltation on or off site;*

Less than Significant Impact. A Preliminary Hydrology Report and Preliminary Water Quality Management Plan was prepared for the Project on April 2020 by RRM Design Group. Currently, drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place. Drainage flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane. Some runoff from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the intersection of Raymond Way and Packer Place. Runoff from the parking lot on Parcel 2 flows overland through Parcel 1 to Packer Place. The remainder of runoff from Parcel 2 flows to El Toro Road. Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean (Appendix G).

The proposed Project would not substantially alter the existing topography because the Project site is generally flat and fully developed. The proposed Project is not located adjacent to any streams or rivers and would not be replacing significant open and pervious surfaces with impervious surfaces.

As discussed in Section 4.7 Impact b), because the area of disturbance would be greater than 1 acre, the proposed Project would prepare and implement a SWPPP and would include project BMPs and an Erosion Control Plan to address stormwater runoff and minimize erosion. These can include use of vegetated buffers, silt fencing, fiber logs, or filter bags. As discussed in impact (a), structural and non-structural BMPs are included in the Preliminary WQMP. The proposed Project would also comply with the design objectives for water quality BMPs. These are provided at the City website under the Public Works Department for construction, industrial and commercial business, municipal, new development, common area/homeowner, and residential activities. They include erosion and non-stormwater BMPs, sediment control, and waste management (City of Lake Forest 2020c). Furthermore, the Preliminary Hydrology Report states that the proposed Project would maintain existing drainage patterns and discharge locations. In addition to the SWPPP, dry well BMPs have been chosen for the Project site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume, per the separate Post-Construction Stormwater Management Plan (Appendix F). Impacts, therefore, would be less than significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources or polluted runoff; or

iv) impede or redirect flood flows?

Less than Significant Impact.

As previously discussed in Section 4.7 impact b), the proposed Project would prepare and implement a SWPPP to control and direct surface runoff so that the proposed Project would not result in on- or offsite flooding. The addition of BMPs within the SWPPP, Spill Prevention Control and Erosion Control Plan would minimize the amount of polluted runoff generated from the Project site. During operations, implementation of general housekeeping activities as discussed in impact a) would minimize the contribution of polluted runoff. Impacts related to the surface runoff and flooding would be less than significant.

As noted in the Preliminary Hydrology Report, the proposed drainage designs would meet the standards of the Orange County Hydrology Manual. Furthermore, the proposed Project reduces the post-development peak flow of runoff to that of pre-development rate for the hydrological analysis for all storm events (Appendix F). Because the proposed Project does not involve the replacement of substantial pervious surfaces with impervious surfaces, and because the proposed Project is fully developed, it would not result in significant peak flow runoff after post-development. Impacts would be less than significant.

The Project site falls in Zone X, with minimal chance of flood hazard, according to the Federal Emergency Management Agency National Flood Hazard Layer (FEMA NFHL) (Appendix F). The proposed Project would not impede or redirect flood flows or cause an increase in potential flooding because the Project site is not located within a flood zone. Impacts would be less than significant.

d) *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

No Impact. The proposed Project is in the City of Lake Forest and is located inland, approximately 8 miles northeast from the coastline. The Project site is not located within a flood zone nor is it nearby an ocean or lake. It is approximately 2 miles west of the El Toro Reservoir and 3.5 miles west from Lake Mission Viejo. According to the City's Existing Condition's Report, the area will not be subject to inundation from a dam failure (City of Lake Forest 2018b); and according to the City of Mission Viejo's Public Safety Element, the Project site is not located within the inundation area of Lake Mission Viejo. Because of the proposed Project's distance from any large bodies of water such as a reservoir, lakes, or ocean, no impact would occur (City of Mission Viejo 2009).

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less than Significant Impact. The Santa Ana Regional Water Quality Control Board and San Diego Regional Water Quality Control Board adopted NPDES permits in 2009 and 2013, respectively. These permits require permittees to continue to implement stormwater quality management plans to control pollutants.

As discussed in Section 4.7 Impact b), the proposed Project would apply for a NPDES permit, SWPPP, and Spill Prevention Control Plan that would comply with the City's existing MS4 permits. These permits along with its BMPs would reduce polluted stormwater runoff. The proposed Project will not require any onsite groundwater extraction. Water uses on site will be provided by El Toro Water District (ETWD), which relies on imported water (ETWD 2016). Therefore, impacts would be less than significant.

5.11 LAND USE AND PLANNING

11.	LAND USE/PLANNING Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	☐	☐	☐	☒
(b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

5.11.1 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building.

The proposed Project would not physically divide an established community because no features such as a highway or other infrastructure would cause a permanent physical division to the residential areas north and east of the proposed Project. The proposed Project activities will remain within the currently developed parcel, and no new buildings would be developed outside of the parcel. No impacts would occur.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The proposed Project site is currently zoned as PA-Professional/Admin and designated by the 2040 General Plan as Professional Office Commercial. The current land use designation and zoning of the site do not allow for the development of residential uses.

For the proposed Project to move forward, a General Plan Amendment is included with the project would be required to revise the current Professional Office designation to High Density Residential to allow for residential uses on Parcel 1. The proposed Project would also require a zone change to permit additional density allow for residential development.

The need to develop residential units within the site is to fill the current housing needs of the City. The Southern California Association of Governments (SCAG) is in the process of developing a Regional Housing Needs Allocation (RHNA) for the 2021 to 2029 period and based on the current draft of the Connect So Cal, the City of Lake Forest has been assigned 3,163 residential units (City of Lake Forest 2019).

The proposed Project would result in conflict with the existing land use and zoning designations. However, the approval of a General Plan Amendment and Zone Change would make the proposed Project consistent with the City's land use and zoning as well as with the City's CEQA thresholds and municipal code. The proposed Project would comply with health and safety building codes with the application and approval of a building permit. Therefore, impacts would be less than significant.

5.12 MINERAL RESOURCES

12.	MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

5.12.1 Impact Analysis

a) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact . The proposed Project would not result in the loss of availability of a known mineral resource. Notably, the proposed Project largely entails the replacement of an existing building with another building. There is no mineral resource currently available for mining at the proposed Project site, which is already fully developed. Moreover, the proposed Project would not include any mining activities that would result in the loss of availability of known mineral resources. While the proposed Project will require heavy ground disturbance and earthwork activities, excavation depths are not anticipated to be deep enough to uncover significant mineral resources. No impact would occur.

b) *Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. The proposed Project area does not contain any known mineral resources that would be of value, and the proposed Project is not located in a mineral resource recovery site. Additionally, no mining or mineral extracting activities are proposed. No impact would occur.

5.13 NOISE

13.	NOISE Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
(b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

5.13.1 Environmental Setting

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic and commercial and industrial activities are also major sources of noise in some areas. Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the proposed Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Monday, December 16, 2019 (Appendix H).

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 8 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 of the Noise Impact Analysis provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels by the northern corner of the Project site near existing single-family residential homes. The noise levels at this location consist primarily of parking lot vehicle movements and traffic on Packer Place. The noise level measurements collected show an overall 24-hour exterior noise level of 59.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.0 A-weighted decibel (dBA) Leq with an average nighttime noise level of 51.9 dBA Leq.

- Location L2 represents the noise levels on east of the Project site near Montessori Children's School House. The noise levels at this location consist primarily of parking lot vehicle movements as well as activity from children playing at Montessori Children's School House. The noise level measurements collected show an overall 24-hour exterior noise level of 58.8 dBA Community Noise Equivalent Level (CNEL). The energy (logarithmic) average daytime noise level was calculated at 52.7 dBA Leq with an average nighttime noise level of 52.0 dBA Leq.

- Location L3 represents the noise levels west of the Project site near existing multi-family homes. The noise level measurements collected show an overall 24-hour exterior noise level of 62.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.8 dBA Leq with an average nighttime noise level of 55.5 dBA Leq. The noise levels at this location consist primarily of traffic noise from Packer Place.

- Location L4 represents the noise levels northwest of the Project site on Packer Place near existing multi-family residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 58.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.6 dBA Leq with an average nighttime noise level of 49.8 dBA Leq. Traffic on Packer Place represents the primary source of noise at this location.

Table 8 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets as well as parking lot vehicle movements from nearby businesses. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 8.

Table 8:24-Hour Ambient Noise Level Measurements

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0
L2	Located east of the Project site near Montessori Children's School House.	52.7	52.0	58.8
L3	Located west of the Project site near existing multi-family homes.	57.8	55.5	62.5
L4	Located northwest of the Project site on Packer Place near existing multi-family residential homes.	54.6	49.8	58.0
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0

[1] See **Error! Reference source not found.**4 for the noise level measurement locations.
[2] Energy (logarithmic) average levels.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 9 shows the significance criteria summary matrix.

<u>On-Site Traffic Noise</u>

- If the on-site noise levels:
  - exceed the exterior noise level standard of 60 dBA CNEL for outdoor areas (e.g., rear yard of single-family homes, multi-family patios and balconies (with a depth of 6 feet or more), common recreation areas, playgrounds, or picnic areas) (City of Lake Forest 2020d); or

  - exceed an interior noise level of 45 dBA CNEL for noise-sensitive uses (HUD and City of Lake Forest CEQA Significance Thresholds Guide, Table 3-1)

Operational Noise

- If Project-related operational (stationary source) noise levels exceed the exterior 55 dBA L50 daytime or 50 dBA L50 nighttime noise level standards for sensitive land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L50), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L25) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L8) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L2) in any hour, or the standard plus 20 dBA at any time (Lmax) (Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code, and Table 3-2 of the City of Lake Forest CEQA Significance Thresholds Guide).

Construction Noise and Vibration

- If Project-related construction activities create noise levels which exceed the 85 dBA Leq acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or

- If Project-related construction activities generate vibration levels which exceed the Caltrans building damage vibration level threshold for older residential structures of 0.3 inch per second peak particle velocity (PPV), or the distinctly perceptible human annoyance vibration level threshold of 0.04 inch per second PPV at nearby sensitive receiver locations (Caltrans Transportation and Construction Vibration Guidance Manual, Tables 19 & 20)

Table 9: Significance Criteria Summary

Land Use	Receiving Land Use	Conditions(s)	Significance Criteria	
			Daytime	Nighttime
On-Site Traffic Noise[1]	Residential & School	Exterior Noise Level Standard	65 dBA CNEL	
		Interior Noise Level Standard	45 dBA CNEL	
Operational Noise[1]	Noise-Sensitive	Exterior Noise Level Standards	See Table 3-1.	
Construction Noise & Vibration	Noise-Sensitive	Noise Level Threshold[2]	85 dBA L_{eq}	n/a
		Vibration Level Threshold (Building Damage)[3]	0.3 in/sec PPV	n/a
		Vibration Level Threshold (Distinctly Perceptible)[3]	0.04 in/sec PPV	n/a

[1] Source: HUD and the City of Lake Forest CEQA Thresholds Guide.
[2] Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.
[3] Source: Caltrans Transportation and Construction Vibration Guidance Manual, September 2013, Tables 19 & 20.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = No nighttime construction activity is permitted, so no nighttime construction noise level limits are identified; "PPV" = peak particle velocity

5.13.2 Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact.

Construction Noise Levels

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that, when combined, can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e., construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

Construction Reference Noise Levels

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of construction activity area for each stage of construction to the nearest receiver location at shown on Table 10.

Table 10: Construction Reference Noise Levels

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 feet (dBA L_{eq})	Highest Reference Noise Level (dBA l_{eq})
Demolition	Demolition Activity	67.9	71.9
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 feet (dBA L_{eq})	Highest Reference Noise Level (dBA l_{eq})
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

Note: [1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

Construction Noise Level Compliance

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of the construction activity areas to each of the nearby receiver locations. As shown on Table 11, the unmitigated construction noise levels are expected to range from 56.2 to 73.7 dBA Leq at the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Lake Forest Municipal Code Section 11.16.060 of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturdays.

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related the NIOSH noise level threshold of 85 dBA Leq is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. The construction noise analysis shows that the noise sensitive residential receiver locations will satisfy the 85 dBA Leq significance threshold during Project construction activities as shown on Table 12. Therefore, the noise impacts due to Project construction noise are considered less than significant at all noise sensitive receiver locations.

Table 11: Unmitigated Construction Equipment Noise Level Summary

Receiver Location[1]	Construction Noise Levels (dBA L_{eg})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	70.3	73.7	71.9	70.0	69.6	63.6	73.7
R2	69.5	72.9	71.1	69.2	68.8	62.8	72.9
R3	67.5	70.9	69.1	67.2	66.8	60.8	70.9
R4	62.9	66.3	64.5	62.6	62.2	56.2	66.3
R5	67.8	71.2	69.4	67.5	67.1	61.1	71.2

[1] Construction noise receiver locations are shown on Figure 4.
[2] Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020.

Table 12: Construction Noise Level Compliance

Receiver Location[1]	Construction Noise Levels (dBA L_{eg})		
	Highest Construction noise Levels[2]	Threshold	Threshold Exceeded?[4]
R1	73.7	85	No
R2	72.9	85	No
R3	70.9	85	No
R4	66.3	85	No
R5	71.2	85	No

[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Figure 4.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020.

Figure 6: Noise Receiver Locations

Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure, and roof-top air conditioning units, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 13 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 41.0 to 49.9 dBA Leq.

Table 13: Daytime Project Operational Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA L_{eq})				
	R1	R2	R3	R4	R5
Playground Activities	29.1	23.3	7.1	5.0	11.7
Community Area	48.8	44.5	28.9	25.9	40.1
Trash Enclosure	38.8	33.3	19.2	15.5	40.5
Air Conditioning Unit	41.4	41.1	41.4	40.8	44.1
Total (All Noise Sources)	**49.9**	**46.4**	**41.7**	**41.0**	**46.7**

[1] See 3 for the noise receiver locations.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 14 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 38.4 to 43.7 dBA Leq. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). No Project playground or community area operational activities are expected during the nighttime hours from 10:00 p.m. to 7:00 a.m. Appendix H includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.

Table 14: Nighttime Project Operational Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA L_{eq})				
	R1	R2	R3	R4	R5
Playground Activities	0.0	0.0	0.0	0.0	0.0
Community Area	0.0	0.0	0.0	0.0	0.0
Trash Enclosure	37.8	32.3	18.2	14.5	39.5
Air Conditioning Unit	39.0	38.7	39.0	38.4	41.7
Total (All Noise Sources)	**41.5**	**39.6**	**39.0**	**38.4**	**43.7**

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020
[1] See Figure 7 for the noise source and receiver locations.

Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against the City of Lake Forest exterior noise level standards at nearby noise-sensitive receiver locations. Table 15 shows the operational noise levels associated with Mountain View Affordable Housing Community Project will satisfy the City of Lake Forest 55 dBA Leq daytime and 50 dBA Leq nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered less than significant at the nearby noise-sensitive receiver

Table 15: Operational Noise Level Compliance

Receiver Location[1]	Project Operational Noise Levels (dBA L_{eq})[2]		Noise Level Standards[3]		Thresholds Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	49.9	41.5	55	50	No	No
R2	46.4	39.6	55	50	No	No
R3	46.4	39.0	55	50	No	No
R4	41.0	38.4	55	50	No	No
R5	46.7	43.7	55	50	No	No

1 See Figure 7 for the noise source and receiver locations.
2 Proposed Project operational noise levels as shown on Table 16 and Table 17
3 City of Lake Forest exterior noise level standards for residential land use, from Section 11.16.040 of the Municipal Code.
4 Do the estimated Project operational noise source activities exceed the noise level standards?
5 "Day" = 7:00 a.m. to 7:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Project Operational Noise Level Increases

To describe the Project operational noise level increases, the Project operational noise levels have been combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Table 16 and Table 17, respectively. As indicated on Table 16, Table 17, and Table 18, the Project will generate unmitigated daytime and nighttime operational noise level increases ranging from 0.1 to 1.4 dBA Leq at the nearby receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 9, the increases at the sensitive receiver locations will be less than significant.

Accordingly, the proposed Project would not expose persons to noise levels in excess of standards established by the City, and impacts would be less than significant.

Figure 7: Operational Noise Source Locations

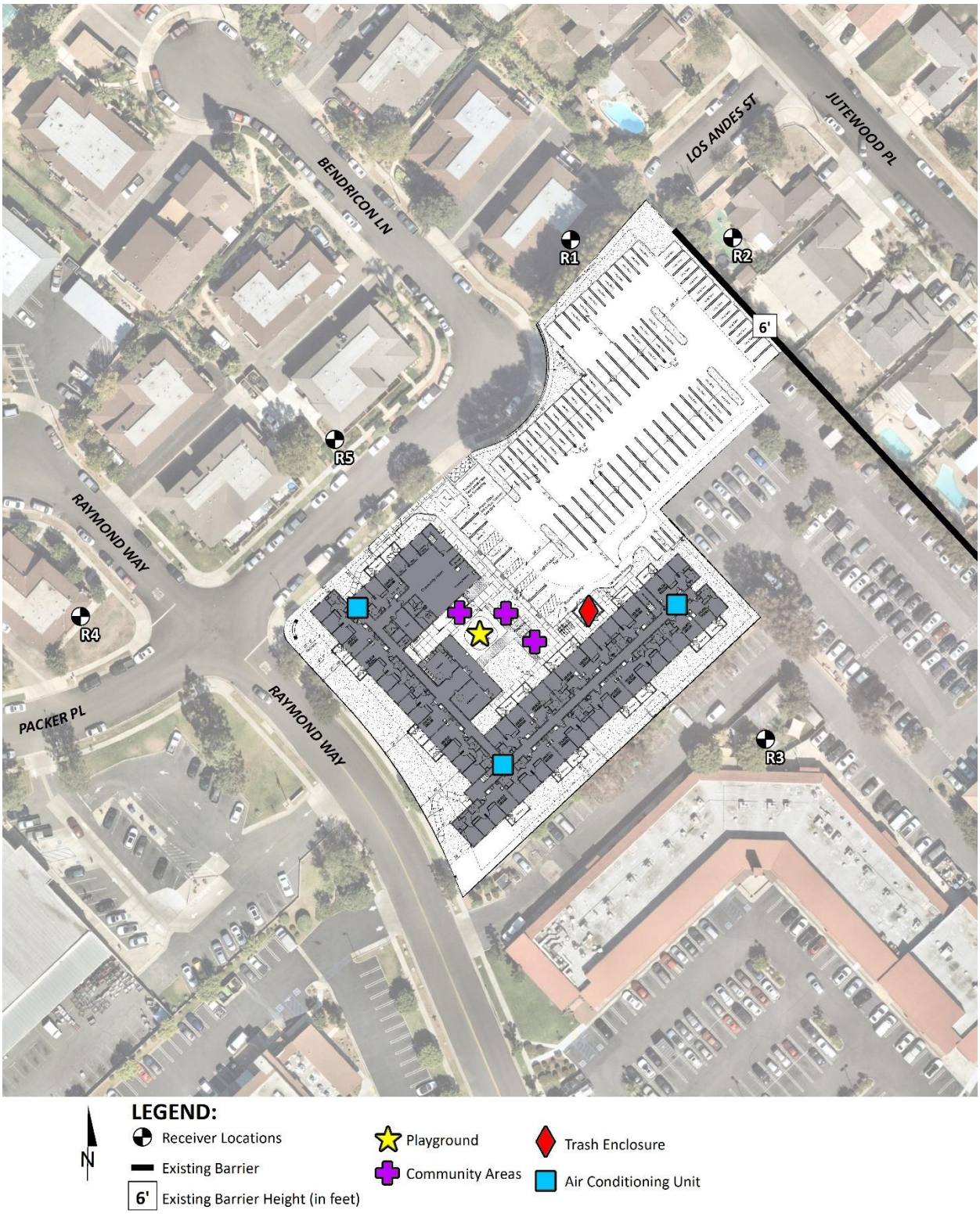


Table 16: Daytime Project Operational Noise Level Increase

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	46.4	L1	54.0	54.7	0.7	5.0	No
R3	46.4	L2	52.7	53.6	0.9	5.0	No
R4	41.0	L3	57.8	57.9	0.1	5.0	No
R5	46.7	L4	54.6	55.3	0.7	5.0	No

[1] See Figure 6 for the sensitive receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 13.
[3] Reference noise level measurement locations as shown on Figure 6
[4] Observed daytime ambient noise levels as shown Table 8.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria obtained from Section 11.16.040 of the Municipal Code.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 17: Nighttime Project Operational Noise Level Increase

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	41.5	L1	51.9	52.3	0.4	5.0	No
R3	39.6	L1	51.9	52.1	0.2	5.0	No
R4	39.0	L2	52.0	52.2	0.2	5.0	No
R5	38.4	L3	55.5	55.6	0.1	5.0	No

[1] See Figure 6 for the sensitive receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 13.
[3] Reference noise level measurement locations as shown on Figure 6
[4] Observed daytime ambient noise levels as shown Table 8.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria obtained from Section 11.16.040 of the Municipal Code.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 18: Nighttime Project Operational Noise Level Contributions

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	26.7	L1	44.1	44.2	0.1	5.0	No
R2	37.3	L2	48.1	48.4	0.3	5.0	No
R3	44.6	L3	41.7	46.4	4.7	5.0	No
R4	42.2	L3	41.7	45.0	3.3	5.0	No
R5	42.0	L3	41.7	44.9	3.2	5.0	No
R6	40.8	L3	41.7	44.3	2.6	5.0	No
R7	40.7	L3	41.7	44.2	2.5	5.0	No
R8	33.7	L3	41.7	42.3	0.6	5.0	No

[1] See Figure 6 for the sensitive receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 13.
[3] Reference noise level measurement locations as shown on Figure 6
[4] Observed daytime ambient noise levels as shown Table 8.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria obtained from Section 11.16.040 of the Municipal Code.
Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Construction activity associated with the proposed Project would not result in generation of excessive groundborne vibration or groundborne noise levels. Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). The Noise Impact Analysis (Urban Crossroads, 2020) analyzed the vibration created from construction operating on the Project site that was based on the construction vibration assessment methodology published by the FTA. Table 17 presents the expected Project-related vibration levels at distances ranging from 67 to 204 feet from the primary area of Project construction activity.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 inch per second PPV at 25 feet. At distances ranging from 67 to 204 feet from primary Project construction activities, construction vibration velocity levels are expected to range from 0.004 to 0.020 inch per second PPV. Table 19 shows that the vibration level created during Project construction will remain below the Caltrans building damage threshold of 0.3 inch per second PPV at all receiver locations.

Table 19: Unmitigated Construction Equipment Vibration Levels

Receiver[1]	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec)					Thresholds (in/sec PPV)		Threshold Exceeded?[2]	
		Small Bulldozer (< 80k lbs)	Jack-hammer	Loaded Trucks	Large Bulldozer (> 80k lbs)	Highest Vibration Level	Human Annoyance	Building Damage	Human Annoyance	Building Damage
R1	185'	0.000	0.002	0.004	0.004	0.004	0.04	0.3	No	No
R2	204'	0.000	0.002	0.003	0.004	0.004	0.04	0.3	No	No
R3	67'	0.001	0.008	0.017	0.020	0.020	0.04	0.3	No	No
R4	148'	0.000	0.002	0.005	0.006	0.006	0.04	0.3	No	No
R5	71'	0.001	0.007	0.016	0.019	0.019	0.04	0.3	No	No

[1] Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.
[2] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

Compared with the California Department of Transportation (Caltrans) construction vibration standard for human annoyance, the proposed Project construction activities will remain below the distinctly perceptible vibration standard of 0.04 inch per second PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact from Project construction activities. Accordingly, the proposed Project would not expose persons to excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public us airport, would the project expose people residing or working in the project area to excessive noise levels?*

Less than Significant Impact. The closest airport to the Project site is John Wayne Airport, which is located approximately 10 miles northwest of the Project site; and, therefore, the Project site is not located within 2 miles of a public airport or within an airport land use plan; nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations. As such, airport and airstrip noise impacts to the proposed Project would be less than significant.

5.14 POPULATION AND HOUSING

14.	POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
(b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

5.14.1 Impact Analysis

a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Less than Significant Impact. The proposed Project would not induce substantial unplanned population growth in the area for several reasons.

First, the Project, which includes construction of a residential building, is intended to provide housing primarily to *existing* residents of Lake Forest that meet the low income/affordable housing requirements. The proposed Project would comply with LU-1e of the Land Use Element which is to encourage residential developments to incorporate affordable units to accommodate a range of household types, special need populations, and income levels (City of Lake Forest 2020e). The California Department of Housing and Community Development released its annual progress report on the status of the remaining units required for cities to meet their Regional Housing Needs Allocation (RHNA) numbers. As of June 2019, Lake Forest had a total of 1,393 units needed for affordable housing remaining (HCD 2019). Accordingly, while the proposed Project entails construction of 71 apartments, these apartments will not result in substantial unplanned population growth in the area, since the proposed Project is intended to primarily serve the area's existing residents.

Second, even if the proposed Project does provide housing to persons who are not currently existing residents of Lake Forest, the resulting population growth would not be substantial. The proposed Project would construct 71 apartments, with 18 one-bedroom, 35 two-bedroom, and 18 three-bedroom floor plans. At maximum capacity, assuming two persons per bedroom, the proposed Project could provide housing to approximately 284 residents. According to the Department of Finance's May 2020 publication, the City's population in January 2020 was 84,711 (State of California 2020). Even assuming the Project would add 284 new residents to the City's population (unlikely since the Project's inhabitants are expected to predominantly be existing City residents), this would represent a 0.3 percent increase in population. The proposed Project's maximum potential population growth would thus not be substantial.

Third, any population growth resulting from the proposed Project would not be unplanned. As discussed above, the intent of the proposed Project is to provide housing to existing residents of Lake Forest that would meet the low income/affordable housing requirements.

Finally, the proposed Project would not result in any indirect, substantial unplanned population growth. The proposed Project involves the demolition of an existing office building; in its place, a residential building will be constructed. The proposed Project does not include the extension of roads or other infrastructure.

For all of the foregoing reasons, the proposed Project would not induce substantial unplanned population growth in an area, either directly or indirectly. Impacts would be less than significant.

b) *.Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

Less than Significant Impact. The proposed Project would not displace substantial numbers of existing people or housing or necessitate the construction of replacement housing. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building. The proposed Project would not result in removal of any single or multi-family dwellings. The proposed Project does not include activities that would directly displace existing people or housing, such as the construction of roadways or infrastructure that would cause a permanent physical division to the residential areas located north and east of the proposed Project. Furthermore, the proposed Project provides additional housing options for limited income populations. Impacts would be less than significant.

5.15 PUBLIC SERVICES

15.	PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire Protection?	☐	☐	☒	☐
	ii) Police Protection?	☐	☐	☒	☐
	iii) Schools?	☐	☒	☐	☐
	iv) Parks?	☐	☐	☒	☐
	v) Other public facilities?	☐	☐	☒	☐

5.15.1 Impact Analysis

a) *i) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?*

Less than Significant Impact. The Orange County Fire Authority (OCFA) provides fire protection, suppression, inspection, paramedic and emergency medical services, and hazardous materials response in the City (City of Lake Forest 2020f). The three stations serving the City of Lake Forest are Station 19, Station 42, and Station 54. The nearest station to the proposed Project is OCFA Station 19, located at 23022 El Toro Road, approximately 0.7 mile east. The second nearest fire station is Station 22, approximately 0.8 mile west from the proposed Project, located at 24001 Paseo de Valencia. This station, however, is in the City of Laguna Woods. OCFA Station 19 would likely be the first responder in the event of an emergency (Google Maps 2020).

The OCFA Standards of Cover discusses the distribution network by providing percentage of incidents and associated response times. Response times is the interval between dispatch notification and arrival on scene. Review of the 2004 data provides by following response time ranges (OCFA 2006):

- 6:00 minutes total response time 55% of the time
- 7:00 minutes total response time 75% of the time
- 7:22 minutes total response time 80% of the time
- 8:30 minutes total response time 90% of the time

The proposed Project will comply with OSHA and California Fire Code for fire safety during construction and demolition. These include proper storage of flammable materials, providing training to contractors on emergency response and fire suppression methods, and restrictions on the use of specific equipment during red flag warning days.

A letter was received by OCFA in reference to the proposed Project. Based on their assessment, OCFA has no significant concerns. Contingent upon approval of a conditional use permit by the Planning Department/Planning Commission, OCFA has provided a list of conditions of approval that are applicable to the proposed Project that involve plan submittals, installation of emergency responder system radio systems, occupancy inspections, conducting phase occupancy, pre-`construction meetings, and lumber-drop inspections .

The proposed Project would not result in new or expanded facilities and would not significantly affect the response times for fire services. OCFA currently serves the City and have no significant concerns of the proposed Project. Impacts would be less than significant.

ii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Less than Significant Impact. Law enforcement/police services are provided by the Orange County Sheriff's Department (OCSD). Their services include patrol, traffic enforcement, accident analysis investigation, parking enforcement, general and special investigations, and the Community Support Unit (City of Lake Forest 2020g). The physical location for Police Services in the City is at 100 Civic Center Drive in Lake Forest, approximately 3 miles east from the proposed Project. The nearest OCSD Sheriff's Department is located at 20202 Windrow Drive in Lake Forest, approximately 4 miles northeast from the proposed Project. The OCSD serving Lake Forest currently includes one lieutenant, five sergeants, three investigators, 38 deputies, an investigative assistant, five community services officers, and a crime prevention specialist (OCSD 2020).

The proposed Project would not result in new or expanded facilities and would not significantly affect the response times for police services. OCSD currently provides law enforcement/police services to the City. While the proposed Project would be expected to marginally increase demand for police protection services compared to existing conditions, OCSD would be able to meet the increased demand that would be associated with the increase in population. OCSD has reviewed project plans and have not indicated a need for additional facilities or resources to service the proposed Project. Furthermore, the proposed residential building will include outdoor cameras, security lighting, and a private patrol to monitor the site and provide additional security services.

iii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Less than Significant Impact with Mitigation Incorporated. The Saddleback Valley Unified School District provides educational services to residents within the City. The nearest public and private schools to the proposed Project are as follows:

- Montessori Children's School House, located immediately south of the proposed Project within the existing parcel
- Olivewood Elementary School, located at 23391 Dune Mear Road, approximately 0.3 mile north of the proposed Project
- Arbor Christian School, located at 23302 El Toro Road, approximately 0.4 mile southeast from the proposed Project

During construction, an increased number of construction employees and equipment would be working at the site. However, construction workers are not anticipated to permanently reside within the proposed Project site.

A Residential Development School Fee Justification Study was prepared for Saddleback Valley Unified School District (School District) in March 2020. Student generation factors were listed for multi-family attached units (the number of students per housing unit). These factors were adjusted based on incomplete and incorrect address information, school level, and land uses. The generation factors for elementary schools were 0.2150, intermediate school at 0.0634, and high school at 0.1127. At 71 units, the proposed Project could result in roughly 15 elementary school students, 4.5 middle school students, and approximately 8 high school students. The projected students from future units for the City are 2,678, with a total 842 surplus seats available to accommodate projected student enrollment. It is estimated that the school district would have an estimated 1,836 surplus of projected students within the City. The current capacities and enrollment is provided in the study. As of March 2020, there is a shortage of 19 seats for the elementary schools, a surplus of 351 seats for middle schools, and a surplus of 587 seats for high schools (SVUSD 2020). The nearest elementary, middle, and high schools to the proposed Project are Olivewood Elementary, Serrano Intermediate School, and El Toro High School.. Serrano Intermediate School and El Toro High School have a surplus of seats and have capacity to accommodate additional students. Olivewood Elementary, according to the study, has a shortage of 11 seats. The shortage of 11 seats at Olivewood Elementary would not require construction of a new school. The District would have to consider its enrollment and facility space to determine whether it could add 11 more seats within the school or whether it would need to reallocate students elsewhere in the District. Finally, the applicant would be required to pay school impact fees at current fee rates to ensure impacts to schools would be less than significant.

Once operational, the proposed Project would introduce additional populations to the proposed Project site, which could result in an increase of student enrollment within the School District. The School District would be able to accommodate new middle school and high school students based on current enrollment and capacity levels. However, this does not take into account capacity and availability of private schools within the City. Additionally, it is not expected that a majority of the new population would enroll into the nearby schools or impact the quality of school services. According to the School District's School Fee Justification, prior to issuance of a building permit, the local school district must certify that the application is in compliance with its Developer Fee Program.

The Montessori Children's School House has an outdoor fenced area that is adjacent to the proposed Project. The proposed Project would result in disturbance to the play area during demolition and construction. The proposed Project would not require the school to modify its hours of operation. In order for the outdoor play area to remain operational, the proposed Project would implement MM HAZ-1 to minimize the potential impacts of hazardous materials to the outdoor play area. Once operational, the proposed Project would be used as a residential and office area with parking, which would result in similar conditions as before construction. Impacts would be less than significant with mitigation incorporated.

b) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?*

Less than Significant Impact. The proposed Project includes recreational amenities for resident uses only. Refer to Section 5.16.1 on recreational facilities.

The nearest parks to the proposed Project are Veterans Park, approximately 0.75 mile northeast from the proposed Project, and El Toro Park, , approximately 0.75 mile southeast from the proposed Project, and Heroes Park approximately 0.75 mile east from the proposed Project (Google 2020). The proposed Project could introduce additional populations to the proposed Project site that could increase the use of nearby parks. The proposed Project would provide its fair share of development impact fees to maintain the use of the existing parks. In addition, this analysis assumes that the new residents would not be existing City residents utilizing both parks. It is likely that only a small percentage of the new residents would access the public parks, since recreational amenities are already provided with the new residential building. The proposed Project would not require new parks or expansion of existing parks. Therefore, impacts would be less than significant.

c) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?*

Less than Significant Impact. The proposed Project could result in impacts to other public facilities with the addition of residential units to the Project site. The Orange County Library-El Toro is located at 24672 Raymond Way, approximately 0.2 mile south of the proposed Project. The nearest hospital is Saddleback Medical Center, located approximately 1 mile southwest from the proposed Project.

While the proposed Project is expected to add 71 new housing units, the development is expected to service existing housing needs within the City to meet the RHNA housing requirements. Furthermore, the proposed Project would not result in a significant increase in population that could affect the availability and quality of other public facilities. As a result, the proposed Project would not result in substantial adverse physical impacts associated with provision of new or physically altered governmental facilities. Impacts would be less than significant.

5.16 RECREATION

16.	RECREATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

5.16.1 Impact Analysis

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Less than Significant Impact. The proposed Project involves construction of a 71-unit residential apartment building with 18 one-bedroom units, 35 two-bedroom units, and 18 three-bedroom units. The proposed Project would cause a slight population increase in the area. As discussed in Section 4.15 Population and Housing impact a) iv), the increase in population would not result in a significant increase of park use.

In addition to parks, the nearest recreational facility to the proposed Project is the Lake Forest Golf and Practice Center located approximately 0.2 mile east from the proposed Project. The population increase would not be substantial enough to contribute to deterioration of recreational facilities. Additionally, the proposed Project incorporates recreational amenities for tenants, including a community center, tot lot, outdoor fireplace with seating areas, and large activity lawn. These features would provide onsite recreational opportunities to the residents of the property. As a result, the proposed Project would not lead to the physical deterioration of other recreational facilities. Impacts would be less than significant.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Less than Significant Impact. As mentioned above, the proposed Project incorporates recreational amenities for tenants, including a community center, tot lot, outdoor fireplace with seating areas, and large activity lawn. The environmental impacts related to the construction of these recreational facilities are addressed throughout this Initial Study. Refer to each resource area for a discussion of the environmental impacts. This impact is less than significant.

5.17 TRANSPORTATION

17.	TRANSPORTATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	☐	☐	☒	☐
(b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
(c)	Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
(d)	Result in inadequate emergency access?	☐	☐	☒	☐

Impact Analysis

a) *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*

Less than Significant Impact. According to the City's Existing Conditions Report, El Toro Road is an arterial route (City of Lake Forest 2018b). El Toro Road is in the Orange County Master Plan of Arterial Highways and the County of Orange also identifies El Toro Road as a landscape corridor that is designated for special treatment to provide a pleasant driving environment (County of Orange 2005).

The proposed Project does not include any significant roadway improvements, transit modification, or removal of any pedestrian or bicycle facilities. The proposed Project also includes changes in the City's right-of-way (ROW) outside of the site. These include replacement of the existing sidewalks along Packer Plan and Raymond Way, removal of one tree in the parkway along Raymond Way for fire access, and the addition of a new parkway at the closed driveway. The proposed Project would not involve modifying El Toro Road.

In April 2020, Fehr and Peers prepared a Transportation Assessment to document the trip generation of the proposed Project and address Senate Bill 743 (SB 743) for vehicle miles traveled (VMT) (J). The results of the report indicate that the proposed Project would generate fewer trips as compared to its existing use as an office building.

The proposed Project would not conflict with any plans, programs, or policies relating to the circulation system. The proposed Project would include changes in the City's ROW. However, these changes would not prevent any residents or workers from accessing or leaving the site. In fact, the residential development would provide its tenants access to various commercial businesses within walking distances from the units. Impacts would be less than significant.

b) Would the project Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact. SB 743, signed by the California Governor in 2013, changed the way transportation impacts are identified. Specifically, the legislation has directed the Governor's Office of Planning and Research to look at different metrics for identifying transportation as an impact under CEQA. The City has not adopted thresholds of significance related to VMT, so the report was conducted consistent with the Technical Advisory prepared by the Governor's Office of Planning and Research.

According to the Technical Advisory, agencies such as the City may "use 'screening thresholds' to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix I.) This technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing."

There is a presumption of less than significant impact for residential development as "infill locations generally improve jobs-housing match, in turn shortening commutes and reducing VMT. Further, low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development."

Per the Transportation Assessment, since the proposed Project is 100 percent affordable housing, it is presumed to result in a less than significant transportation impact related to VMT (Appendix I).

Accordingly, because the proposed Project is an affordable residential development, the Project would be consistent with the section 15064.3 of the CEQA Guidelines and impacts would be less than significant.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact.

The proposed Project is not providing any roadway improvements other than sidewalk replacement adjacent to the Project site on Raymond Way and Packer Place. Therefore, the proposed Project would not include any new geometric design features that could result in significant impacts to transportation such as modification of intersections or the addition of sharp turn lanes. Therefore, impacts would be less than significant.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As discussed in Section 4.9. Hazards and Hazardous Materials Impact f), the City is located within the County's "Operational Area" for emergency preparedness and response programming. The EOC provides aid to communities through the OCSD, OCFA and State of California Office of Emergency Services.

The OCFA will review the proposed Project's site plan with proposed fire lanes to determine if the plan provides adequate ingress and egress based on the number of units. While the proposed Project may result in temporary traffic and access delay to the proposed Project site because of construction vehicles entering and exiting the area, there are no road closures expected with project construction, and delays would be temporary and will cease once the proposed Project is operational. All roads in the vicinity of the proposed Project would remain open for travel during both operations and construction, with potential temporary, intermittent delays due to construction. Therefore, the proposed Project would not include any significant roadway work; thus, the proposed Project would not impair the implementation of or interfere with decisions made by the County's OEC or Emergency Management Division. Therefore, impacts related to inadequate emergency access would be less than significant.

5.18 TRIBAL CULTURAL RESOURCES

18.	**TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
(b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

5.18.1 <u>Impact Analysis</u>

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

b) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

Less than Significant Impact with Mitigation Incorporated. As mentioned in Section 4.5: Cultural Resources, no listed historic structures are located on the proposed Project site, nor would the proposed activities involve the removal or disturbance of a historic structure (City of Lake Forest 2018a).

On April 3, 2020, Chambers Group requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands File to determine if cultural resources significant to Native Americans have been recorded in the proposed Project footprint and/or buffer area. On April 6, 2020, Chambers Group received a response from NAHC stating that the search of its Sacred Lands File was positive for the presence of Native American cultural resources within the proposed Project area or surrounding vicinity. The NAHC provided their list of Native American tribal governments to contact. Tribal contacts were provided for Campo Band of Mission Indians, Ewiiaapaayp Tribe, Jamul Indian Village, Juaneno Band of Mission Indians Acjachemen Nation- Romero, Juaneño Band of Mission Indians Acjachemen Nation-Belardes, Juaneño Band of Mission Indians , La Posta Band of Diegueno Mission Indians, Manzanita Band of Kumeyaay Nation, Sycuan Band of the Kumeyaay Nation, Viejas Band of Kumeyaay Indians, Juaneño Band of Mission Indians Acjachemen Nation, Gabrieleno Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/ Tongva Nation, Gabrielino/ Tongva Indians of California Tribal Council, Gabrielino/ Tongva Tribe, La Jolla Band of Luiseno Indians, Mesa Grande Band of Diegueno Mission Indians, Pala Band of Mission Indians, Pauma Band of Luiseno Indians, Rincon Band of Luiseno Indians, San Luis Rey Band of Mission Indians, and Soboba Band of Luiseno Indians.

Assembly Bill 52 (AB 52) mandates early tribal circulation prior to and during CEQA review with a requirement to formally conclude consultation. AB 52 established a new category of tribal cultural resources for which only tribes are experts. The mandate requires CEQA documents to incorporate findings, not just in terms of mitigation measures, but also in terms of which type of CEQA document is appropriate. Senate Bill 19 (SB 18), signed into law in 2004, requires notification and consult with Native American Tribes on proposed land use decisions for the purpose of protecting potential tribal cultural sites.

AB 52 and SB 18 consultation letters were sent on April 16, 2020, to tribal parties on the list provided by the City and the NAHC. These tribal parties were to the Campo Band of Mission Indians, Ewiiaapaayp Tribe, Jamul Indian Village, Juaneno Band of Mission Indians Acjachemen Nation- Romero, Juaneno Band of Mission Indians Acjachemen Nation-Belardes, Juaneno Band of Mission Indians , La Posta Band of Diegueno Mission Indians, Manzanita Band of Kumeyaay Nation, Sycuan Band of the Kumeyaay Nation, Viejas Band of Kumeyaay Indians, Juaneño Band

of Mission Indians Acjachemen Nation, Torres Martinez Desert Cahuilla Indians, United Auburn Indian Community of the Auburn Rancheria, Gabrieleno Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/ Tongva Nation, Gabrielino/ Tongva Indians of California Tribal Council, Gabrielino/ Tongva Tribe, La Jolla Band of Luiseno Indians, Mesa Grande Band of Diegueno Mission Indians, Pala Band of Mission Indians, Pauma Band of Luiseno Indians, Rincon Band of Luiseno Indians, San Luis Rey Band of Mission Indians, and Soboba Band of Luiseno Indians. To date, the following responses have been received as part of the consultation.

- A response was received from the Rincon Band of Luiseño Indians stating that the Project site is not within their specific Area of Historic Interest (AHI).

- A response was received by the Juaneno Band of Mission Indians, Acjachemen Nation-Belarades requesting consultation due to the positive search results, and that the Project site is situated in a sensitive area to their tribe. Consultation with the Juaneno Band of Mission Indians was concluded on June 11, 2020

SB 18 consultation is anticipated to be concluded by July 2020. On March 18, 2020, the Orange County Housing and Community Development conducted Section 106 consultation for the proposed Project. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of federally funded projects on historic properties. A response was received by the Gabrieleño Band of Mission Indians – Kizh Nation requesting consultation with the Orange County Housing and Community Development and an agreement to the mitigation had been made. The agreed upon mitigation would be included and implemented for the proposed Project. Due to the potential for uncovering significant resources during ground-disturbing activities associated with proposed Project construction, MM-TCR-1 will be implemented. This mitigation measure, in combination with ongoing tribal engagement and coordination, is intended to reduce potential impacts to Tribal Cultural Resources from the proposed Project to less than significant.

MM TCR-1: The applicant will be required to retain the services of a qualified Native American Monitor(s) during construction related ground disturbance activities including, but not limited to, pavement removal, potholing, grubbing, weed abatement, boring, grading, excavation, or trenching within the project area. The monitor must be selected by a Tribe culturally affiliated with the project area and will be present on-site during the construction phases that involve ground disturbance activities. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the monitor has indicated that the site has a low potential for archaeological resources. If archaeological or cultural resources are encountered, they will be documented by the Native American monitor and collected for preservation.

No other responses have been received. Impacts would be less than significant with mitigation incorporated.

5.19 UTILITIES AND SERVICE SYSTEMS

19.	UTILITIES/SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
(c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
(d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes?	☐	☐	☒	☐

5.19.1 Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or expansion of which could cause significant environmental effects?

Less than Significant Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building.

The proposed Project will require the use of water and wastewater, electric, natural gas, and telecommunication infrastructure. Because the proposed Project is occurring within a fully developed area, these utility systems are present on site, and the proposed Project would tie into existing utility lines. The following utility services are currently serving the Project site and vicinity (City of Lake Forest 2020h):

- Water and Sewer Services: El Toro Water District
- Electricity: Southern California Edison

- Gas: Southern California Gas Company
- Residential and Commercial Waste and Recycling: CR&R Incorporated
- Telephone/Television/Internet Service Providers: AT&T, Cox Communication, Frontier Communications, HughesNet, Lake Forest DIRECTV, Planet DISH

Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) provide electricity and gas to the proposed Project area respectively. Electricity is serviced to approximately 15 million people within an approximately 50,000-square-mile area in southern California from various sources. These sources include coal, renewable energy, hydroelectric, nuclear resources, and natural gas. Other independent producers include large power plants to renewable and cogeneration plants.

Natural gas is provided to approximately 21.6 million customers that span approximately 20,000 miles in more than 500 communities. Natural gas mainly comes from out-of-state natural gas basins from the southwest, Canada, and the Rocky Mountains and within the state. The proposed Project is currently being serviced by SCE and SoCalGas, as the area is currently developed. No new infrastructure would be required on the Project site (City of Lake Forest 2018b).

The El Toro Water District (ETWD) provides water services and supplies to sections of Laguna Hills, Laguna Woods, Mission Viejo, Aliso Viejo, and Lake Forest. The proposed Project is located within the service area of ETWD. Its potable water reservoir storage capacity is 12 million gallons for Reservoirs 1 through 5 and 275 million gallons for Reservoir 6. The capacity of this regional reservoir is shared by ETWD, Santa Margarita Water District, and Moulton Niguel Water District. ETWD's distribution system stretches over 170 miles of water lines with 8 booster stations and 12 water pressure zones. Its wastewater treatment plant has a capacity of 6 million gallons per day (mgd), and its recycled water's tertiary treatment plan has a capacity of 3.7 mgd. ETWD is dependent on imported water which is received from a blend of the Colorado River and Sacramento Bay Delta via the State Water Project (ETWD 2020).

ETWD prepared an Urban Water Management Plan (UWMP) that provides the Department of Water Resources a detailed summary of present and future water resources and demands. Approximately 59 percent of the District's water demand is residential, institutional, government, industrial, and dedicated landscaping areas. The District's potable water demand is 8,649 acre-feet (AF) per year. The projected potable water demand in 2020 for a multi-family dwelling is 2,290 AF; and in 2040, the project demand is 2,504 AF (ETWD 2016). An acre-foot is approximately 325,851 gallons.

According to the U.S. Department of Housing and Urban Development (HUD) report on Water Conservation – Overview of Retrofit Strategies, while varying factors are used to estimate the water consumption of multi-family buildings, a typical water use in apartment units is approximately 55.7 gallons per capita per day (gpcd) or per person without any conservation to water consumption. With conservation measures, the typical water use is approximately 33.3 gpcd. The estimated volume of water for outdoor uses would vary depending on the

property and amenities being offered. Typical usage averages approximately 14 to 18 percent of total water use (HUD 2002).

The UWMP Act required retail water supplies to include projects for single and multi-family residential housing for lower income and affordable households. This would assist in complying with Government Code Section 65589.7 that grants priority for providing water service to lower income households. The projected multi-family residential demand for low income households is anticipated to be 1,014 AF in 2020, with an approximate 50- to 100-AF increase every five years (ETWD 2016). While the proposed Project would result in an increase in water use, the Project site is currently being serviced by ETWD. In addition, the proposed Project is not a new development that would require new service installations.

The proposed Project would not require relocation or construction of new utility systems for electric, natural gas, or telecommunication because the services are currently available within the proposed Project site. The existing office building in Parcel 2 will remain with no changes to its current utilities. The proposed residential building would result in an increase of water usage with the addition of residents to the site. The residential building would incorporate any applicable HUD retrofit strategies to conserve residential and landscaping water uses. With implementation of these strategies, impacts would be less than significant.

b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal dry and multiple dry years?*

Less than Significant Impact. See previous response to part a). Construction would require the use of water supplies for its activities that include washing aggregates, dust suppression, and washing surfaces. However, these would be limited during the construction phase and would not be significant. Once operational, the proposed Project and its residents would not result in a significant consumption of water supplies. The proposed Project does not include any use of large open spaces and landscaping that would require substantial amounts of water. In addition, ETWD UWMP has accounted for an increase in water demand within the City and has enough water supplies available to serve the proposed Project. Furthermore, the proposed Project would include installation/implementation of water conserving strategies for the residential building. Impacts would be less than significant.

c) *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less than Significant Impact. Refer to the previous responses in impact a) and b). The proposed Project would not result in a significant increase in population to the site that would affect the capacity of ETWD. ETWD has adequate capacity to serve the proposed Project's projected demand in addition to ETWD's existing commitments. ETWD processes 6 mgd during max month conditions and recycles about 10 percent of the water it treats (City of Lake Forest 2018b). The amount of wastewater generated by the proposed Project during construction and operations is not expected to exceed ETWD's capacity. Impacts would be less than significant.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. Construction of the proposed Project will use the Frank Bowerman Landfill (Landfill) located at 1002 Bee Canyon Access Road in the City of Irvine, approximately 10 miles north of the proposed Project. The Landfill's maximum permitted daily refuse is 11,500 tons (23,000,000 pounds) per day, and the Landfill has enough projected capacity to service residents and businesses until 2053 (County of Orange 2020c).

The proposed Project will comply with Chapter 16.12: Construction and Demolition (C&D) Debris Diversion of the City's Municipal Code which states the following:

> **16.12.010 Minimum construction and demolition debris requirements.**
>
> All covered projects shall reuse, recycle, salvage or divert the minimum percentage or amount of C&D debris as required by the then applicable version of the California Building Standards Code. Compliance with this chapter shall be a requirement of any building permit for a covered project. (Ord. 320 § 3, 2019)
>
> The proposed Project would also provide the City a Waste Reduction Recycling Plan (WRRP) as required for all construction and demolition projects. During operations, residential and commercial wastes will be serviced by CR&R Incorporated. Solid waste stations will be provided in enclosed areas that are accessible for all units (City of Lake Forest 2020b).

According to the City's Existing Conditions Report in 2018, average generation rate per resident is approximately 4.2 pounds per person, per day, with approximately 63,663 tons per year. A majority of landfill that is disposed go to the Frank R. Bowerman Landfill. Other landfills that receive wastes from the City include the following landfills:

- Antelope Valley Public Landfill (1 ton);
- Azusa Land Reclamation Co. Landfill (184 tons);
- El Sobrante Landfill (161 tons);
- McKittrick Waste Treatment Site (25 tons);
- Mid-Valley Sanitary Landfill (241 tons);
- Olinda Alpha Sanitary Landfill (223 tons);
- Prima Deshecha Sanitary Landfill (5,408 tons); and
- Simi Valley Landfill & Recycling Center (95 tons);

In 2017, the City disposed approximately 62,887 tons of waste, well below the remaining capacity of the landfill.

The proposed Project's construction and operation of the new residential building and maintenance of the existing office building would not generate solid wastes that would exceed the capacity of local infrastructure. According to CalRecycle, a list of residential sector generation rates was provided that estimated the pounds of waste per dwelling unit per day for various multifamily projects. The estimates ranged from four pounds per dwelling unit per day, up to 8.6 pounds per dwelling unit per day depending on each project. Assuming at 8.6 pounds per day at 71 units, the estimated waste for the building could be approximately 610 pounds per day (approximately 112 tons per year) (CalRecycle 2019). The EPA's Construction and Demolition Materials Amounts report in 2003 analyzed the estimated the amounts of construction and demolition wastes from various projects. The estimated non-residential demolition for a 34,000 square-foot building would result in approximately 292,000 pounds of construction and demolition waste. A construction of a multi-family residential building with 36 units and approximately 50,400 square feet building would result in approximately 204,000 pounds of construction waste. While the comparison does not reference the exact same site or building, the information is used as an example to estimate construction and demolition wastes. Based on this information, estimated construction and demolition waste can be up to 500,000 pounds (or 250 tons), which is less than one percent of the City's disposal estimates in 2017 (EPA 2003).

In addition, the proposed Project would comply with City and State regulations such as the California integrated Waste Management Act, AB 341 California Mandatory Commercial Recycling to reduce the volume of solid waste through recycling and reuse (City of Lake Forest 2018b). The proposed Project will also comply with the following policies as identified in the Recreation and Resources Element of the 2040 General Plan:

RR-6c:

- Encourage recycling, reuse, and appropriate disposal of hazardous materials, including the following:
  - Increased participation in single family and multi-family residential curbside recycling programs;
  - Increased participation in commercial and industrial recycling programs for paper, cardboard, and plastics;
  - Reduce yard and landscaping waste through methods such as composting, grass recycling, and using resource efficient landscaping techniques; and

RR-6d:

Encourage local businesses to provide electronic waste (e-waste) drop-off services and encourage residents and businesses to properly dispose of, or recycle, e-waste. As such, impacts would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. Refer to the previous response in impact d). The proposed Project will comply with City and State regulations related to solid waste. The proposed Project would also comply with the policies identified in the Recreation and Resources Element and the of the City's General Plan. The proposed Project would not require any alteration to the statutes and regulations related to solid wastes. Impacts would be less than significant.

5.20 WILDFIRE

20.	WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
(c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
(d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

5.20.1 Impact Analysis

a) Would the project impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The proposed Project site is not located within a fire hazard zone (VHFHSZ) (CALFIRE 2011). Additionally, the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace. Operation of the outdoor fireplace will be in compliance with City's Municipal Code Chapter 8.06, Section R1001.13: Outdoor Fireplaces, Fire Pits, Fire Rings, or similar devices, as well as Chapter 8.24, Section 307: Open Burning, Recreational Fires, Fire Pits, Fire Rings, and Portable Outdoor Fireplaces (City of Lake Forest 2020b). The outdoor fireplace would also not be operated on red flag warning days. This impact is less than significant.

b) Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The proposed Project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2011). Further, the proposed Project site is in an area with minimal elevation change. As mentioned above in impact a), the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace; the outdoor fireplace will be operated in compliance with the City's Municipal Code and will not be operated on red flag days. This impact is less than significant.

c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less than Significant Impact. The proposed Project involves construction of a 71-unit apartment building and recreational facilities in the location of an existing office building on Raymond Way. The current infrastructure on site provides sufficient access to roads and utilities to satisfy the requirements for implementation of the Project. Additionally, the Project site is not located within an identified fire hazard zone (VHFHSZ) (CALFIRE 2011). Impacts would be less than significant.

d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage changes?*

Less than Significant Impact. The proposed Project is located within a built-up, urban community that has low/no susceptibility for wildfire and is not located within an identified VHFHSZ (CALFIRE 2011). Additionally, the proposed Project site is not located in an area at risk for flooding or landslide (FEMA 2020). As previously discussed in impact b), the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace; the outdoor fireplace will be operated in compliance with the City's Municipal Code and will not be operated on red flag days. This impact is less than significant.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

21.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

21.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☐	☒	☐
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

5.21.1 Impact Analysis

a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less than Significant Impact with Mitigation Incorporated. As discussed in Section 4.4 Biological Resources, the proposed Project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. However, the Project site contains habitat suitable for nesting birds. During the breeding season, large trees on or adjacent to the Project site may be used for nesting by hawks, ravens, or other large birds. Smaller trees, shrubs, and other vegetation may provide nest sites for smaller birds. To minimize impacts to nesting birds, implementation of MM-BIO-1 would minimize potential impacts to nesting birds on site.

The proposed Project site is currently developed. As discussed in Section 4.5 Cultural Resources, no historic resources are identified within the Project site, and the existing office building to be demolished was not identified to have historic significance. The proposed Project will involve minor site grading and excavation. However, because the Project site is within a highly urbanized area and much of the site has been previously disturbed through major grading for the existing office buildings and parking lots, it is not expected that paleontological or archaeological resources would be discovered. During minor trenching, however, any excavation that would reach native soils would require inspection by a qualified archaeologist/paleontologist should the ground-disturbing activities reach native soils. Implementation of MM CUL-1 would be implemented to minimize potential impacts. Impacts would be less than significant with mitigation incorporated.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable*

when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)

Less than Significant Impact. According to the City's Capital Improvement Projects — Upcoming Projects, no projects are listed to occur within the Project site. The nearest project scheduled to begin on May 2020 is a slurry seal for arterial streets that is proposed along Serrano Road from Toledo Way to El Toro Road, Ridge Route Drive from Trabuco Road to Dead-end, and Toledo Way from Bake Parkway to El Toro Road. Any previous projects are mainly asphalt and restriping on sections of El Toro Road. There are three other residential projects within the City that are under construction and the Nakase Nursery Project's site development plans are in approval. However, these projects are not located nearby the proposed Project. According to the City's cumulative project list as of February 2020, there are two projects within a mile radius from the proposed Project. One project is located at 24406 Muirlands Boulevard, approximately 0.4 miles north from the proposed Project, which consists of a restaurant expansion. The other project is located at 25290 Jeronimo Road, approximately 0.7 miles east from the proposed Project, which is the construction of a new self-storage and warehouse facility. No other projects are identified to occur within the immediate area; and, therefore, the proposed Project would not result in cumulative impacts (City of Lake Forest 2020i).

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant Impact with Mitigation Incorporated. Potential environmental effects that may cause indirect or direct impacts to humans include air quality, greenhouse gas, geology and soils, hazards and hazardous materials, noise, transportation, and wildfire. The proposed Project is not located within a VHFHSZ and would not result in direct or indirect exposure to wildfire. No recognized environmental conditions (RECs) are known in connection with the Project site except for the 24601 Raymond Way locations. The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. . No roadway modifications are proposed that could pose a safety hazard to existing users. While the Project site is in a seismically active area that may experience ground motion, it does not lie within an "Earthquake Fault Zone." The proposed residential building would be designed and constructed in accordance with the current California Building Code. The proposed Project would also provide additional testing as indicated in MM GEO-1 for soil testing to confirm the existing conditions.

As discussed in Section 4.3 Air Quality and Section 4.8 for Greenhouse Gas Emissions, the proposed Project would result in less than significant impact because the proposed activities would not exceed regional or localized thresholds, and there are no local CO Hotspots anticipated to be created from the proposed Project. As discussed in Section 4.9 Hazards and Hazardous Materials impact c), the proposed Project would implement MM HAZ-1 to minimize potential impacts related to fugitive dusts and accidental releases of any potentially hazardous chemicals. As discussed in Section 4.13, the proposed Project would not result in a significant impact to noise because operational and construction noise level increases would not be in excess of standards established by the City. Therefore, impacts would be less than significant with mitigation incorporated.

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APPENDIX A – AIR QUALITY AND GREENHOUSE GAS EMISSIONS

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urbanxroads.com

April 16, 2020

Ms. Sarah Walker
National Community Renaissance
1461 Ford Street, Suite 105
Redlands, CA 92373

SUBJECT: MOUNTAIN VIEW AFFORDABLE HOUSING COMMUNITY AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Dear Ms. Sarah Walker:

Urban Crossroads, Inc. is pleased to provide the following Air Quality and Greenhouse Gas Emissions Analysis for the Mountain View Affordable Housing Community Project ("Project"), which is located at 24551 Raymond Way in the City of Lake Forest as shown on Exhibit A.

PROJECT DESCRIPTION

Exhibit B illustrates the site plan for the Project. As indicated on Exhibit B, the Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing approximately 31,000 square feet (SF) office building on 1.96 acres.

SUMMARY OF FINDINGS

Results of the Memo indicate the construction and operations of the Project would result in less than significant impacts associated with air quality and greenhouse gas (GHG) emissions.

CONSTRUCTION AND OPERATIONAL-SOURCE MITIGATION MEASURES

As shown in the analysis below, the Project would not result in an exceedance of any localized or regional construction-source or operational-source emissions thresholds. As such, the Project would not result in any significant impacts and no mitigation measures are required. Lastly, the Project does not exceed the applicable National Environmental Policy Act (NEPA) de minimis thresholds.

EXHIBIT A: LOCATION MAP

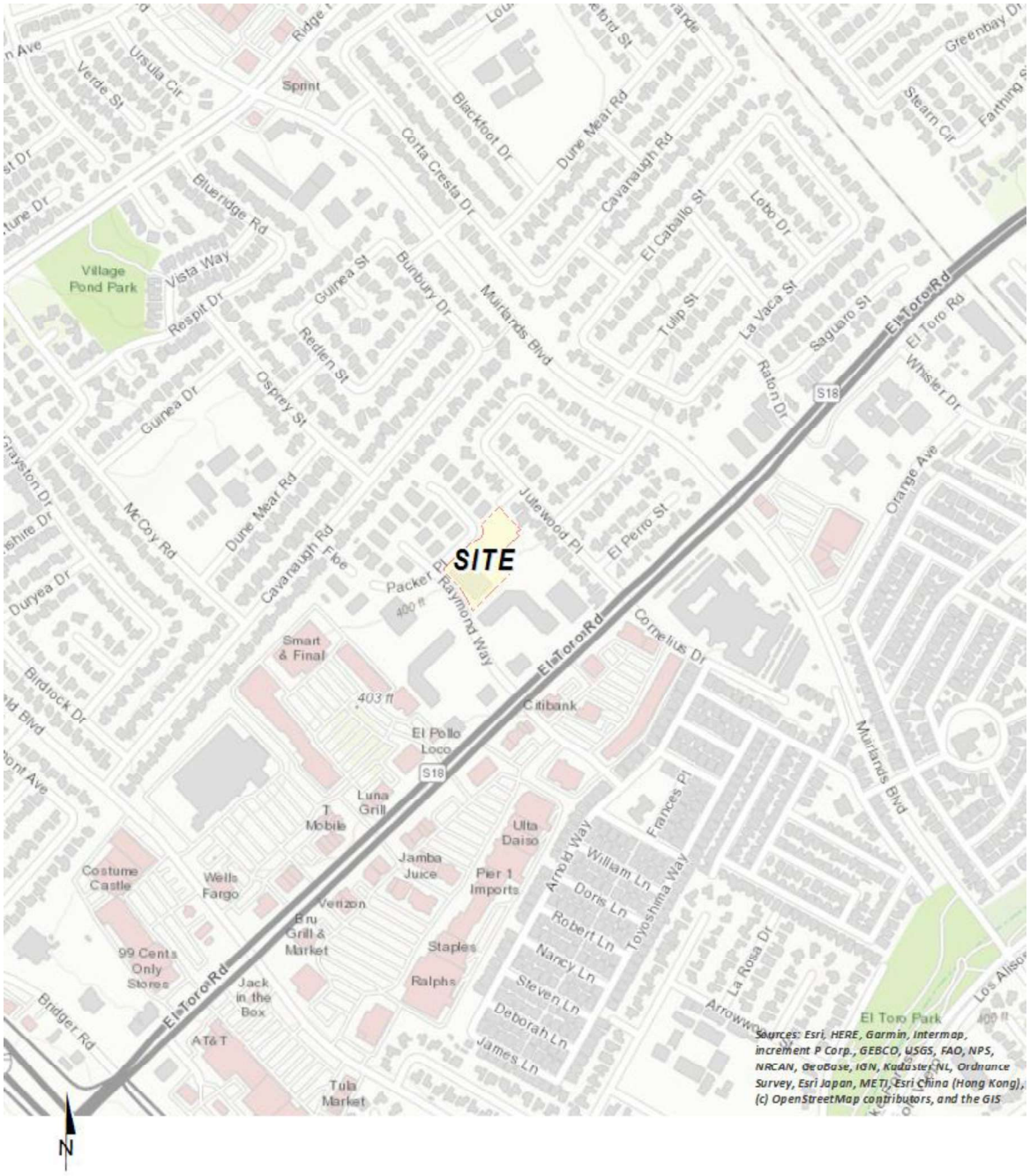
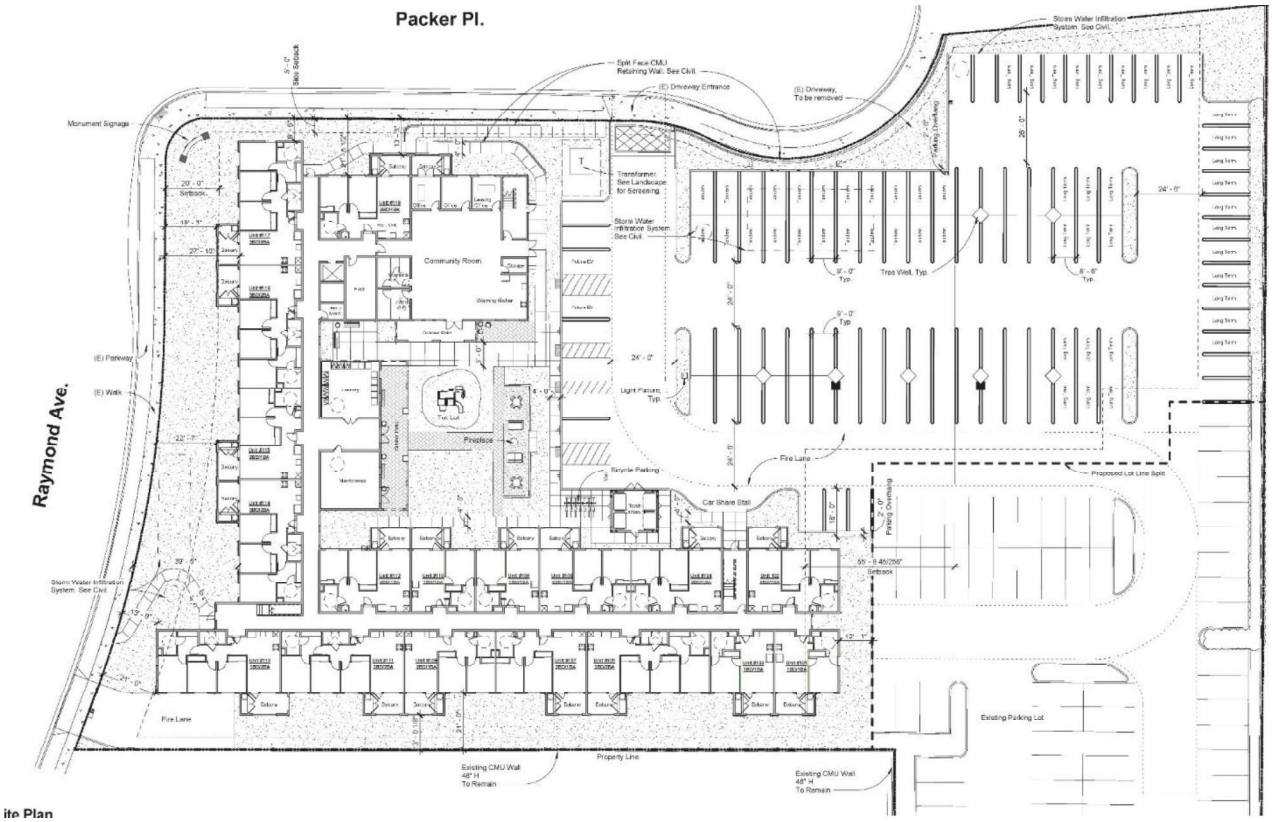


EXHIBIT B: SITE PLAN



ite Plan

STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMS)

South Coast Air Quality Management District (SCAQMD) Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) (1), Rule 1113 (Architectural Coatings) (2), Rule 445 (Wood Burning Devices), and Rule 1403 (Asbestos Removal). Implementation of these rules are required pursuant to existing law and therefore is considered part of the Project.

BACM AQ-1

All applicable measures included in Rule 403, shall be incorporated into Project plans and specifications as implementation of Rule 403, which include but are not limited to (1):

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.

BACM AQ-2

The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1113 (2):

- Only "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113 shall be used.

BACM AQ-3

The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 445 (3):

- Rule 445 prohibits the use of wood burning stoves and fireplaces in new developments.

BACM AQ-4

If asbestos is found in the existing structure, the following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1403 (4):

- Rule 1403 governs asbestos emissions from demolition and renovation activities.

CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE AQ EMISSIONS

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutant (Nitrogen Oxides (NO_X), VOC, Particulate Matter less than 10 microns (PM_{10}), Particulate Matter less than 2.5 microns ($PM_{2.5}$), Sulfur Oxides (SO_X), and Carbon Monoxide (CO)) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational impacts related to the Project. Outputs from the model runs are provided in Attachment A.

AIR QUALITY

REGIONAL EMISSIONS

CONSTRUCTION

The duration of construction activity was based on CalEEMod defaults. The number of days of construction are shown on Table 1. Equipment employed for Project construction activities are based on CalEEMod defaults, as shown on Table 2. The Project construction fleet may vary due to specific Project needs at any given time.

Demolition Activities

The Project is anticipated to include demolition of existing structures currently occupying the Project site. It is estimated that the existing approximately 31,000 SF office building will be demolished and hauled off-site. The model default trip length of 20 miles has been utilized accordingly.

Grading Activities

The Project is anticipated to require approximately 500 cubic yards (CY) of fill during grading activities. As such, the soil import function in CalEEMod was enabled and 500 CY of import was modeled accordingly.

REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Impacts without Mitigation

The estimated maximum daily construction emissions without mitigation are summarized on Table 3. Detailed construction model outputs are presented in Attachment A. Under the assumed construction modeling scenario discussed above, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant, and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which

the project region is non-attainment under an applicable federal or state ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related construction-source emissions and no mitigation is required.

TABLE 1: CONSTRUCTION DURATION

Phase Name	Days
Demolition	20
Site Preparation	2
Grading	4
Building Construction	200
Paving	10
Architectural Coating	10

TABLE 2: CONSTRUCTION EQUIPMENT

Activity	Equipment	Amount	Hours Per Day
Demolition	Concrete/Industrial Saw	1	8
	Tractor/Loader/Backhoe	3	8
	Rubber Tired Dozer	1	8
Site Preparation	Graders	1	8
	Rubber Tired Dozers	1	7
	Tractor/Loader/Backhoe	1	8
Grading	Graders	1	6
	Rubber Tired Dozer	1	6
	Tractor/Loader/Backhoe	1	7
Building Construction	Cranes	1	6
	Forklifts	1	6
	Generator Sets	1	8
	Tractor/Loader/Backhoe	1	6
	Welders	1	8
Paving	Cement and Mortar Mixers	1	6
	Pavers	1	6
	Paving Equipment	1	8

Activity	Equipment	Amount	Hours Per Day
	Rollers	1	7
	Tractor/Loader/Backhoe	1	8
Architectural Coating	Air Compressors	1	6

TABLE 3: PROJECT CONSTRUCTION EMISSIONS AND REGIONAL THRESHOLDS (WITHOUT MITIGATION)

	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**45.90**	**22.94**	**15.86**	**0.03**	**3.17**	**1.93**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

lbs/day = Pounds Per Day

Based on the SCAQMD's designation status, federal General Conformity de minimis levels would be 10 tons per year for NOx and VOC and 100 tons per year for CO, PM10, and PM2.5. A conformity determination would be required for each criteria pollutant or precursor exceeding the federal General Conformity de minimis level. Emissions for all criteria pollutants associated with construction activity are below federal General Conformity de minimis levels pursuant to the federal Clean Air Act as shown on Table 4.

TABLE 4: PROJECT CONSTRUCTION EMISSIONS AND NEPA THRESHOLDS (WITHOUT MITIGATION)

	Emissions (tons/year)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Annual Emissions	**0.25**	**1.89**	**1.70**	**3.56E-03**	**0.19**	**0.12**
General Conformity Threshold	10	10	100	100	100	100
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

OPERATIONS

Operational activities associated with the Project would result in emissions of CO, VOCs, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Operational related emissions are expected from the following primary sources: area source emissions, energy source emissions, mobile source emissions, and on-site equipment emissions.

Area Source Emissions

Architectural Coatings – Over a period of time, the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod.

Consumer Products – Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

Landscape Maintenance Equipment – Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

Energy Source Emissions

Combustion Emissions Associated with Natural Gas and Electricity – Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using CalEEMod.

Title 24 Energy Efficiency Standards – California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

Mobile Source Emissions

Project mobile source air quality emissions are primarily dependent on overall daily vehicle trip generation. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. According to the *Trip Generation Assessment*, the Project would generate 263 two-way trips per day (131 inbound and 132 outbound trips) (4).

REGIONAL OPERATIONAL EMISSIONS SUMMARY

Impacts without Mitigation

Table 5 summarizes the Project's daily regional emissions from on-going operations. Detailed construction model outputs are presented in Attachment A. During operational activity, the Project will not exceed any of the thresholds of significance, and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related operation-sources emissions, and no mitigation is required.

TABLE 5: PROJECT OPERATIONAL EMISSIONS AND REGIONAL THRESHOLDS (WITHOUT MITIGATION)

Operational Activities – Summer Scenario	**Emissions (lbs/day)**					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.42	1.66	5.71	0.02	1.92	0.52
Total Maximum Daily Emissions	**2.17**	**1.99**	**11.70**	**0.02**	**1.98**	**0.58**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Operational Activities – Winter Scenario	**Emissions (lbs/day)**					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.41	1.71	5.45	0.02	1.92	0.52
Total Maximum Daily Emissions	**2.16**	**2.04**	**11.44**	**0.02**	**1.98**	**0.58**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Based on the SCAQMD's designation status, federal General Conformity de minimis levels would be 10 tons per year for NOx and VOC and 100 tons per year for CO, PM10, and PM2.5. A conformity determination would be required for each criteria pollutant or precursor exceeding the federal General

Conformity de minimis level. Emissions for all criteria pollutants associated with operational activity are below federal General Conformity de minimis levels pursuant to the federal Clean Air Act as shown on Table 6.

TABLE 6: PROJECT OPERATIONAL EMISSIONS AND NEPA THRESHOLDS (WITHOUT MITIGATION)

	Emissions (tons/year)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	**0.38**	**0.37**	**1.76**	**4.15E-03**	**0.35**	**0.10**
General Conformity Threshold	10	10	100	100	100	100
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

LOCALIZED EMISSIONS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (5). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[1]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses (5).

Sensitive Receptors

Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities. This Memorandum analyzes localized construction and operational emissions impacts at the nearest sensitive receptors.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also known to be locations where an individual can remain for 24 hours.

[1] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

Project-related Sensitive Receptors

Sensitive receptors in the Project study area include existing residential homes. To assess the potential for localized impacts, sensitive receptor locations as shown on Exhibit A were identified as representative locations for analysis.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual and cumulatively significant impact. As such, the nearest sensitive receptor for evaluation is an existing residential home located approximately 22 feet north of the Project at location R1. The *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (5)." As the residential home is located less than 25-meters from the Project site, the 25-meter receptor distance will be used for evaluation of localized impacts.

LOCALIZED CONSTRUCTION EMISSIONS SUMMARY

Impacts without Mitigation

Table 7 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Attachment A. Under the assumed construction modeling scenario (as previously discussed), emissions resulting from the Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, accordingly the Project's construction will not expose sensitive receptors to substantial pollutant concentrations. If asbestos is found in the existing structure, the Project plans and specifications with incorporate the implementation of SCAQMD Rule 1403 which governs asbestos emissions from demolition and renovation activities. Thus, a less than significant impact related to sensitive receptors exposure to pollutants concentrations from Project construction would occur and no mitigation is required.

TABLE 7: LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)

On-Site Demolition Emissions	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**20.95**	**14.66**	**1.72**	**1.17**
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Site Preparation Emissions	**Emissions (lbs/day)**			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**18.35**	**7.71**	**3.08**	**1.91**
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
On-Site Grading Emissions	**Emissions (lbs/day)**			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**15.09**	**6.45**	**2.60**	**1.61**
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

EXHIBIT A: RECEPTOR LOCATIONS

LEGEND:

Receptor Locations

Distance from receptor to Project site boundary (in feet)

CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots."

At the time of the 1993 Handbook, the South Coast Air Basin (SCAB) was designated nonattainment under the CAAQS and NAAQS for CO (6).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 8.

TABLE 8: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Blvd./Veteran Ave.	4.6	3.5	3.7
Sunset Blvd./Highland Ave.	4	4.5	3.5
La Cienega Blvd./Century Blvd.	3.7	3.1	5.2
Long Beach Blvd./Imperial Hwy.	3	3.1	8.4

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (7). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 4.7 ppm and

3.5 ppm, respectively (data from South Central Los Angeles County Monitoring Station for 2018). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph) — or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (8).

Traffic volumes generating the CO concentrations for the "hot spot" analysis, shown on Table 9. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[2] At buildout of the Project, the highest daily traffic volumes generated at the roadways within the vicinity of the Project are expected to generate less than the highest daily traffic volumes generated at the busiest intersection in the CO "hot spot" analysis. As such, the Project would not likely exceed the most stringent 1-hour CO standard.

TABLE 9: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Blvd./Veteran Ave.	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Blvd./Highland Ave.	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Blvd./Century Blvd.	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Blvd./Imperial Hwy.	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county

2 Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (9). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements (10). The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's California Environmental Quality Act (CEQA) Air Quality Handbook (1993) (11). These indicators are discussed below:

Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

As evaluated, the Project's regional and localized operational-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the Project is determined to consistent with the first criterion.

Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Lake Forest General Plan is considered to be consistent with the AQMP.

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts – Consistency Criterion 2

Although the Project is not consistent with the current land use zoning designation, the Project would result in fewer trips and consequently fewer vehicular-related emissions than the existing office designation. Additionally, as noted above, the Project would not exceed any regional or localized emissions thresholds. Lastly, the purpose of the Project is to provide affordable housing in the region and supports the goals and objectives of the AQMP by reducing vehicle miles traveled.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. The Project's development intensity is consistent with than the development intensities allowed within the General Plan. Additionally, Project construction and operational-source emissions would not exceed the regional or localized significance thresholds as previously indicated. The Project is therefore considered to be consistent with the AQMP.

ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants

- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (12).

Based on an aerial review of the Proposed Project vicinity none of the uses listed above associated with odor complaints are not located in the immediate vicinity of the Project, therefore future residents of the Project would not be subject to any substantive odor impacts.

CUMULATIVE IMPACTS

The CAAQS designate the Project site as nonattainment for O_3 PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (13). In this report the AQMD clearly states (Page D-3):

> *…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or Environmental Impact Report (EIR). The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same*

> *significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

GREENHOUSE GAS EMISSIONS

There are no established City thresholds applicable to the project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed project, which is located in the SCAB, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the proposed project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 MT CO2e per year.

EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 602.17 $MTCO_2e$ per year as summarized in Table 10. Direct and indirect operational emissions associated with the Project are compared with the SCAQMD's proposed Tier 3 threshold of significance for non-

industrial projects, which is 3,000 $MTCO_2e$ per year. As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions.

Further, the Project will comply with all applicable regulations intended to reduce GHG-emissions. Finally, the Project is consistent with the general goals and objectives identified in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from Project construction and operation would occur and no mitigation is required.

TABLE 10: TOTAL PROJECT GHG EMISSIONS (ANNUAL)

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	10.87	0.001	0.00	10.91
Area	23.23	0.02	5.10E-4	23.98
Energy	164.20	5.54E-3	1.95E-3	164.92
Mobile Sources	349.65	0.01	0.00	350.02
Waste	6.63	0.39	0	16.42
Water Usage	30.98	0.15	3.81E-3	35.92
Total CO_2e (All Sources)	**602.17**			
Screening Threshold (CO_2e)	**3,000**			
Threshold Exceeded?	**NO**			

MT/yr = Metric Tons per Year

If you have any questions, please contact me directly at (949) 336-5987.

Respectfully submitted,

URBAN CROSSROADS, INC.

Haseeb Qureshi,
Associate Principal

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ATTACHMENT A:

CALEEMOD EMISSIONS MODEL OUTPUTS

El Toro Road Residential

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LotAcreage	1.87	0.99
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	3.71
tblVehicleTrips	SU_TR	5.86	3.71
tblVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.3436	22.9163	15.8591	0.0333	5.8890	1.1597	6.7105	2.9774	1.0830	3.7332	0.0000	3,159.9830	3,159.9830	0.6625	0.0000	3,170.5212
2021	45.8973	15.1940	15.3768	0.0330	0.8671	0.6923	1.5594	0.2321	0.6682	0.9003	0.0000	3,130.4227	3,130.4227	0.4140	0.0000	3,140.5335
Maximum	**45.8973**	**22.9163**	**15.8591**	**0.0333**	**5.8890**	**1.1597**	**6.7105**	**2.9774**	**1.0830**	**3.7332**	**0.0000**	**3,159.9830**	**3,159.9830**	**0.6625**	**0.0000**	**3,170.5212**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.3436	22.9163	15.8591	0.0333	2.3513	1.1597	3.1728	1.1757	1.0830	1.9315	0.0000	3,159.9830	3,159.9830	0.6625	0.0000	3,170.5212
2021	45.8973	15.1940	15.3768	0.0330	0.8671	0.6923	1.5594	0.2321	0.6682	0.9003	0.0000	3,130.4227	3,130.4227	0.4140	0.0000	3,140.5335
Maximum	**45.8973**	**22.9163**	**15.8591**	**0.0333**	**2.3513**	**1.1597**	**3.1728**	**1.1757**	**1.0830**	**1.9315**	**0.0000**	**3,159.9830**	**3,159.9830**	**0.6625**	**0.0000**	**3,170.5212**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.36**	**0.00**	**42.78**	**56.14**	**0.00**	**38.89**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015
Total	**20.7762**	**3.4651**	**47.8090**	**0.1157**	**1.9081**	**5.4928**	**7.4009**	**0.5102**	**5.4917**	**6.0020**	**665.0512**	**3,816.5170**	**4,481.5682**	**2.0887**	**0.0514**	**4,549.0858**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015
Total	**2.1716**	**1.9920**	**11.7019**	**0.0236**	**1.9081**	**0.0692**	**1.9773**	**0.5102**	**0.0682**	**0.5784**	**0.0000**	**2,538.5170**	**2,538.5170**	**0.1054**	**6.2100e-003**	**2,543.0004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**89.55**	**42.51**	**75.52**	**79.62**	**0.00**	**98.74**	**73.28**	**0.00**	**98.76**	**90.36**	**100.00**	**33.49**	**43.36**	**94.96**	**87.91**	**44.10**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/11/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

OffRoad Equipment

El Toro Road Residential - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5258	0.0000	1.5258	0.2310	0.0000	0.2310			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.5258**	**1.1525**	**2.6782**	**0.2310**	**1.0761**	**1.3072**		**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0532	1.9385	0.4898	5.4000e-003	0.1228	6.2800e-003	0.1290	0.0336	6.0000e-003	0.0396		601.4058	601.4058	0.0623		602.9643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0500	0.0315	0.4255	1.4200e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		141.7057	141.7057	3.2300e-003		141.7864
Total	**0.1032**	**1.9700**	**0.9153**	**6.8200e-003**	**0.2681**	**7.2400e-003**	**0.2753**	**0.0721**	**6.8800e-003**	**0.0790**		**743.1115**	**743.1115**	**0.0656**		**744.7508**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5950	0.0000	0.5950	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**0.5950**	**1.1525**	**1.7475**	**0.0901**	**1.0761**	**1.1662**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0532	1.9385	0.4898	5.4000e-003	0.1228	6.2800e-003	0.1290	0.0336	6.0000e-003	0.0396		601.4058	601.4058	0.0623		602.9643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0500	0.0315	0.4255	1.4200e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		141.7057	141.7057	3.2300e-003		141.7864
Total	**0.1032**	**1.9700**	**0.9153**	**6.8200e-003**	**0.2681**	**7.2400e-003**	**0.2753**	**0.0721**	**6.8800e-003**	**0.0790**		**743.1115**	**743.1115**	**0.0656**		**744.7508**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0307**	**0.0194**	**0.2619**	**8.7000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.2035**	**87.2035**	**1.9900e-003**		**87.2532**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**2.2618**	**0.8210**	**3.0828**	**1.1519**	**0.7553**	**1.9072**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.0307**	**0.0194**	**0.2619**	**8.7000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**87.2035**	**87.2035**	**1.9900e-003**		**87.2532**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9284	0.0000	4.9284	2.5278	0.0000	2.5278			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.9284**	**0.6844**	**5.6128**	**2.5278**	**0.6296**	**3.1574**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1189	4.3308	1.0943	0.0121	0.2742	0.0140	0.2883	0.0751	0.0134	0.0885		1,343.5662	1,343.5662	0.1393		1,347.0480
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.1497**	**4.3501**	**1.3561**	**0.0129**	**0.3637**	**0.0146**	**0.3783**	**0.0988**	**0.0140**	**0.1128**		**1,430.7697**	**1,430.7697**	**0.1413**		**1,434.3011**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9221	0.0000	1.9221	0.9858	0.0000	0.9858			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**1.9221**	**0.6844**	**2.6065**	**0.9858**	**0.6296**	**1.6155**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1189	4.3308	1.0943	0.0121	0.2742	0.0140	0.2883	0.0751	0.0134	0.0885		1,343.5662	1,343.5662	0.1393		1,347.0480
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	**0.1497**	**4.3501**	**1.3561**	**0.0129**	**0.3637**	**0.0146**	**0.3783**	**0.0988**	**0.0140**	**0.1128**		**1,430.7697**	**1,430.7697**	**0.1413**		**1,434.3011**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0479	1.5627	0.4125	3.7400e-003	0.0958	8.1500e-003	0.1040	0.0276	7.8000e-003	0.0354		406.6934	406.6934	0.0329		407.5157
Worker	0.2652	0.1671	2.2586	7.5400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092		752.1301	752.1301	0.0172		752.5587
Total	**0.3131**	**1.7297**	**2.6710**	**0.0113**	**0.8671**	**0.0133**	**0.8804**	**0.2321**	**0.0125**	**0.2446**		**1,158.8235**	**1,158.8235**	**0.0500**		**1,160.0745**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**	**0.0000**	**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0479	1.5627	0.4125	3.7400e-003	0.0958	8.1500e-003	0.1040	0.0276	7.8000e-003	0.0354		406.6934	406.6934	0.0329		407.5157
Worker	0.2652	0.1671	2.2586	7.5400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092		752.1301	752.1301	0.0172		752.5587
Total	**0.3131**	**1.7297**	**2.6710**	**0.0113**	**0.8671**	**0.0133**	**0.8804**	**0.2321**	**0.0125**	**0.2446**		**1,158.8235**	**1,158.8235**	**0.0500**		**1,160.0745**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0400	1.4072	0.3816	3.7000e-003	0.0958	2.9200e-003	0.0988	0.0276	2.8000e-003	0.0304		403.1888	403.1888	0.0316		403.9791
Worker	0.2491	0.1507	2.0957	7.2800e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		726.0140	726.0140	0.0156		726.4026
Total	**0.2891**	**1.5579**	**2.4774**	**0.0110**	**0.8671**	**7.9100e-003**	**0.8750**	**0.2321**	**7.4000e-003**	**0.2395**		**1,129.2027**	**1,129.2027**	**0.0472**		**1,130.3818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0400	1.4072	0.3816	3.7000e-003	0.0958	2.9200e-003	0.0988	0.0276	2.8000e-003	0.0304		403.1888	403.1888	0.0316		403.9791
Worker	0.2491	0.1507	2.0957	7.2800e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		726.0140	726.0140	0.0156		726.4026
Total	**0.2891**	**1.5579**	**2.4774**	**0.0110**	**0.8671**	**7.9100e-003**	**0.8750**	**0.2321**	**7.4000e-003**	**0.2395**		**1,129.2027**	**1,129.2027**	**0.0472**		**1,130.3818**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0280**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**		**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		136.7852	136.7852	2.9300e-003		136.8585
Total	**0.0469**	**0.0284**	**0.3949**	**1.3700e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**136.7852**	**136.7852**	**2.9300e-003**		**136.8585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0280**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**	**0.0000**	**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		136.7852	136.7852	2.9300e-003		136.8585
Total	**0.0469**	**0.0284**	**0.3949**	**1.3700e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**136.7852**	**136.7852**	**2.9300e-003**		**136.8585**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**45.8468**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424		147.3072	147.3072	3.1500e-003		147.3860
Total	**0.0505**	**0.0306**	**0.4252**	**1.4800e-003**	**0.1565**	**1.0100e-003**	**0.1575**	**0.0415**	**9.3000e-004**	**0.0424**		**147.3072**	**147.3072**	**3.1500e-003**		**147.3860**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**45.8468**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424		147.3072	147.3072	3.1500e-003		147.3860
Total	**0.0505**	**0.0306**	**0.4252**	**1.4800e-003**	**0.1565**	**1.0100e-003**	**0.1575**	**0.0415**	**9.3000e-004**	**0.0424**		**147.3072**	**147.3072**	**3.1500e-003**		**147.3860**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015
Unmitigated	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567
Parking Lot	0.00	0.00	0.00		
Total	263.41	263.41	263.41	899,567	899,567

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
NaturalGas Unmitigated	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2877.75	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0310**	**0.2652**	**0.1129**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**338.5591**	**338.5591**	**6.4900e-003**	**6.2100e-003**	**340.5710**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.87775	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0310**	**0.2652**	**0.1129**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**338.5591**	**338.5591**	**6.4900e-003**	**6.2100e-003**	**340.5710**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Unmitigated	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	18.6046	1.4731	36.1072	0.0921		5.4236	5.4236		5.4236	5.4236	665.0512	1,278.0000	1,943.0512	1.9833	0.0451	2,006.0854
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	**20.3296**	**1.5410**	**41.9886**	**0.0924**		**5.4560**	**5.4560**		**5.4560**	**5.4560**	**665.0512**	**1,288.5709**	**1,953.6221**	**1.9936**	**0.0451**	**2,016.9134**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	**1.7250**	**0.0679**	**5.8814**	**3.1000e-004**		**0.0324**	**0.0324**		**0.0324**	**0.0324**	**0.0000**	**10.5709**	**10.5709**	**0.0103**	**0.0000**	**10.8280**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

El Toro Road Residential

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LotAcreage	1.87	0.99
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	3.71
tblVehicleTrips	SU_TR	5.86	3.71
tblVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.3802	22.9438	15.7277	0.0328	5.8890	1.1598	6.7105	2.9774	1.0831	3.7332	0.0000	3,109.6771	3,109.6771	0.6638	0.0000	3,120.2342
2021	45.9040	15.2055	15.2519	0.0326	0.8671	0.6924	1.5595	0.2321	0.6683	0.9004	0.0000	3,081.6277	3,081.6277	0.4139	0.0000	3,091.7563
Maximum	**45.9040**	**22.9438**	**15.7277**	**0.0328**	**5.8890**	**1.1598**	**6.7105**	**2.9774**	**1.0831**	**3.7332**	**0.0000**	**3,109.6771**	**3,109.6771**	**0.6638**	**0.0000**	**3,120.2342**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.3802	22.9438	15.7277	0.0328	2.3513	1.1598	3.1728	1.1757	1.0831	1.9315	0.0000	3,109.6771	3,109.6771	0.6638	0.0000	3,120.2342
2021	45.9040	15.2055	15.2519	0.0326	0.8671	0.6924	1.5595	0.2321	0.6683	0.9004	0.0000	3,081.6277	3,081.6277	0.4139	0.0000	3,091.7563
Maximum	**45.9040**	**22.9438**	**15.7277**	**0.0328**	**2.3513**	**1.1598**	**3.1728**	**1.1757**	**1.0831**	**1.9315**	**0.0000**	**3,109.6771**	**3,109.6771**	**0.6638**	**0.0000**	**3,120.2342**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.36**	**0.00**	**42.78**	**56.14**	**0.00**	**38.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Total	**20.7694**	**3.5155**	**47.5505**	**0.1147**	**1.9081**	**5.4929**	**7.4010**	**0.5102**	**5.4918**	**6.0021**	**665.0512**	**3,719.3335**	**4,384.3847**	**2.0882**	**0.0514**	**4,451.8920**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Total	**2.1648**	**2.0423**	**11.4433**	**0.0226**	**1.9081**	**0.0693**	**1.9774**	**0.5102**	**0.0682**	**0.5785**	**0.0000**	**2,441.3335**	**2,441.3335**	**0.1049**	**6.2100e-003**	**2,445.8066**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	89.58	41.90	75.93	80.29	0.00	98.74	73.28	0.00	98.76	90.36	100.00	34.36	44.32	94.98	87.91	45.06

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/11/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

OffRoad Equipment

El Toro Road Residential - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5258	0.0000	1.5258	0.2310	0.0000	0.2310			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.5258**	**1.1525**	**2.6782**	**0.2310**	**1.0761**	**1.3072**		**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0546	1.9629	0.5157	5.3100e-003	0.1228	6.3900e-003	0.1291	0.0336	6.1200e-003	0.0397		592.3268	592.3268	0.0638		593.9224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0346	0.3933	1.3400e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		134.1108	134.1108	3.0600e-003		134.1873
Total	**0.1110**	**1.9975**	**0.9090**	**6.6500e-003**	**0.2681**	**7.3500e-003**	**0.2754**	**0.0721**	**7.0000e-003**	**0.0791**		**726.4376**	**726.4376**	**0.0669**		**728.1097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5950	0.0000	0.5950	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**0.5950**	**1.1525**	**1.7475**	**0.0901**	**1.0761**	**1.1662**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0546	1.9629	0.5157	5.3100e-003	0.1228	6.3900e-003	0.1291	0.0336	6.1200e-003	0.0397		592.3268	592.3268	0.0638		593.9224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0346	0.3933	1.3400e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		134.1108	134.1108	3.0600e-003		134.1873
Total	**0.1110**	**1.9975**	**0.9090**	**6.6500e-003**	**0.2681**	**7.3500e-003**	**0.2754**	**0.0721**	**7.0000e-003**	**0.0791**		**726.4376**	**726.4376**	**0.0669**		**728.1097**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0347**	**0.0213**	**0.2420**	**8.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**82.5297**	**82.5297**	**1.8800e-003**		**82.5768**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**2.2618**	**0.8210**	**3.0828**	**1.1519**	**0.7553**	**1.9072**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.0347**	**0.0213**	**0.2420**	**8.3000e-004**	**0.0894**	**5.9000e-004**	**0.0900**	**0.0237**	**5.4000e-004**	**0.0243**		**82.5297**	**82.5297**	**1.8800e-003**		**82.5768**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9284	0.0000	4.9284	2.5278	0.0000	2.5278			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.9284**	**0.6844**	**5.6128**	**2.5278**	**0.6296**	**3.1574**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1219	4.3853	1.1521	0.0119	0.2742	0.0143	0.2885	0.0751	0.0137	0.0887		1,323.2834	1,323.2834	0.1426		1,326.8479
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.1566**	**4.4066**	**1.3942**	**0.0127**	**0.3637**	**0.0149**	**0.3785**	**0.0988**	**0.0142**	**0.1130**		**1,405.8131**	**1,405.8131**	**0.1445**		**1,409.4247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9221	0.0000	1.9221	0.9858	0.0000	0.9858			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**1.9221**	**0.6844**	**2.6065**	**0.9858**	**0.6296**	**1.6155**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1219	4.3853	1.1521	0.0119	0.2742	0.0143	0.2885	0.0751	0.0137	0.0887		1,323.2834	1,323.2834	0.1426		1,326.8479
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	**0.1566**	**4.4066**	**1.3942**	**0.0127**	**0.3637**	**0.0149**	**0.3785**	**0.0988**	**0.0142**	**0.1130**		**1,405.8131**	**1,405.8131**	**0.1445**		**1,409.4247**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0500	1.5621	0.4521	3.6500e-003	0.0958	8.2900e-003	0.1041	0.0276	7.9300e-003	0.0355		396.6991	396.6991	0.0346		397.5629
Worker	0.2997	0.1836	2.0875	7.1400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092		711.8186	711.8186	0.0162		712.2246
Total	**0.3497**	**1.7457**	**2.5396**	**0.0108**	**0.8671**	**0.0134**	**0.8805**	**0.2321**	**0.0126**	**0.2448**		**1,108.5177**	**1,108.5177**	**0.0508**		**1,109.7875**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**	**0.0000**	**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0500	1.5621	0.4521	3.6500e-003	0.0958	8.2900e-003	0.1041	0.0276	7.9300e-003	0.0355		396.6991	396.6991	0.0346		397.5629
Worker	0.2997	0.1836	2.0875	7.1400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092		711.8186	711.8186	0.0162		712.2246
Total	**0.3497**	**1.7457**	**2.5396**	**0.0108**	**0.8671**	**0.0134**	**0.8805**	**0.2321**	**0.0126**	**0.2448**		**1,108.5177**	**1,108.5177**	**0.0508**		**1,109.7875**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0420	1.4039	0.4187	3.6100e-003	0.0958	3.0300e-003	0.0989	0.0276	2.9000e-003	0.0305		393.2835	393.2835	0.0332		394.1125
Worker	0.2820	0.1656	1.9339	6.8900e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		687.1242	687.1242	0.0147		687.4921
Total	**0.3240**	**1.5695**	**2.3525**	**0.0105**	**0.8671**	**8.0200e-003**	**0.8751**	**0.2321**	**7.5000e-003**	**0.2396**		**1,080.4077**	**1,080.4077**	**0.0479**		**1,081.6046**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0420	1.4039	0.4187	3.6100e-003	0.0958	3.0300e-003	0.0989	0.0276	2.9000e-003	0.0305		393.2835	393.2835	0.0332		394.1125
Worker	0.2820	0.1656	1.9339	6.8900e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		687.1242	687.1242	0.0147		687.4921
Total	**0.3240**	**1.5695**	**2.3525**	**0.0105**	**0.8671**	**8.0200e-003**	**0.8751**	**0.2321**	**7.5000e-003**	**0.2396**		**1,080.4077**	**1,080.4077**	**0.0479**		**1,081.6046**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0280**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**		**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	**0.0531**	**0.0312**	**0.3644**	**1.3000e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**129.4582**	**129.4582**	**2.7700e-003**		**129.5275**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0280**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**	**0.0000**	**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	**0.0531**	**0.0312**	**0.3644**	**1.3000e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**129.4582**	**129.4582**	**2.7700e-003**		**129.5275**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**45.8468**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424		139.4165	139.4165	2.9900e-003		139.4911
Total	**0.0572**	**0.0336**	**0.3924**	**1.4000e-003**	**0.1565**	**1.0100e-003**	**0.1575**	**0.0415**	**9.3000e-004**	**0.0424**		**139.4165**	**139.4165**	**2.9900e-003**		**139.4911**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**45.8468**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424		139.4165	139.4165	2.9900e-003		139.4911
Total	**0.0572**	**0.0336**	**0.3924**	**1.4000e-003**	**0.1565**	**1.0100e-003**	**0.1575**	**0.0415**	**9.3000e-004**	**0.0424**		**139.4165**	**139.4165**	**2.9900e-003**		**139.4911**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Unmitigated	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567
Parking Lot	0.00	0.00	0.00		
Total	263.41	263.41	263.41	899,567	899,567

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
NaturalGas Unmitigated	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2877.75	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0310**	**0.2652**	**0.1129**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**338.5591**	**338.5591**	**6.4900e-003**	**6.2100e-003**	**340.5710**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.87775	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214		0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0310**	**0.2652**	**0.1129**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**		**338.5591**	**338.5591**	**6.4900e-003**	**6.2100e-003**	**340.5710**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Unmitigated	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	18.6046	1.4731	36.1072	0.0921		5.4236	5.4236		5.4236	5.4236	665.0512	1,278.0000	1,943.0512	1.9833	0.0451	2,006.0854
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	**20.3296**	**1.5410**	**41.9886**	**0.0924**		**5.4560**	**5.4560**		**5.4560**	**5.4560**	**665.0512**	**1,288.5709**	**1,953.6221**	**1.9936**	**0.0451**	**2,016.9134**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	**1.7250**	**0.0679**	**5.8814**	**3.1000e-004**		**0.0324**	**0.0324**		**0.0324**	**0.0324**	**0.0000**	**10.5709**	**10.5709**	**0.0103**	**0.0000**	**10.8280**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

El Toro Road Residential

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LotAcreage	1.87	0.99
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	3.71
tblVehicleTrips	SU_TR	5.86	3.71
tblVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2536	1.8861	1.7000	3.5600e-003	0.1166	0.0919	0.2085	0.0333	0.0883	0.1216	0.0000	308.0554	308.0554	0.0445	0.0000	309.1673
2021	0.2422	0.1000	0.1107	2.1000e-004	4.4600e-003	4.9800e-003	9.4400e-003	1.1900e-003	4.7300e-003	5.9300e-003	0.0000	18.2335	18.2335	3.2600e-003	0.0000	18.3151
Maximum	**0.2536**	**1.8861**	**1.7000**	**3.5600e-003**	**0.1166**	**0.0919**	**0.2085**	**0.0333**	**0.0883**	**0.1216**	**0.0000**	**308.0554**	**308.0554**	**0.0445**	**0.0000**	**309.1673**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2536	1.8861	1.7000	3.5600e-003	0.0977	0.0919	0.1896	0.0270	0.0883	0.1153	0.0000	308.0552	308.0552	0.0445	0.0000	309.1671
2021	0.2422	0.1000	0.1107	2.1000e-004	4.4600e-003	4.9800e-003	9.4400e-003	1.1900e-003	4.7300e-003	5.9300e-003	0.0000	18.2335	18.2335	3.2600e-003	0.0000	18.3150
Maximum	**0.2536**	**1.8861**	**1.7000**	**3.5600e-003**	**0.0977**	**0.0919**	**0.1896**	**0.0270**	**0.0883**	**0.1153**	**0.0000**	**308.0552**	**308.0552**	**0.0445**	**0.0000**	**309.1671**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**15.58**	**0.00**	**8.65**	**18.27**	**0.00**	**4.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-2-2020	6-1-2020	0.6845	0.6845
2	6-2-2020	9-1-2020	0.6197	0.6197
3	9-2-2020	12-1-2020	0.6142	0.6142
4	12-2-2020	3-1-2021	0.5524	0.5524
		Highest	0.6845	0.6845

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5371	0.0269	1.1865	1.1900e-003		0.0718	0.0718		0.0718	0.0718	7.5416	15.6910	23.2325	0.0237	5.1000e-004	23.9765
Energy	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	164.2011	164.2011	5.5400e-003	1.9500e-003	164.9211
Mobile	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164
Waste						0.0000	0.0000		0.0000	0.0000	6.6297	0.0000	6.6297	0.3918	0.0000	16.4248
Water						0.0000	0.0000		0.0000	0.0000	1.4676	29.5155	30.9831	0.1520	3.8100e-003	35.9177
Total	**0.6150**	**0.3918**	**2.2127**	**5.3000e-003**	**0.3412**	**0.0786**	**0.4197**	**0.0914**	**0.0784**	**0.1697**	**15.6388**	**559.0609**	**574.6997**	**0.5875**	**6.2700e-003**	**591.2564**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3045	8.4800e-003	0.7352	4.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Energy	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	164.2011	164.2011	5.5400e-003	1.9500e-003	164.9211
Mobile	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164
Waste						0.0000	0.0000		0.0000	0.0000	6.6297	0.0000	6.6297	0.3918	0.0000	16.4248
Water						0.0000	0.0000		0.0000	0.0000	1.4676	29.5155	30.9831	0.1520	3.8100e-003	35.9177
Total	**0.3825**	**0.3734**	**1.7613**	**4.1500e-003**	**0.3412**	**0.0108**	**0.3519**	**0.0914**	**0.0106**	**0.1019**	**8.0973**	**544.5686**	**552.6659**	**0.5650**	**5.7600e-003**	**568.5078**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**37.81**	**4.70**	**20.40**	**21.70**	**0.00**	**86.30**	**16.15**	**0.00**	**86.51**	**39.94**	**48.22**	**2.59**	**3.83**	**3.83**	**8.13**	**3.85**

3.0 Construction Detail

Construction Phase

El Toro Road Residential - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/11/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

El Toro Road Residential - Orange County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0153	0.0000	0.0153	2.3100e-003	0.0000	2.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**0.0153**	**0.0115**	**0.0268**	**2.3100e-003**	**0.0108**	**0.0131**	**0.0000**	**21.0677**	**21.0677**	**5.4200e-003**	**0.0000**	**21.2031**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0200	5.0100e-003	5.0000e-005	1.2100e-003	6.0000e-005	1.2700e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	5.4213	5.4213	5.7000e-004	0.0000	5.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	4.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2352	1.2352	3.0000e-005	0.0000	1.2359
Total	**1.0500e-003**	**0.0204**	**9.0400e-003**	**6.0000e-005**	**2.6400e-003**	**7.0000e-005**	**2.7100e-003**	**7.1000e-004**	**7.0000e-005**	**7.8000e-004**	**0.0000**	**6.6565**	**6.6565**	**6.0000e-004**	**0.0000**	**6.6715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9500e-003	0.0000	5.9500e-003	9.0000e-004	0.0000	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**5.9500e-003**	**0.0115**	**0.0175**	**9.0000e-004**	**0.0108**	**0.0117**	**0.0000**	**21.0676**	**21.0676**	**5.4200e-003**	**0.0000**	**21.2030**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0200	5.0100e-003	5.0000e-005	1.2100e-003	6.0000e-005	1.2700e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	5.4213	5.4213	5.7000e-004	0.0000	5.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	4.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2352	1.2352	3.0000e-005	0.0000	1.2359
Total	**1.0500e-003**	**0.0204**	**9.0400e-003**	**6.0000e-005**	**2.6400e-003**	**7.0000e-005**	**2.7100e-003**	**7.1000e-004**	**7.0000e-005**	**7.8000e-004**	**0.0000**	**6.6565**	**6.6565**	**6.0000e-004**	**0.0000**	**6.6715**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0761
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0760**	**0.0760**	**0.0000**	**0.0000**	**0.0761**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**2.2600e-003**	**8.2000e-004**	**3.0800e-003**	**1.1500e-003**	**7.6000e-004**	**1.9100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0761
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0760**	**0.0760**	**0.0000**	**0.0000**	**0.0761**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8600e-003	0.0000	9.8600e-003	5.0600e-003	0.0000	5.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**9.8600e-003**	**1.3700e-003**	**0.0112**	**5.0600e-003**	**1.2600e-003**	**6.3200e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	8.9400e-003	2.2400e-003	2.0000e-005	5.4000e-004	3.0000e-005	5.7000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4223	2.4223	2.6000e-004	0.0000	2.4287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1520	0.1520	0.0000	0.0000	0.1521
Total	**3.0000e-004**	**8.9800e-003**	**2.7400e-003**	**2.0000e-005**	**7.2000e-004**	**3.0000e-005**	**7.5000e-004**	**2.0000e-004**	**3.0000e-005**	**2.3000e-004**	**0.0000**	**2.5743**	**2.5743**	**2.6000e-004**	**0.0000**	**2.5808**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8400e-003	0.0000	3.8400e-003	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**3.8400e-003**	**1.3700e-003**	**5.2100e-003**	**1.9700e-003**	**1.2600e-003**	**3.2300e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	8.9400e-003	2.2400e-003	2.0000e-005	5.4000e-004	3.0000e-005	5.7000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4223	2.4223	2.6000e-004	0.0000	2.4287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1520	0.1520	0.0000	0.0000	0.1521
Total	**3.0000e-004**	**8.9800e-003**	**2.7400e-003**	**2.0000e-005**	**7.2000e-004**	**3.0000e-005**	**7.5000e-004**	**2.0000e-004**	**3.0000e-005**	**2.3000e-004**	**0.0000**	**2.5743**	**2.5743**	**2.6000e-004**	**0.0000**	**2.5808**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1882	175.1882	0.0325	0.0000	176.0012
Total	**0.1959**	**1.4271**	**1.2727**	**2.1300e-003**		**0.0768**	**0.0768**		**0.0742**	**0.0742**	**0.0000**	**175.1882**	**175.1882**	**0.0325**	**0.0000**	**176.0012**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7100e-003	0.1535	0.0418	3.6000e-004	9.1100e-003	7.9000e-004	9.9100e-003	2.6300e-003	7.6000e-004	3.3900e-003	0.0000	35.2358	35.2358	2.9400e-003	0.0000	35.3094
Worker	0.0260	0.0182	0.2064	7.0000e-004	0.0731	4.9000e-004	0.0736	0.0194	4.5000e-004	0.0199	0.0000	63.2664	63.2664	1.4400e-003	0.0000	63.3025
Total	**0.0307**	**0.1717**	**0.2482**	**1.0600e-003**	**0.0822**	**1.2800e-003**	**0.0835**	**0.0220**	**1.2100e-003**	**0.0233**	**0.0000**	**98.5023**	**98.5023**	**4.3800e-003**	**0.0000**	**98.6120**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1880	175.1880	0.0325	0.0000	176.0010
Total	**0.1959**	**1.4271**	**1.2727**	**2.1300e-003**		**0.0768**	**0.0768**		**0.0742**	**0.0742**	**0.0000**	**175.1880**	**175.1880**	**0.0325**	**0.0000**	**176.0010**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7100e-003	0.1535	0.0418	3.6000e-004	9.1100e-003	7.9000e-004	9.9100e-003	2.6300e-003	7.6000e-004	3.3900e-003	0.0000	35.2358	35.2358	2.9400e-003	0.0000	35.3094
Worker	0.0260	0.0182	0.2064	7.0000e-004	0.0731	4.9000e-004	0.0736	0.0194	4.5000e-004	0.0199	0.0000	63.2664	63.2664	1.4400e-003	0.0000	63.3025
Total	**0.0307**	**0.1717**	**0.2482**	**1.0600e-003**	**0.0822**	**1.2800e-003**	**0.0835**	**0.0220**	**1.2100e-003**	**0.0233**	**0.0000**	**98.5023**	**98.5023**	**4.3800e-003**	**0.0000**	**98.6120**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825
Total	**6.3400e-003**	**0.0477**	**0.0452**	**8.0000e-005**		**2.4000e-003**	**2.4000e-003**		**2.3100e-003**	**2.3100e-003**	**0.0000**	**6.3542**	**6.3542**	**1.1300e-003**	**0.0000**	**6.3825**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0000e-003	1.4000e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.2670	1.2670	1.0000e-004	0.0000	1.2695
Worker	8.8000e-004	5.9000e-004	6.9400e-003	2.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.2150	2.2150	5.0000e-005	0.0000	2.2162
Total	**1.0200e-003**	**5.5900e-003**	**8.3400e-003**	**3.0000e-005**	**2.9800e-003**	**3.0000e-005**	**3.0100e-003**	**8.0000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.4820**	**3.4820**	**1.5000e-004**	**0.0000**	**3.4857**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825
Total	**6.3400e-003**	**0.0477**	**0.0452**	**8.0000e-005**		**2.4000e-003**	**2.4000e-003**		**2.3100e-003**	**2.3100e-003**	**0.0000**	**6.3542**	**6.3542**	**1.1300e-003**	**0.0000**	**6.3825**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0000e-003	1.4000e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.2670	1.2670	1.0000e-004	0.0000	1.2695
Worker	8.8000e-004	5.9000e-004	6.9400e-003	2.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.2150	2.2150	5.0000e-005	0.0000	2.2162
Total	**1.0200e-003**	**5.5900e-003**	**8.3400e-003**	**3.0000e-005**	**2.9800e-003**	**3.0000e-005**	**3.0100e-003**	**8.0000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.4820**	**3.4820**	**1.5000e-004**	**0.0000**	**3.4857**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.1400e-003**	**0.0387**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.8825**	**5.8825**	**1.8600e-003**	**0.0000**	**5.9291**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965
Total	**2.4000e-004**	**1.6000e-004**	**1.8700e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5962**	**0.5962**	**1.0000e-005**	**0.0000**	**0.5965**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.1400e-003**	**0.0387**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.8825**	**5.8825**	**1.8600e-003**	**0.0000**	**5.9291**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965
Total	**2.4000e-004**	**1.6000e-004**	**1.8700e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5962**	**0.5962**	**1.0000e-005**	**0.0000**	**0.5965**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2281					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.2292**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	**2.6000e-004**	**1.7000e-004**	**2.0100e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6420**	**0.6420**	**1.0000e-005**	**0.0000**	**0.6424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2281					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.2292**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	**2.6000e-004**	**1.7000e-004**	**2.0100e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6420**	**0.6420**	**1.0000e-005**	**0.0000**	**0.6424**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164
Unmitigated	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567
Parking Lot	0.00	0.00	0.00		
Total	263.41	263.41	263.41	899,567	899,567

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.1488	108.1488	4.4600e-003	9.2000e-004	108.5358
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.1488	108.1488	4.4600e-003	9.2000e-004	108.5358
NaturalGas Mitigated	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854
NaturalGas Unmitigated	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.05038e+006	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6600e-003**	**0.0484**	**0.0206**	**3.1000e-004**		**3.9100e-003**	**3.9100e-003**		**3.9100e-003**	**3.9100e-003**	**0.0000**	**56.0523**	**56.0523**	**1.0700e-003**	**1.0300e-003**	**56.3854**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.05038e+006	5.6600e-003	0.0484	0.0206	3.1000e-004		3.9100e-003	3.9100e-003		3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**5.6600e-003**	**0.0484**	**0.0206**	**3.1000e-004**		**3.9100e-003**	**3.9100e-003**		**3.9100e-003**	**3.9100e-003**	**0.0000**	**56.0523**	**56.0523**	**1.0700e-003**	**1.0300e-003**	**56.3854**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	324307	103.3313	4.2700e-003	8.8000e-004	103.7010
Parking Lot	15120	4.8176	2.0000e-004	4.0000e-005	4.8348
Total		**108.1489**	**4.4700e-003**	**9.2000e-004**	**108.5358**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	324307	103.3313	4.2700e-003	8.8000e-004	103.7010
Parking Lot	15120	4.8176	2.0000e-004	4.0000e-005	4.8348
Total		**108.1489**	**4.4700e-003**	**9.2000e-004**	**108.5358**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3045	8.4800e-003	0.7352	4.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Unmitigated	0.5371	0.0269	1.1865	1.1900e-003		0.0718	0.0718		0.0718	0.0718	7.5416	15.6910	23.2325	0.0237	5.1000e-004	23.9765

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2594					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2326	0.0184	0.4513	1.1500e-003		0.0678	0.0678		0.0678	0.0678	7.5416	14.4923	22.0338	0.0225	5.1000e-004	22.7486
Landscaping	0.0224	8.4800e-003	0.7352	4.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Total	**0.5371**	**0.0269**	**1.1865**	**1.1900e-003**		**0.0718**	**0.0718**		**0.0718**	**0.0718**	**7.5416**	**15.6910**	**23.2325**	**0.0237**	**5.1000e-004**	**23.9765**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2594					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0224	8.4800e-003	0.7352	4.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Total	**0.3045**	**8.4800e-003**	**0.7352**	**4.0000e-005**		**4.0500e-003**	**4.0500e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**1.1987**	**1.1987**	**1.1700e-003**	**0.0000**	**1.2279**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.9831	0.1520	3.8100e-003	35.9177
Unmitigated	30.9831	0.1520	3.8100e-003	35.9177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4.62594 / 2.91635	30.9831	0.1520	3.8100e-003	35.9177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.9831**	**0.1520**	**3.8100e-003**	**35.9177**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4.62594 / 2.91635	30.9831	0.1520	3.8100e-003	35.9177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**30.9831**	**0.1520**	**3.8100e-003**	**35.9177**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.6297	0.3918	0.0000	16.4248
Unmitigated	6.6297	0.3918	0.0000	16.4248

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32.66	6.6297	0.3918	0.0000	16.4248
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.6297**	**0.3918**	**0.0000**	**16.4248**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32.66	6.6297	0.3918	0.0000	16.4248
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**6.6297**	**0.3918**	**0.0000**	**16.4248**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B – BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: November 21, 2019

TO: City of Lake Forest and National Community Renaissance®

FROM: Claudia Bauer, MS, LSA Biologist

SUBJECT: Biological Resources Technical Memorandum for the Mountain View Affordable Housing Community Project in the City of Lake Forest (LSA Project Number NCO1904)

LSA was retained by National Community Renaissance to provide a biological resources technical memorandum (memo) in support of an Initial Study being prepared by the City of Lake Forest (City) in compliance with the California Environmental Quality Act (CEQA) for the Mountain View Affordable Housing Community Project (project). The proposed project is to build 71 affordable apartments following the demolition of the office building located at 24551 Raymond Way in the City of Lake Forest, Orange County, California. The approximately 3.74-acre project site is located at the northeast corner of Raymond Way and El Toro Road and is associated with Assessor's Parcel Number (APN) 617-441-02.

METHODS

A literature review was conducted to assist in determining the existence or potential occurrence of special-status plant and animal species within the project site and in the project vicinity. A records search of the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base application *Rarefind 5* online edition (CDFW, 2019) and California Native Plant Society's *Online Inventory of Rare and Endangered Plants* (CNPS, v8-03 0.39) for the *San Juan Capistrano, California,* USGS 7.5-minute quadrangle and relevant neighboring quadrangles was conducted on November 7, 2019. Soil information was taken from electronic data provided by Soil Data Mart (Natural Resource Conservation Service [NRCS] 2017). Current and historical aerial photographs were also reviewed in Google Earth (Google Earth 2019) and HistoricAerials.com (NETROnline 2019).

The site assessment was conducted on November 10, 2019, by LSA Biologist Claudia Bauer. Notes were made on general site conditions, the vegetation, potential jurisdictional waters, wildlife

species observed, and the suitability of habitat for various special-status species. Plant and animal species observed during the field survey were recorded.

EXISTING SETTING

The project site is generally flat and currently developed with asphalt parking areas, ornamental landscaping, and two office buildings bordered by residential and commercial development in an urban setting. Due to existing development, the project site is highly disturbed, with paved surfaces covering a majority of the site. A review of historic aerials shows that the project site and surrounding area have been developed since at least 1980.

RESULTS

Vegetation within the project site is not associated with any natural vegetation communities (Holland 1986). Rather, the vegetation consists of ornamental lawn, trees and shrubs associated with the landscaped areas of the project site. Plant species observed onsite include Indian hawthorn (*Rhaphiolepsis indica*), English ivy (*Hedera helix*), and turfgrass. Approximately 100 ornamental/non-native trees were noted within the project site, including red ironbark eucalyptus (*Eucalyptus sideroxylon*), blue gum eucalyptus (*Eucalyptus globulus*), ficus (*Ficus* sp.), Brazilian pepper (*Schinus terebinthifolius*), and alder (*Alnus spaethii*). Animal species observed onsite include common raven (*Corvus corax*).

The City's Eucalyptus Tree Conservation Ordinance (Title 6, Chapter 6.20, City of Lake Forest Code of Ordinances; "Ordinance") was established to control infestation of the eucalyptus longhorn borer by regulating the maintenance and removal of eucalyptus trees. Removal of trees on the project site would require compliance with the Ordinance. The Ordinance provides no requirements for mitigating impacts associated with tree removal. Refer to the Ordinance for specific guidelines on eucalyptus tree cutting, pruning and/or removal guidelines.

The project site is not within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), or any other adopted natural community conservation plan, habitat conservation plan, or adopted natural resource protection plan.

No drainage features, ponded areas, or riparian habitat potentially subject to jurisdiction by the CDFW or U.S. Army Corps of Engineers (USACE) were found within the project site.

The project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. Additionally, the CDFW, USFWS, local agencies, and special-status groups, such as the CNPS, maintain lists of species that they consider to be in need of monitoring. Legal protection for these special-status species varies widely. No other special-status species are expected to occur within the project site due to lack of suitable habitat.

The project site does not lie within any federally designated critical habitat.

The site contains suitable for habitat for nesting birds. During the bird breeding season (typically February 1 through August 31), large trees on or adjacent to the project site may be used by hawks, ravens, or other large birds for nesting. Smaller trees, shrubs, and other vegetation may provide

nest sites for smaller birds. Nesting bird species, with potential to occur, are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (MBTA) (16 USC 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. However, the USFWS has recently determined that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities.

RECOMMENDATIONS

To avoid potential effects to fully protected raptors, special-status bird species, and other nesting birds protected by the California Fish and Game Code, the following measures will be implemented:

A nesting bird pre-construction survey will be conducted by a qualified biologist three days prior to demolition and/or vegetation removal activities. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the project site will be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.

APPENDIX C – PRELIMINARY GEOTECHNICAL INVESTIGATION

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

April 20, 2020
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, California 91730

Subject: Revised Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killian,

Pursuant to your request, ***Albus-Keefe & Associates, Inc***. is pleased to present to you our preliminary geotechnical investigation report for the subject development. This report presents the results of our field investigation, laboratory testing, engineering analyses, as well as our preliminary geotechnical recommendations for design and construction of the subject development.

We appreciate this opportunity to be of service to you. If you have any questions regarding the contents of this report, please do not hesitate to call this office.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

Paul Kim
Associate Engineer

1011 North Armando Street, Anaheim CA 92806-2606 (714) 630-1626 FAX (714) 630-1916

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 PURPOSE AND SCOPE 1
1.2 SITE LOCATION AND DESCRIPTION 1
1.3 PROPOSED DEVELOPMENT 3
2.0 INVESTIGATION 3
2.1 RESEARCH 3
2.2 SUBSURFACE EXPLORATION 3
2.3 LABORATORY TESTING 4
3.0 GEOLOGIC CONDITIONS 4
3.1 SOIL CONDITIONS 4
3.2 GROUNDWATER 4
3.3 FAULTING 4
4.0 ANALYSES 5
4.1 SEISMICITY 5
4.2 STATIC SETTLEMENT 5
5.0 CONCLUSIONS 5
5.1 FEASIBILITY OF PROPOSED DEVELOPMENT 5
5.2 GEOLOGIC HAZARDS 6
5.2.1 Ground Rupture 6
5.2.2 Ground Shaking 6
5.2.3 Landsliding 6
5.2.4 Liquefaction 6
5.3 STATIC SETTLEMENT 7
5.4 EARTHWORK AND MATERIAL CHARACTERISTICS 7
5.5 SHRINKAGE AND SUBSIDENCE 7
5.6 SOIL EXPANSION 7
6.0 RECOMMENDATIONS 8
6.1 EARTHWORK 8
6.1.1 General Earthwork and Grading Specifications 8
6.1.2 Pre-Grade Meeting and Geotechnical Observation 8
6.1.3 Site Clearing 8
6.1.4 Site Preparation (Removals and Overexcavations) 8
6.1.5 Fill Placement 9
6.1.6 Import Materials 9
6.1.7 Temporary Excavations 9
6.2 SEISMIC DESIGN PARAMETERS 10
6.3 FOUNDATION DESIGN 10
6.3.1 General 10
6.3.2 Soil Expansion 10
6.3.3 Settlement 11
6.3.4 Allowable Bearing Value 11
6.3.5 Lateral Resistance 11
6.3.6 Conventional Spread Foundations and Slabs on Grade 11
6.3.7 Post-Tensioned Slab/Mat on grade 12
6.3.8 Foundation Observations 13

TABLE OF CONTENTS

6.4 RETAINING AND SCREENING WALLS 13
6.4.1 General 13
6.4.2 Allowable Bearing Value and Lateral Resistance 13
6.4.3 Active Earth Pressures 13
6.4.4 Drainage and Moisture-Proofing 14
6.4.5 Footing Reinforcement and Wall Jointing 15
6.4.6 Footing Observations 15
6.4.7 Retaining Wall Backfill 15
6.5 EXTERIOR FLATWORK 16
6.6 CONCRETE MIX DESIGN 16
6.7 CORROSION 16
6.8 PRELIMINARY PAVEMENT DESIGN 16
6.8.1 Preliminary Pavement Structural Sections 16
6.8.2 Subgrade Preparation 17
6.8.3 Aggregate Base 17
6.8.4 Asphaltic Concrete 17
6.8.5 Concrete Pavers 17
6.8.6 Portland Cement Concrete 18
6.9 POST GRADING CONSIDERATIONS 18
6.9.1 Site Drainage and Irrigation 18
6.9.2 Utility Trenches 19
6.10 PLAN REVIEW AND CONSTRUCTION SERVICES 19
7.0 LIMITATIONS 20
8.0 REFERENCES 21

FIGURES AND PLATES

Figure 1 – Site Location Map
Plate 1– Geotechnical Map

APPENDICES

APPENDIX A – Exploration Logs
Plates A-1 through A-8 – Exploration Logs

APPENDIX B – Laboratory Test Program
Table B-1 – Summary of Laboratory Test Results
Plates B-1 through B-3 – Grain Size Distribution Plot
Plates B-4 through B-6 – Consolidation Plots
Plate B-7 – Direct Shear Test Plot

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purposes of our preliminary geotechnical investigation were to evaluate geotechnical conditions within the project area and to provide conclusions and recommendations relevant to the design and construction of the proposed improvements at the subject site. The scope of this investigation included the following:

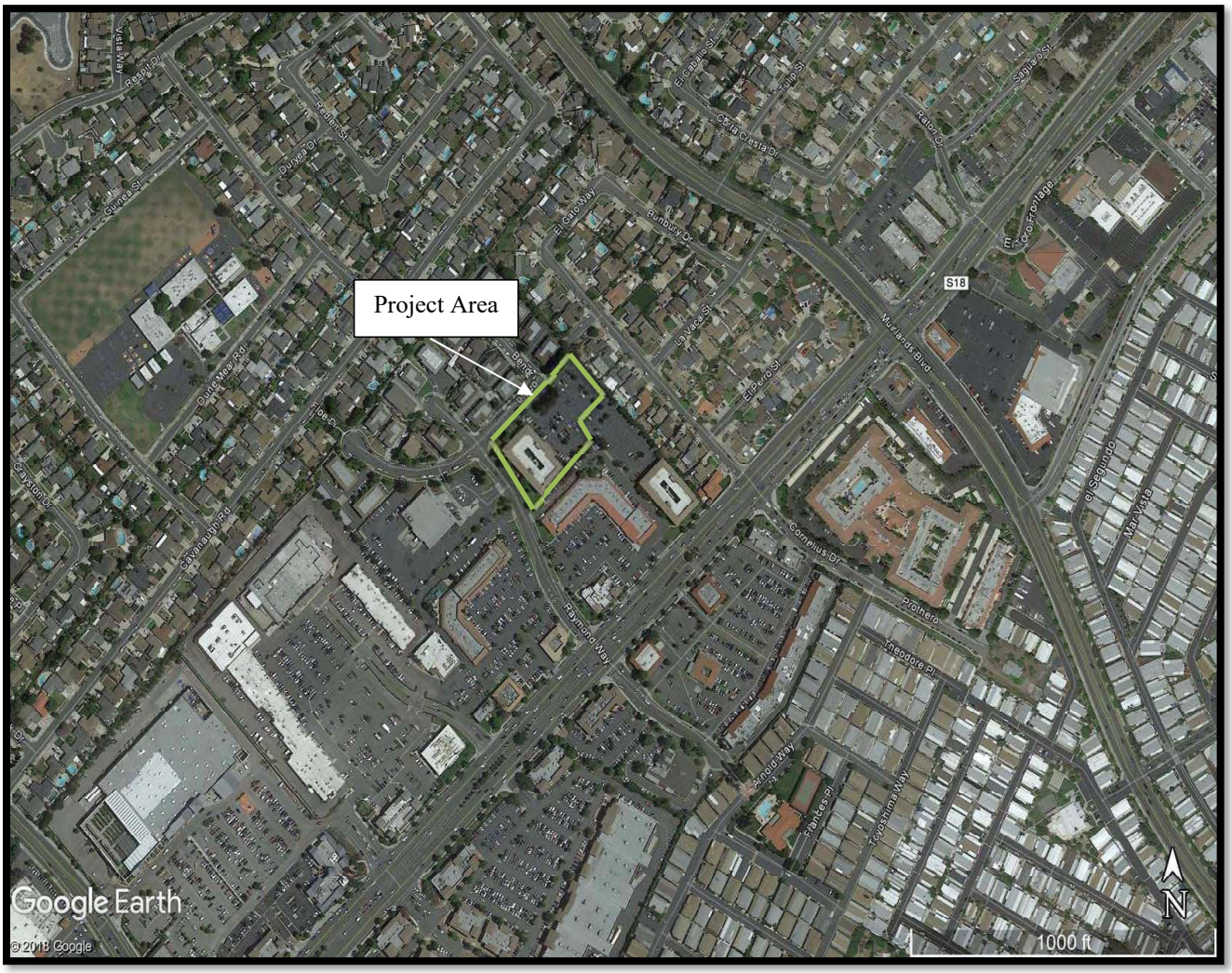
- Review of the referenced conceptual site plan
- Review of published geologic and seismic data for the site and surrounding area
- Review of historical aerial photographs
- Exploratory drilling and soil sampling
- Laboratory testing of selected soil samples
- Engineering analyses of data obtained from our review, exploration, and laboratory testing
- Evaluation of site seismicity, liquefaction, and settlement potential
- Preparation of this report

1.2 SITE LOCATION AND DESCRIPTION

The site is located at 24551 Raymond Way (APN 617-441-02), within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas is shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property containing approximately 1.96 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth) descending to the west. Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass cover adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



© 2019 Google Earth

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SITE LOCATION MAP
Lake Forest
Proposed Multi-Family Residential Development
24551 Raymond Way,
Lake Forest, California

NOT TO SCALE
FIGURE 1

1.3 PROPOSED DEVELOPMENT

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparing of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

2.0 INVESTIGATION

2.1 RESEARCH

We have reviewed the referenced geologic publications and maps (see references). Data from these sources were utilized to develop some of the findings and conclusions presented herein.

We have also reviewed available historical aerial photographs. The aerial photos indicate that as early as 1938, the site was vacant land. In the vicinity of the site, some areas of land were used for agricultural purposes. By 1967, the adjacent single-family residential properties to the northeast were developed. By 1980, the property was developed with the present-day commercial building and parking lot. The site has remained unchanged since then.

2.2 SUBSURFACE EXPLORATION

Subsurface exploration for this investigation was conducted on October 2nd, 2019, and consisted of the drilling of five (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and Standard Penetration Test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

2.3 LABORATORY TESTING

Selected samples of representative earth materials from our borings were tested in our laboratory. Tests consisted of USCS classification, in-situ moisture content and dry density, maximum dry density and optimum moisture content, consolidation/collapse, direct shear strength, grain size analysis, soluble sulfate content, and corrosivity testing (pH, chloride, and resistivity). Descriptions of laboratory testing and the test results are presented in Appendix B and on the Exploration Logs in Appendix A.

3.0 GEOLOGIC CONDITIONS

3.1 SOIL CONDITIONS

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are comprised of reddish-brown clayey sand/sandy clay. A layer of clay and silty sand was observed below a depth of 6 feet. Deeper portions of the very old alluvium fan consist of clayey sand and silty sand with variable some inner layers of clay and silt. The surficial very old alluvial fan materials are typically very dense and hard.

3.2 GROUNDWATER

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet.

3.3 FAULTING

Geologic literature and field exploration do not indicate the presence of active faulting within the site. The site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Earthquake Fault Zoning Act. Table 3.1 presents a summary of all the known seismically active faults within 10 miles of the site.

TABLE 3.1
Summary of Active Faults

Name	Distance (miles)	Slip Rate (mm/yr.)	Preferred Dip (degrees)	Slip Sense	Rupture Top (km)	Fault Length (km)
San Joaquin Hills	0.18	0.5	23	thrust	2	27
Newport Inglewood Connected alt 1	9.66	1.3	89	strike slip	0	208
Newport Inglewood (Offshore)	9.66	1.5	90	strike slip	0	66
Newport Inglewood Connected alt 2	9.66	1.3	90	strike slip	0	208

4.0 ANALYSES

4.1 SEISMICITY

We have performed probabilistic seismic analyses utilizing the U.S. Seismic Design Maps web application by the U.S. Geological Survey (USGS). From our analyses, we obtain a PGA of 0.598g in accordance with Figure 22-7 of ASCE 7-10. The F_{PGA} factor for site class D with a PGA of 0.598g is 1.0. Therefore, the PGA_M = 1.0 x 0.598 = 0.598g. The mean event associated with a probability of exceedance equal to 2% over 50 years has a moment magnitude of 6.65 with a mean distance to the seismic source of 6.76 miles.

4.2 STATIC SETTLEMENT

Analyses were performed to evaluate potential for static settlement of the underlying very old alluvial fan deposits. Our analyses were based on the results of consolidation tests performed on selected samples from our borings as well as the recorded blow counts during the exploration. Results of our testing indicate the site materials have low compressibility. Based on the data from field exploration and laboratory testing, settlement is estimated to be less than 1.0 inch in the site.

5.0 CONCLUSIONS

5.1 FEASIBILITY OF PROPOSED DEVELOPMENT

From a geotechnical point of view, the proposed site development is considered feasible provided the recommendations presented in this report are incorporated into the design and construction of the project. Furthermore, it is also our opinion that the proposed development will not adversely impact the stability of adjoining properties if the recommendations presented in this report are incorporated into site development. Key issues that could have significant fiscal impacts on the geotechnical aspects of the proposed site development are discussed in the following sections of this report.

5.2 GEOLOGIC HAZARDS

5.2.1 Ground Rupture

No active faults are known to project through the site nor does the site lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquis-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the site is considered very low.

5.2.2 Ground Shaking

The site is located in a seismically active area that has historically been affected by moderate to occasionally high levels of ground motion. The site lies in relatively close proximity to several seismically active faults; therefore, during the life of the proposed development, the property will probably experience moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the southern California region. Design of proposed structures in accordance with the current CBC is anticipated to adequately mitigate concerns with ground shaking.

5.2.3 Landsliding

Geologic hazards associated with landsliding are not anticipated at the site due to not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability.

5.2.4 Liquefaction

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite soils was evaluated by analyzing the potential of concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the site was completed under the guidance of Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 2008).

Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the site is considered to be low. Additionally, the site is underlain by Pleistocene aged deposits, typically not susceptible to liquefaction. Furthermore, the site is not located within a San Diego Seismic Study liquefaction zone.

5.3 STATIC SETTLEMENT

The existing artificial fills consist of variable materials that are inadequately compacted for support of the proposed development in its current condition. Therefore, excavation and recompaction of the existing surficial soils to provide a uniform compacted blanket will be necessary. Provided grading and construction are performed in accordance with the recommendations provided herein, estimated total and differential settlement of proposed site improvements are anticipated to be less than 1 inch and ½ inch over 30 feet, respectively. These magnitudes of settlement are considered within tolerable limits of proposed site development.

5.4 EARTHWORK AND MATERIAL CHARACTERISTICS

Subsurface soils are anticipated to be relatively easy to excavate with conventional heavy earthmoving equipment. Most of these materials are below optimum moisture content with a few localized layers above optimum moisture content. Blending and the addition of water will be required to achieve proper compaction. Various debris is anticipated within the artificial fill and will likely require of hand picking to remove deleterious materials.

Off-site improvements exist near the property lines. The presence of the existing improvements may limit removals of unsuitable materials adjacent the property lines. Special grading techniques, such as slot cutting, underpinning, or other acceptable criteria may be required when grading adjacent the property lines.

Onsite disposal systems, clarifiers and other underground improvements may be present beneath the site. If encountered during future rough grading, these improvements will require proper abandonment or removal.

5.5 SHRINKAGE AND SUBSIDENCE

Volumetric changes in earth quantities will occur when excavated onsite soil materials are replaced as properly compacted fill. We estimate that the existing artificial fill soils will shrink less than 5 percent to negligible. Subsidence due to reprocessing of removal bottoms is anticipated to be negligible. The estimates of shrinkage and subsidence are intended as an aid for project engineers in determining earthwork quantities. However, these estimates should be used with some caution since they are not absolute values. Contingencies should be made for balancing earthwork quantities based on actual shrinkage and subsidence that occurs during the grading process.

5.6 SOIL EXPANSION

Based on our laboratory test results and USCS visual manual classification, the near-surface soils within the site are generally anticipated to possess a **Low** expansion potential. Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions.

6.0 RECOMMENDATIONS

6.1 EARTHWORK

6.1.1 General Earthwork and Grading Specifications

All earthwork and grading should be performed in accordance with all applicable requirements of the grading codes of the City of Lake Forest, California and CAL OSHA, in addition to recommendations presented herein.

6.1.2 Pre-Grade Meeting and Geotechnical Observation

Prior to commencement of earthwork operations and foundation installation, we recommend a meeting be held between the City Inspector, general contractor, civil engineer, and geotechnical consultant to discuss proposed earthwork and logistics.

We also recommend that a geotechnical consultant be retained to provide soil engineering and engineering geologic services during site development. This is to observe compliance with the design specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated. If conditions are encountered during construction that appears to be different than those indicated in this report, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

6.1.3 Site Clearing

All existing site improvements, including asphaltic concrete paving, structural foundations and underground utilities, should be removed from the areas to be developed prior to any grading activities. Existing underground utility lines within the project area that will be protected in place and that fall within a 1 to 1 (H:V) plane projected down from the edges of footings may be subject to surcharge loads. Under such conditions, this office should be made aware of these conditions for evaluation of potential surcharging. Supplemental recommendations may be required to protect such improvements in place.

The project geotechnical consultant should be notified at the appropriate times to provide observation services during clearing operations to verify compliance with the above recommendations. Voids created by clearing and excavation should be left open for observation by the geotechnical consultant. Should any unusual soil conditions or subsurface structures be encountered during site clearing or grading that are not described or anticipated herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations as needed.

Temporary construction equipment (office trailers, power poles, etc.) should be positioned to allow adequate room for clearing and recommended ground preparation to be performed for proposed structures, pavements, and hardscapes.

6.1.4 Site Preparation (Removals and Overexcavations)

In general, the upper 5 to 6 feet of earth materials are inadequately compacted for support of the proposed development in its current condition. These materials as well as any additional artificial fill soils, should be excavated from proposed building pads and site improvements, and recompacted as engineered compacted fill. Within the limits of pavement and free-standing/retaining walls, the existing artificial fill soils should be removed to a minimum depth of 2 foot below subgrade or footing,

whichever is deeper. The actual depth of removal should be determined by the geotechnical consultant during grading.

The removals should extend laterally a distance of at least 5 feet beyond the limits of the proposed structures or a 1:1 projection down and away from the bottom of the footings, whichever is greater. Removals for roadways, retaining walls less than 3 feet in height and screen walls may be limited to the edge of the foundations or pavement. Upon review of more detailed site development plans, the depth of removals for roadways, short retaining walls, and screen walls may be lessened from the general removals described above.

Where removals are limited by existing structures, protected trees or property lines, special considerations may be required in the construction of affected improvements. Under such conditions, specific recommendations should be provided by this firm based on review of site-specific development plans.

Following removals/overexcavation, the exposed grade should first be scarified to a depth of 6 inches, brought to at least 110 percent of the optimum moisture content, and then compacted to at least 90 percent of the laboratory standard (ASTM D 1557).

6.1.5 Fill Placement

Materials excavated from the site may be reused as fill provided, they are free of deleterious materials and particles greater than 6 inches in maximum dimension (oversized materials). Asphaltic and concrete debris generated during site demolition or encountered within the existing fill can be incorporated within new fill soils during earthwork operations provided they are reduced to no more than 6 inches in maximum dimension. Such materials should be mixed thoroughly with fill soils to prevent nesting. All fill should be placed in lifts no greater than 8 inches in loose thickness, moisture conditioned to at least 110 percent of the optimum moisture content, then compacted in place to at least 90 percent of the laboratory standard. Each lift should be treated in a similar manner. Subsequent lifts should not be placed until the project geotechnical consultant has approved the preceding lift.

6.1.6 Import Materials

If import materials are required to achieve the proposed finish grades, the proposed import soils should have an Expansion Index (EI, ASTM D 4829) less than 30 and possess negligible soluble sulfate concentrations. Import sources should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill materials can be performed in advance.

6.1.7 Temporary Excavations

Temporary construction slopes or trench excavations in site materials may be cut vertically up to a height of 4 feet provided that no surcharging of the excavations is present. Temporary slopes over 4 feet in height should be laid back to 1:1 (H:V) or flatter and evaluated by the geotechnical consultant.

Excavations should not be left open for prolonged periods of time. The project geotechnical consultant should observe all temporary cuts to confirm anticipated conditions and to provide alternate recommendations if conditions dictate. All excavations should conform to the requirements of CAL OSHA.

Where temporary excavations cannot accommodate a 1:1 layback or where surcharging occurs, shoring, slot cutting, underpinning, or other methods should be used. Specific recommendations for other options if considered should be provided by the geotechnical consultant based on review of the final design plans.

6.2 SEISMIC DESIGN PARAMETERS

For design of the project in accordance with Chapter 16 of the 2016 CBC, the table below presents the seismic design factors.

TABLE 6.1
CBC 2016 SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class	D
Mapped MCE Spectral Response Acceleration, short periods, S_S	1.466
Mapped MCE Spectral Response Acceleration, at 1-sec. period, S_1	0.546
Site Coefficient, Fa	1.0
Site Coefficient, Fv	1.5
Adjusted MCE Spectral Response Acceleration, short periods, S_{MS}	1.466
Adjusted MCE Spectral Response Acceleration, at 1-sec. period, S_{M1}	0.82
Design Spectral Response Acceleration, short periods, S_{DS}	0977
Design Spectral Response Acceleration, at 1-sec. period, S_{D1}	0.546
MCE = Maximum Considered Earthquake	

6.3 FOUNDATION DESIGN

6.3.1 General

The following recommendations are provided for preliminary design purposes. These recommendations have been based on the site materials exposed during our investigation, our understanding of the proposed development, and the assumption that the recommendations presented herein are incorporated into the design and construction of the project. Final recommendations should be provided by the project geotechnical consultant following review of final foundation plans as well as observation and testing of site materials during grading. Depending upon the design plans and actual site conditions, the recommendations provided herein may require modification.

6.3.2 Soil Expansion

The recommendations presented herein are based on soils with a **Low** expansion potential (EI≤40, PI≤18). Following site grading, additional testing of site soils should be performed by the project geotechnical consultant to confirm the basis of these recommendations. If site soils with higher

expansion potentials are encountered or imported to the site, the recommendations contained herein may require modification.

6.3.3 Settlement

Under normal static conditions, the foundation system should be designed to tolerate a total settlement of 1 inch and a differential settlement of 1/2-inch over 30 feet. These estimated magnitudes of settlement should be considered by the structural engineer in design of the proposed structures at the site.

6.3.4 Allowable Bearing Value

Provided foundations are bearing into engineered fill, a bearing value of 2,700 pounds per square foot (psf) may be used for continuous and pad footings a minimum width of 12 inches and founded at a minimum depth of 12 inches below the lowest adjacent grade. This value may be increased by 200 psf and 500 psf for each additional foot in width and depth, respectively, up to a maximum value of 4,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

6.3.5 Lateral Resistance

Provided site grading is performed and that foundations are founded in engineered fill, a passive earth pressure of 250 pounds per square foot per foot of depth (psf/ft) up to a maximum value of 2,200 pounds per square foot (psf) may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces. A coefficient of friction of 0.37 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces.

The above values are based on footings placed directly against compacted fill or competent native soils. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.3.6 Conventional Spread Foundations and Slabs on Grade

All exterior and interior continuous footings should have a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent grade. All continuous footings for habitable structures should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom.

All spread footings used to support columns should have a minimum width of 18 inches and minimum embedment of 12 inches below lowest adjacent grade. All spread footings in habitable structures should be tied in both directions with a grade beam having a minimum depth and width of 12 inches. The grade beams should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom. Reinforcing of the grade beams should hook into the footings.

Slabs on grade should have a minimum thickness of 4 inches and be reinforced with a minimum of No. 3 bars spaced at 18 inches center to center. Slabs on grade in habitable structures should be hooked to the underlying grade beams on a minimum spacing of 24 inches or poured monolithically with the grade beams.

Interior grade beams as required by the WRI method should be provided in both directions at a maximum spacing of 22 feet. Design of the slab in accordance with the WRI method may use an effective PI of 20. This value already accounts for the factors for ground slope and over-consolidation. All slabs on grade that may have moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. A minimum of four (4) inches of clean sand having a sand equivalent (SE) of at least 30 should be placed under the membrane. An additional one inch of the sand (SE>30) may be placed over the vapor barrier to aid in the uniform curing of the slab if preferred. This vapor barrier system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, the subgrade below all floor slab areas should be moisture-conditioned to achieve a moisture content that is at least 110 percent of the optimum moisture content. This moisture content should be maintained a minimum depth of 12 inches below the bottoms of the slabs.

6.3.7 Post-Tensioned Slab/Mat on grade

Alternatively, a post-tension slab may be utilized. Perimeter edge beams for the post-tensioned slabs should have a minimum effective width of 12 inches and be founded at a minimum depth of 18 inches below the lowest adjacent final ground surface. Interior beams may be founded at a minimum depth of 12 inches below the tops of the finish floor slabs. Where a post-tensioned mat is utilized, the exterior edge of the mat should be embedded at least 8 inches below the lowest adjacent grade. The thickness of the floor slab/mat should be determined by the project structural engineer; however, we recommend a minimum slab thickness of 5.0 inches.

Design of the mat may be based on a modulus of subgrade reaction (Kv1) of 100 pounds per cubic inch (pci). The modulus is based on an effective loading area of 1 foot by 1 foot. The modulus may be adjusted for other effective loading areas using the equation provided below.

$$k_b(pci) = 100\left\{\frac{b+1}{2b}\right\}^2$$

where "b" is the effective width of loading (minimum dimension) in feet.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. The membrane should be properly lapped, sealed, and underlain within a layer of sand at least 4 inches thick. Where a mat is used and has a thickness of at least 8 inches, the sand may be limited to 2 inches. One inch of sand may be placed over the membrane to aid in the curing of the concrete. The sand should have a SE no less than 30. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, subgrade soils below slab-on-grade/mat areas should be thoroughly moistened to provide moisture contents at least 110 percent of the optimum moisture content to a depth of 12 inches.

Based on the guidelines provided in the "Design of Post-Tensioned Slabs-on-Ground" 3rd Edition by Post-Tensioning Institute, the em and ym values are summarized in Table 6.2.

TABLE 6.2
PTI Design Parameters

Parameter	Value
Edge Lift Moisture Variation Distance, e_m	8.0 feet
Edge Lift, y_m	0.754 inches
Center Lift Moisture Variation Distance, e_m	4.2 feet
Center Lift, y_m	1.182 inches

6.3.8 Foundation Observations

Foundation excavation should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended above. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4 RETAINING AND SCREENING WALLS

6.4.1 General

The following preliminary design and construction recommendations are provided for general retaining and screen walls supported by engineered compacted fill or competent native soils. Final wall designs specific to the site development should be provided for review once completed. The structural engineer and architect should provide appropriate recommendations for sealing at all joints and applying moisture-proofing material on the back of the walls.

6.4.2 Allowable Bearing Value and Lateral Resistance

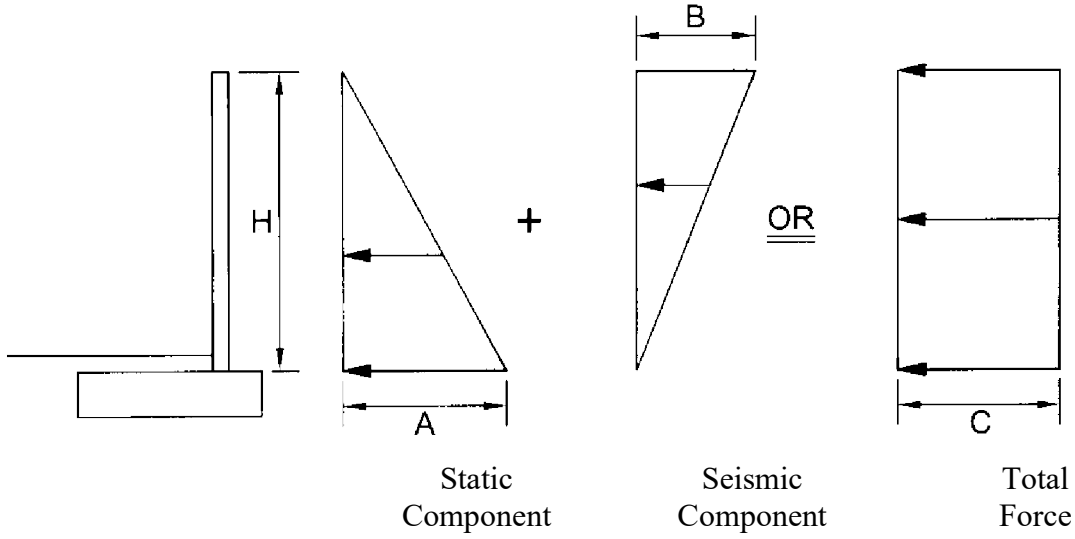
Design of retaining and screen walls may utilize the bearing and lateral resistance values provided in Section 6.3.4 and 6.3.5. Lateral resistance for walls along property lines, where lateral removals are restricted should be reduced by 50%.

6.4.3 Active Earth Pressures

Static and seismic active earth pressures for level backfill and 2:1 (H:V) backfill conditions are provided in Table 6.3. Based on the 2016 CBC, walls that retain less than 6 feet need not be designed for seismic earth pressures. Seismic earth pressures provided herein are based on the method provided by Seed & Whitman (1970) using a peak ground acceleration (PGA) of 0.35 g, for 10% probability of exceedance in 50 years. The values provided in Table 6.4 are based on drained backfill conditions and do not consider hydrostatic pressure. Furthermore, retaining walls should be designed to support adjacent surcharge loads imposed by other nearby footings or traffic loads in addition to the earth pressure.

TABLE 6.3

SEISMIC EARTH PRESSURES
Pressure Diagram



Pressure Values
Walls Up To 10 Feet High

Value	Backfill Condition	
	Level	**2H:1V Slope**
A	40H	68H
B	11H	11H
C	26H	40H

Note:
H is in feet and resulting pressure is in psf. Design may utilize either the sum of the static component and the seismic component force diagrams or the total force diagram above. SEAOSC has suggested using a load factor of 1.7 for the static component and 1.0 for the seismic component. The actual load factors should be determined by the structural engineer.

6.4.4 Drainage and Moisture-Proofing

Retaining walls should be constructed with a perforated pipe and gravel subdrain to prevent entrapment of water in the backfill. The perforated pipe should consist of 4-inch-diameter, ABS SDR-35 or PVC Schedule 40 with the perforations laid down. The pipe should be embedded in ¾- to 1½-inch open-graded gravel wrapped in filter fabric. The gravel should be at least one foot wide and extend at least one foot up the wall above the footing and drainage outlet. Drainage gravel and piping should not be placed below outlets and weepholes. Filter fabric should consist of Mirafi 140N, or equal. Outlet pipes should be directed to positive drainage devices.

The use of weepholes may be considered in locations where aesthetic issues from potential nuisance water are not a concern. Weepholes should be 2 inches in diameter and provided at least every 6 feet on center. Where weepholes are used, perforated pipe may be omitted from the gravel subdrain.

Retaining walls supporting backfill should also be coated with a moisture-proofing compound or covered with such material to inhibit infiltration of moisture through the walls. Moisture-proofing material should cover any portion of the back of wall that will be in contact with soil and should lap over and onto the top of footing. A drainage panel should be provided between the soil backfill and water proofing. The panel should extend from the top of the backdrain gravel up to within 12 inches of finish grade. The top of footing should be finished smooth with a trowel to inhibit the infiltration of water through the wall. The project structural engineer should provide specific recommendations for moisture-proofing, water stops, and joint details.

6.4.5 Footing Reinforcement and Wall Jointing

All continuous footings should be reinforced with a minimum of two No. 4 bars, one top and one bottom. Walls should be provided with cold joints spaced no more than 40 feet apart. Wall finishes and capping materials should not extend across the cold joint. The structural engineer may require different reinforcement or jointing and should dictate if greater than the recommendations provided herein. Where recommended removals are limited due to space restrictions, greater reinforcement and closer jointing may be recommended. Specific recommendations should be provided by the geotechnical consultant during grading based on as-built conditions exposed in the field.

6.4.6 Footing Observations

Footing excavations should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended herein. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4.7 Retaining Wall Backfill

Onsite soils may generally be used for backfill of retaining walls. The project geotechnical consultant should approve all backfill used for retaining walls. Wall backfill should be moisture-conditioned to slightly over the optimum moisture content; placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. Hand-operated compaction equipment should be used to compact the backfill placed immediately adjacent the wall to avoid damage to the wall. Flooding or jetting of backfill material is not recommended.

6.5 EXTERIOR FLATWORK

Exterior flatwork should be a minimum 4 inches thick. Cold joints or saw cuts should be provided at least every 7 feet in each direction. Flatwork having a minimum dimension more than 7 feet should be reinforced with No. 3 bars spaced 18 inches center to center each way or 6-inch by 6-inch, W4 by W4 welded wire mesh. Special jointing detail should be provided in areas of block-outs, notches, or other irregularities to avoid cracking at points of high stress Subgrade soils below flatwork should be thoroughly moistened to at least 110 percent of the optimum moisture content to a depth of 12 inches. Moistening should be accomplished by lightly spraying the area over a period of a few days just prior to pouring concrete. The geotechnical consultant should observe and verify the density and moisture content of subgrade soils prior to pouring concrete to ensure that the required compaction and pre-moistening recommendations have been met.

Drainage from flatwork areas should be directed to local area drains and/or other appropriate collection devices designed to carry runoff water to the street or other approved drainage structures. The concrete flatwork should also be sloped at a minimum gradient of 1 percent away from building foundations and retaining walls.

6.6 CONCRETE MIX DESIGN

Laboratory testing of onsite soil indicates **negligible** soluble sulfate content. Concrete designed to follow the procedures provided in ACI 318, Section 4.3, Table 4.3.1 for **negligible** sulfate exposure are anticipated to be adequate for mitigation of sulfate attack on concrete. Upon completion of rough grading, an evaluation of as-graded conditions and further laboratory testing will be required for the site to confirm or modify the conclusions provided in this section.

6.7 CORROSION

Results of preliminary testing of soils for pH, chloride, and minimum resistivity indicate the site is potentially **Corrosive** to metals that are in contact or close proximity to onsite soils. As such, specific recommendations should be obtained from a corrosion specialist if construction will include metals that will be near or in direct contact with site soils.

6.8 PRELIMINARY PAVEMENT DESIGN

6.8.1 Preliminary Pavement Structural Sections

Based on the soil conditions present at the site and estimated traffic index, preliminary pavement structural sections are recommended in the table below. An assumed "R-value" of 20 utilized for the near-surface soil in this preliminary pavement design. The sections provided in Table 6.4 are for planning purposes only and should be re-evaluated subsequent to site grading. Final pavement sections should be based on actual R-value testing of in-place soils and analysis of anticipated traffic.

6.8.2 Subgrade Preparation

Prior to placement of pavement elements, subgrade soils should be moisture-conditioned to at least 110 percent of the optimum moisture content then compacted to at least 90 percent of the laboratory determined maximum dry density. Areas observed to pump or yield under vehicle traffic should be removed and replaced with firm and unyielding compacted soil or aggregate base materials.

TABLE 6.4
PRELIMINARY PAVEMENT STRUCTURAL SECTIONS

Location	Traffic Index	AC (inches)	PCC (inches)	Concrete Pavers (mm)	AB (inches)
Entry and Main Driveway	5	3.0 4.0 -- --	-- -- 6.5 --	-- -- -- 80.0	8.0 6.0 -- 9.0
Parking Stalls	--	3.0	--	--	5.0

AC - Asphaltic Concrete AB - Aggregate Base

6.8.3 Aggregate Base

Aggregate base should be moisture conditioned to slightly over the optimum moisture content, placed in lifts no greater than 6 inches in thickness, then compacted to at least 95 percent of the laboratory standard (ASTM D 1557). Aggregate base materials should be Class 2 Aggregate Base conforming to Section 26-1 of the latest edition of the Caltrans Standard Specifications, Crushed Aggregate Base conforming to Section 200-2.2 of the latest edition of the Standard Specifications for Public Works Construction (Greenbook) or Crushed Miscellaneous Base conforming to Section 200-2.4 of the Greenbook.

6.8.4 Asphaltic Concrete

Paving asphalt should be PG 64-10. Asphaltic concrete materials should conform to Section 203-6 of the Greenbook and construction should conform to Section 302 of the Greenbook.

6.8.5 Concrete Pavers

Concrete pavers should conform to the requirements of ASTM C 936. Construction of the pavers, including bedding sand, should follow manufacturer's specifications. Typical thickness of bedding sand is about 1 inch. The gradation of bedding sand should meet the requirement in Table 6.5.

Construction of edge restraints should also follow manufacturer's specifications. As a minimum, restraints should be provided along the perimeter of concrete pavers and where there is a change in the paving materials.

TABLE 6.5
Gradation of Bedding for Pavers

Sieve Size	Percent Passing
⅜"	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	0 - 1

6.8.6 Portland Cement Concrete

Portland cement concrete used to construct concrete paving should conform to Section 201 of the Greenbook and should have a minimum compressive strength of 3,250 pounds per square inch (psi) at 28 days. Reinforcement and jointing of concrete pavement sections should be designed according to the minimum recommendations provided by the Portland Cement Association (PCA). For rigid pavement, transverse and longitudinal contraction joints should be provided at spacing no greater than 15 feet. Score joints may be constructed by saw cutting to a depth of ¼ of the slab thickness. Expansion/cold joints may be used in lieu of score joints. Such joints should be properly sealed and provided with a key or dowels. Where traffic will traverse over edges of concrete paving (not including joints), the edges should be thickened by 20% of the design thickness toward the edge over a horizontal distance of 5 feet.

Trash pickup areas should be provided with a concrete slab where the bins will be picked up and extend at least 3 feet past the front wheel landing areas. The slab should be at least 8 inches thick and be reinforced with No. 4 bars spaced at 24 inches on centers, both ways. The slabs should be provided transverse and longitudinal joints spacing as specified above. Dowels or a keyway should be provided at all cold joints.

6.9 POST GRADING CONSIDERATIONS

6.9.1 Site Drainage and Irrigation

The ground immediately adjacent to foundations should be provided with positive drainage away from the structures in accordance with 2016 CBC, Section 1804.3. No rain or excess water should be allowed to pond against structures such as walls, foundations, flatwork, etc.

Excessive irrigation water can be detrimental to the performance of the proposed site development. Water applied in excess of the needs of vegetation will tend to percolate into the ground. Such percolation can lead to nuisance seepage and shallow perched groundwater. Seepage can form on slope faces, on the faces of retaining walls, in streets, or other low-lying areas. These conditions could lead to adverse effects such as the formation of stagnant water that breeds insects, distress or damage of trees, surface erosion, slope instability, discoloration and salt buildup on wall faces, and premature

failure of pavement. Excessive watering can also lead to elevated vapor emissions within buildings that can damage flooring finishes or lead to mold growth inside the home.

Key factors that can help mitigate the potential for adverse effects of overwatering include the judicious use of water for irrigation, use of irrigation systems that are appropriate for the type of vegetation and geometric configuration of the planted area, the use of soil amendments to enhance moisture retention, use of low-water demand vegetation, regular use of appropriate fertilizers, and seasonal adjustments of irrigation systems to match the water requirements of vegetation. Specific recommendations should be provided by a landscape architect or other knowledgeable professional.

6.9.2 Utility Trenches

Trench excavations should be constructed in accordance with the recommendations contained in Section 6.1.7 of this report. Trench excavations must also conform to the requirements of Cal/OSHA.

Trench backfill materials and compaction criteria should conform to the requirements of the local municipalities. As a minimum, utility trench backfill should be compacted to at least 90 percent of the laboratory standard. Materials placed within the pipe zone (6 inches below and 12 inches above the pipe) should consist of particles no greater than ¾ inches and have a SE of at least 30. The materials within the pipe zone should be moisture-conditioned and compacted by hand-operated compaction equipment. Above the pipe zone (>1 foot above pipe), the backfill may consist of general fill materials. Trench backfill should be moisture-conditioned to slightly over the optimum moisture content, placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. For trenches with sloped walls, backfill material should be placed in lifts no greater than 8 inches in loose thickness, and then compacted by rolling with a sheepsfoot roller or similar equipment. The project geotechnical consultant should perform density testing along with probing to verify that adequate compaction has been achieved.

Within shallow trenches (less than 18 inches deep) where pipes may be damaged by heavy compaction equipment, imported clean sand having a SE of 30 or greater may be utilized. The sand should be placed in the trench, thoroughly watered, and then compacted with a vibratory compactor. For utility trenches located below a 1:1 (H:V) plane projecting downward from the outside edge of the adjacent footing base or crossing footing trenches, concrete or slurry should be used as trench backfill.

6.10 PLAN REVIEW AND CONSTRUCTION SERVICES

We recommend ***Albus-Keefe & Associates, Inc.*** be engaged to review any future development plans, including foundation plans prior to construction. This is to verify that the assumptions of this report are valid and that the preliminary conclusions and recommendations contained in this report have been properly interpreted and are incorporated into the project plans and specifications. If we are not provided the opportunity to review these documents, we take no responsibility for misinterpretation of our preliminary conclusions and recommendations.

We recommend that a geotechnical consultant be retained to provide soil engineering services during construction of the project. These services are to observe compliance with the design, specifications or recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

If the project plans change significantly from the assumed development described herein, the project geotechnical consultant should review our preliminary design recommendations and their applicability to the revised construction. If conditions are encountered during construction that appear to be different than those indicated in this report or subsequent design reports, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

7.0 LIMITATIONS

This report is based on the proposed development and geotechnical data as described herein. The materials encountered on the project site, described in other literature, and utilized in our laboratory testing for this investigation are believed representative of the total project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation and testing by a geotechnical consultant during the grading and construction phases of the project are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty. This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** and their project consultants in the planning and design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes. This report is subject to review by the controlling governmental agency.

Respectfully submitted,

ALBUS-KEEFE & ASSOCIATES, INC

Paul Hyun Jin Kim
Associate Engineer
G.E. 3106

8.0 REFERENCES

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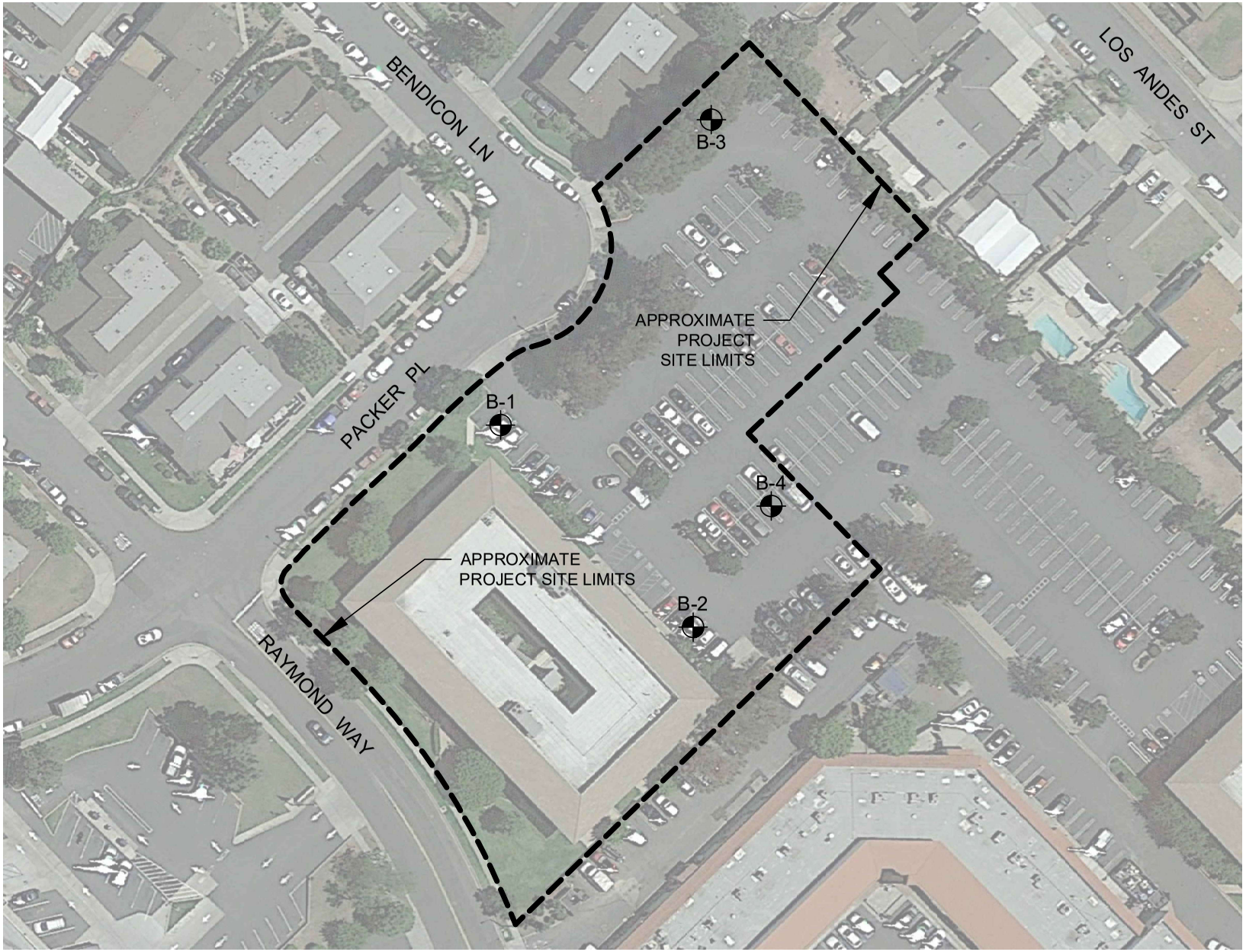
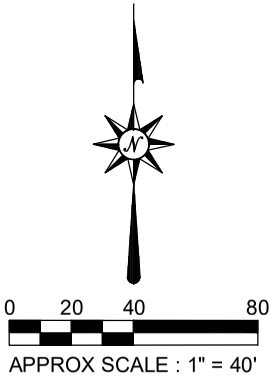




EXPLANATION

(Locations Approximate)

- Exploratory Boring

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2841.00	Date: 04/20/20	Plate: 1

APPENDIX A

EXPLORATION BORING LOGS

EXPLORATION LOG

Project:		Location:
Address:		Elevation:
Job Number:	Client:	Date:
Drill Method:	Driving Weight:	Logged By:

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		EXPLANATION							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).							
		Double triangle in core column represents SPT sampler.							
10		**Vertical Lines** in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column respresents large bag sample.							
		Other Laboratory Tests:							
15		Max = Maximum Dry Density/Optimum Moisture Content							
		EI = Expansion Index							
		SO4 = Soluble Sulfate Content							
		DSR = Direct Shear, Remolded							
		DS = Direct Shear, Undisturbed							
		SA = Sieve Analysis (1" through #200 sieve)							
		Hydro = Particle Size Analysis (SA with Hydrometer)							
20		200 = Percent Passing #200 Sieve							
		Consol = Consolidation							
		SE = Sand Equivalent							
		Rval = R-Value							
		ATT = Atterberg Limits							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							SO4 DS pH Resist Ch
		ARTIFICIAL FILL (Af) Silty Sand (SM): Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros		80/ 10"			11.1	116	
5		@ 4 ft, light grayincreased clay content		76/ 8"			10.2	111.2	Consol
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Sandy Clay (CL): Gray, moist, hard, fine grained sand		72/ 11"			12.8	118.2	
		Clayey Sand (SC): Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche							
10		Clayey Sand/ Sandy Clay (SC/CL): yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings		73/ 8"			11		
		Clayey Sand (SC): Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings							
15		@ 15 ft, reddish brown, moist		29					SA Hydro
		Clayey Sand : Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay							
20				36					SA Hydro

Albus-Keefe & Associates, Inc.

Plate A-2

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		@ 25 ft, caliche		43	▼ ▲				
30				45	▼ ▲				SA Hydro
35		@ 35 ft, , moist to very moist		56	▼ ▲				
		Silty Clay/ Clayey Silt (CL/ ML-CL): Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide							
40			▽	31	▼ ▲				
45				37	▼ ▲				

Albus-Keefe & Associates, Inc.

Plate A-3

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
				35					
		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel wth Silt and Sand (CAB): Dark brown							
		ARTIFICIAL FILL (Af) Silty Sand (SM): Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▼		12.8	109.1	
				79	▼		11.2	111.3	
5		**Very Old Alluvium fan Deposits (Qovf)** Clay (CL): Reddish brown, slightly moist, hard							
		Clayey Sand/ Sandy Clay (SC/CL): Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▼		6.4	124.4	
		Silty Clay with Sand (CL-ML): Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10				81	▼		13.5	105.6	
		Sandy Silt (ML): Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand							
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand/ Sandy Clay (SC/CL): mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick		72/ 8"			11.2	119.6	
5				76/ 11"			7	113	
		Silty Sand (SM): Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments		57			9.9	120.1	
		@ 6 ft, dense							
		Clayey Sand (SC): Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments							
10				75/ 8"			12.1	113.6	
		Sand (SP): Light brown, moist, dense, trace clay, clay nodules							
15				31					
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand with Gravel (SC): Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		Silty Sand (SM): Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		Silty Sand with Clay (SM): Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish browndecreased in clay content		36			13.8	117	
15		@ 15 ft, Light brownno gravel		20					
20				20					
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

APPENDIX B

LABORATORY TEST PROGRAM

LABORATORY TESTING PROGRAM

Soil Classification

Soils encountered within the exploratory borings were initially classified in the field in general accordance with the visual-manual procedures of the Unified Soil Classification System (ASTM D2488). The samples were re-examined in the laboratory and classifications reviewed and then revised where appropriate. The assigned group symbols are presented in the Boring Logs provided in Appendix A.

In Situ Moisture and Density

Moisture content and dry density of in-place soil materials were determined in representative strata. Test data are summarized on the Boring Logs provided in Appendix A.

Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content of onsite soils were determined for one selected sample in general accordance with Method A of ASTM D1557. Pertinent test values are given on Table B.

Grain-Size Analyses

Grain size analyses were performed on selected samples of site materials. These tests were performed in accordance with ASTM D 422. Results are graphically presented on Plate B.

Consolidation

Consolidation tests were performed for selected soil samples in general conformance with ASTM D 2435. Axial loads were applied in several increments to a laterally restrained 1-inch-high sample. Loads were applied in geometric progression by doubling the previous load, and the resulting deformations were recorded at selected time intervals. The test samples were inundated at selected loads to evaluate the effects of a sudden increase in moisture content (hydro-consolidation potential). Results of the tests are graphically presented on Plates B-2 to B-5.

Direct Shear

The Coulomb shear strength parameters, angle of internal friction and cohesion, were determined for a bulk sample obtained from one our borings. The tests were performed in general conformance with Test Method ASTM D 3080. The sample was remolded to 90 percent of maximum dry density and at the optimum moisture content. Three specimens were prepared for each test, artificially saturated, and then sheared under varied loads at an appropriate constant rate of strain. Results are graphically presented on Plate B-6.

Expansion Potential

An Expansion Index test was performed on a selected sample in accordance with ASTM D 4829. The test result and expansion potential are presented on Table B.

Corrosion

Select samples were tested for minimum resistivity, chloride, and pH in accordance with California Test Method 643. Results of these tests are provided in Table B.

Soluble Sulfate Content

A chemical analysis was performed on a selected soil sample to determine soluble sulfate content. The test was performed in accordance with California Test Method (CTM) 417. The test result is included in Table B.

Percent Passing No. 200 Sieve

Percent of material passing the No. 200 sieve was determined on selected samples to verify visual classifications performed in the field. These tests were performed in accordance with ASTM D 1140. Test results are presented on Table B.

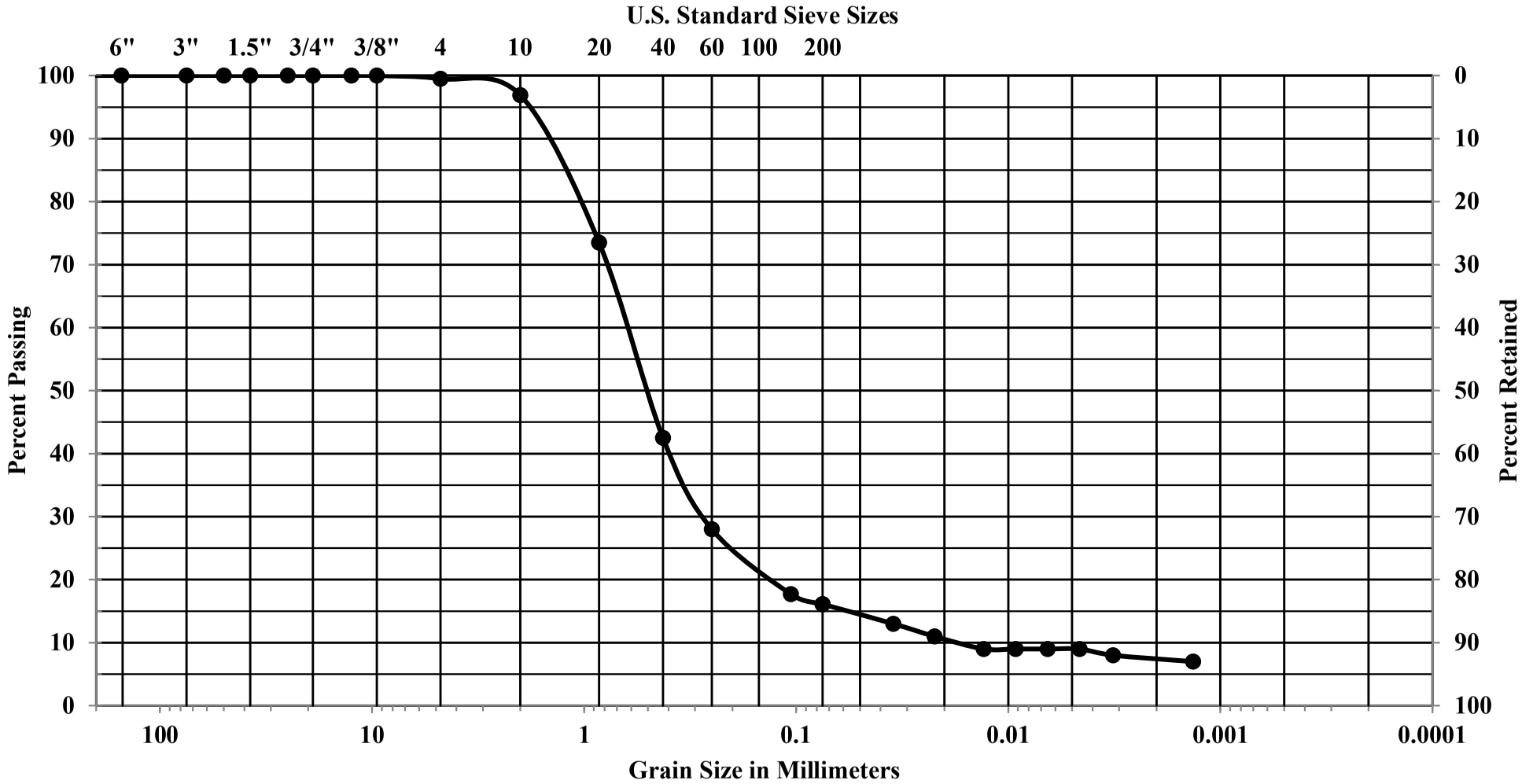
TABLE B
SUMMARY OF LABORATORY TEST RESULTS

Boring Number	Depth (feet)	Soil Type	Test Results	
B-1	0-5	Silty Sand (SM)	Maximum Dry Density (pcf):	124.5
			Optimum Moisture Content (%):	11.0
			Soluble Sulfate Content (%):	0.000
			Sulfate Exposure:	Negligible
			pH:	7.22
			Minimum Resistivity:	1700 Ohm-cm
			Chloride:	10.0 ppm
			Expansion Index:	30
			Expansion Potential:	Low
B-1	15	Clayey Sand (SC)	Percent Passing #200 Sieve:	16.3 %
B-1	20	Clayey Sand (SC)	Percent Passing #200 Sieve:	28.3%
B-1	30	Clayey Sand (SC)	Percent Passing #200 Sieve:	22.2%

Additional laboratory test results are provided on the boring logs provided in Appendix A and on the Plates that follow.

GRAIN SIZE DISTRIBUTION

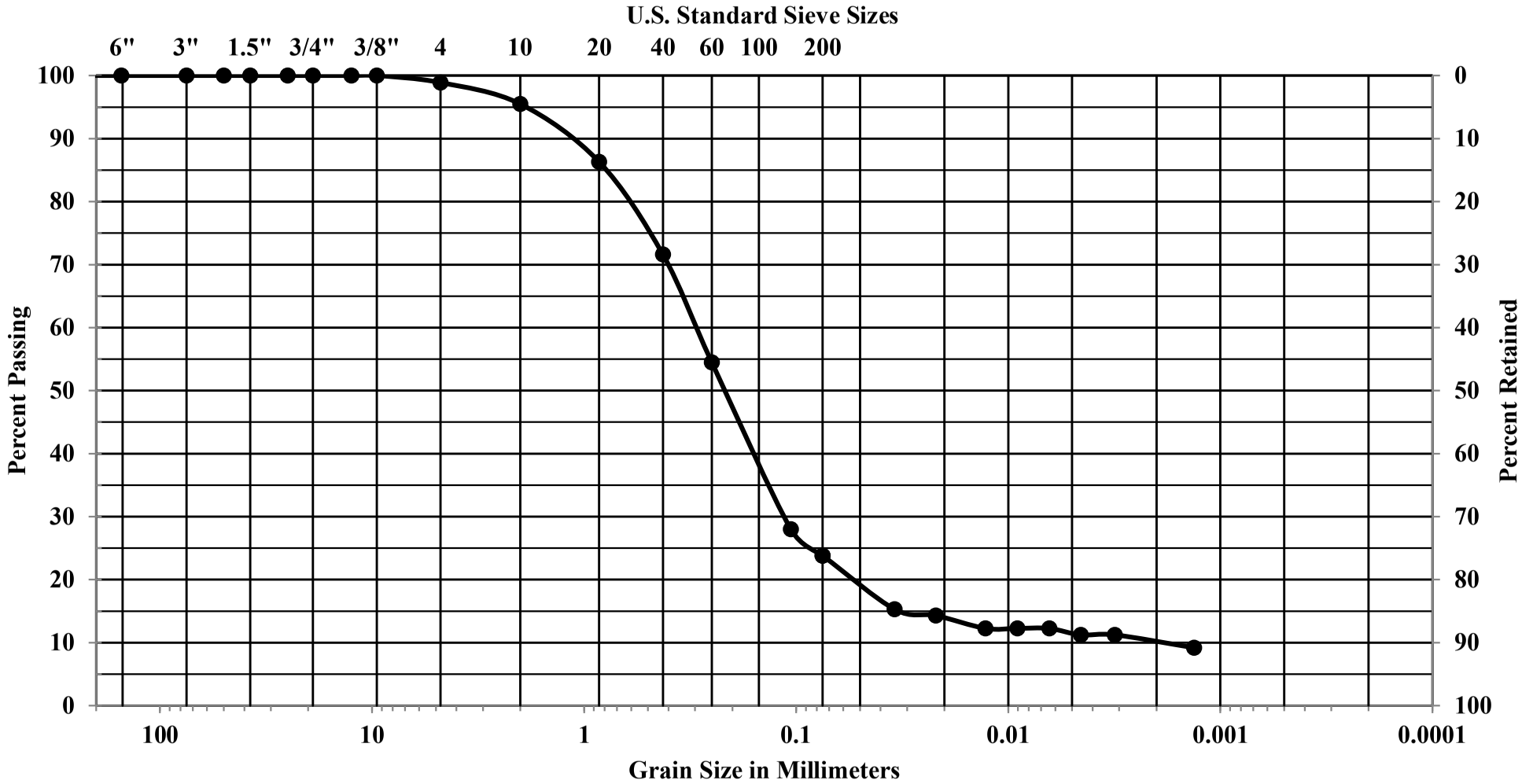
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	15	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

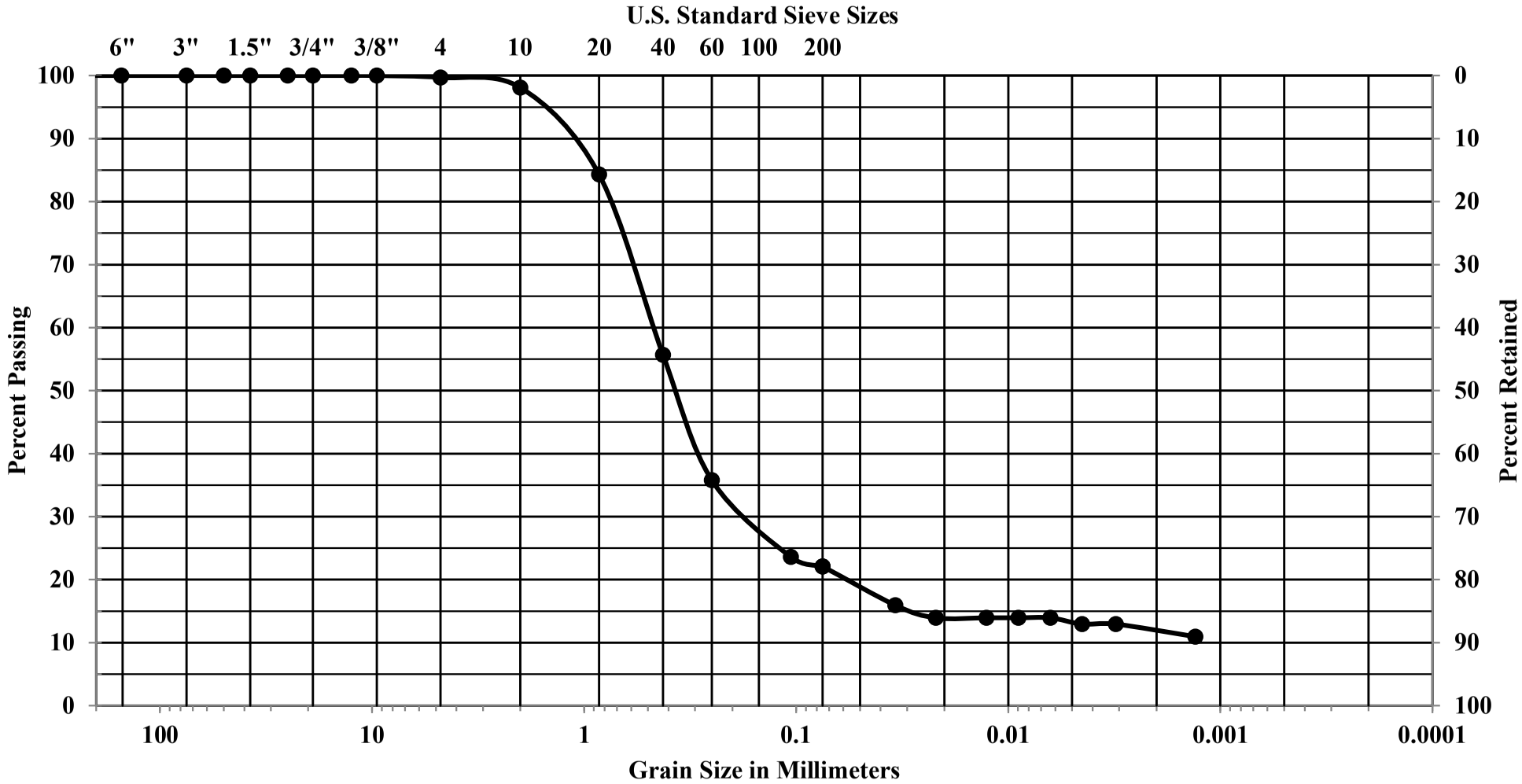
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	20	Clayey Sand (SC)

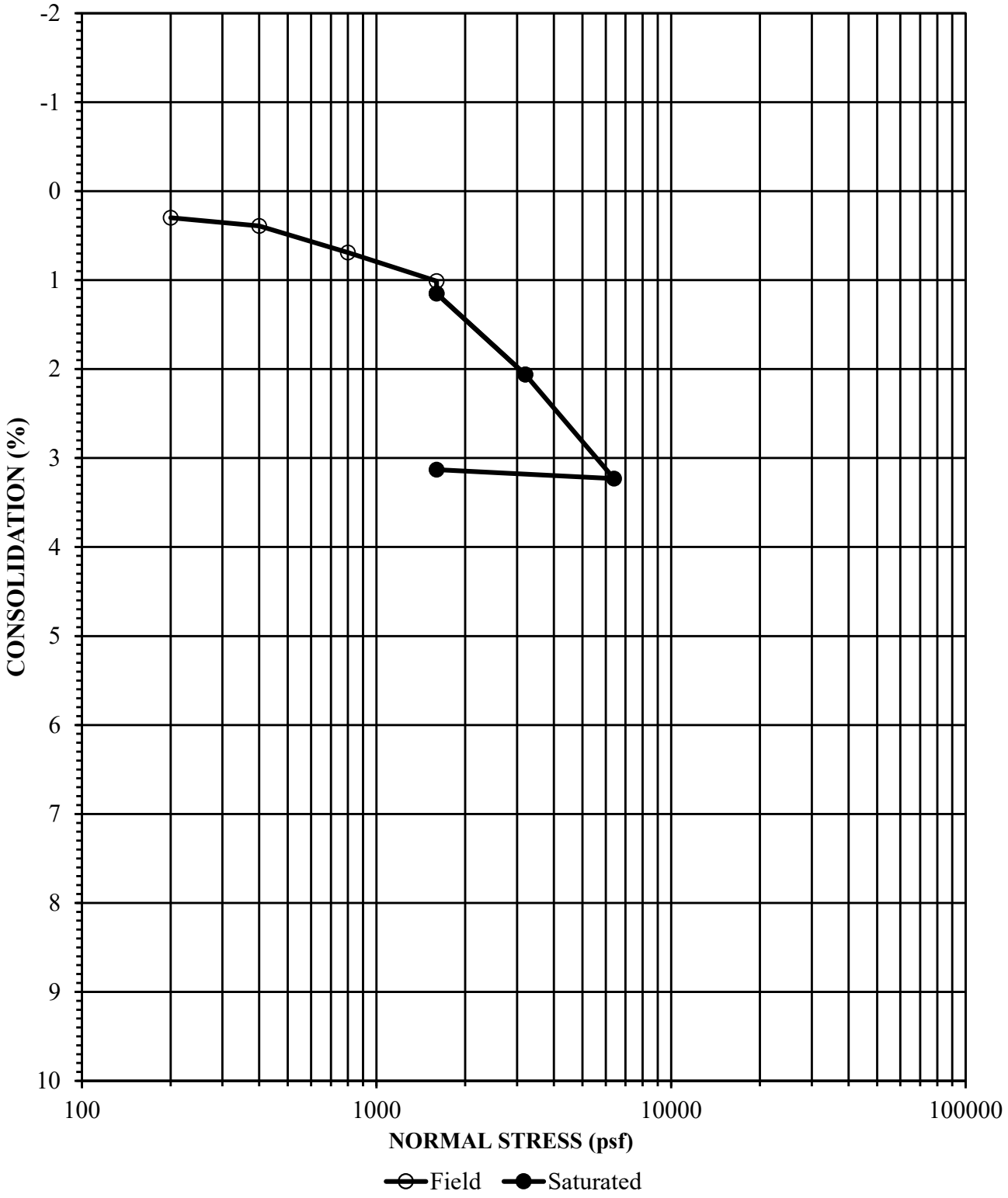
GRAIN SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	30	Clayey Sand (SC)

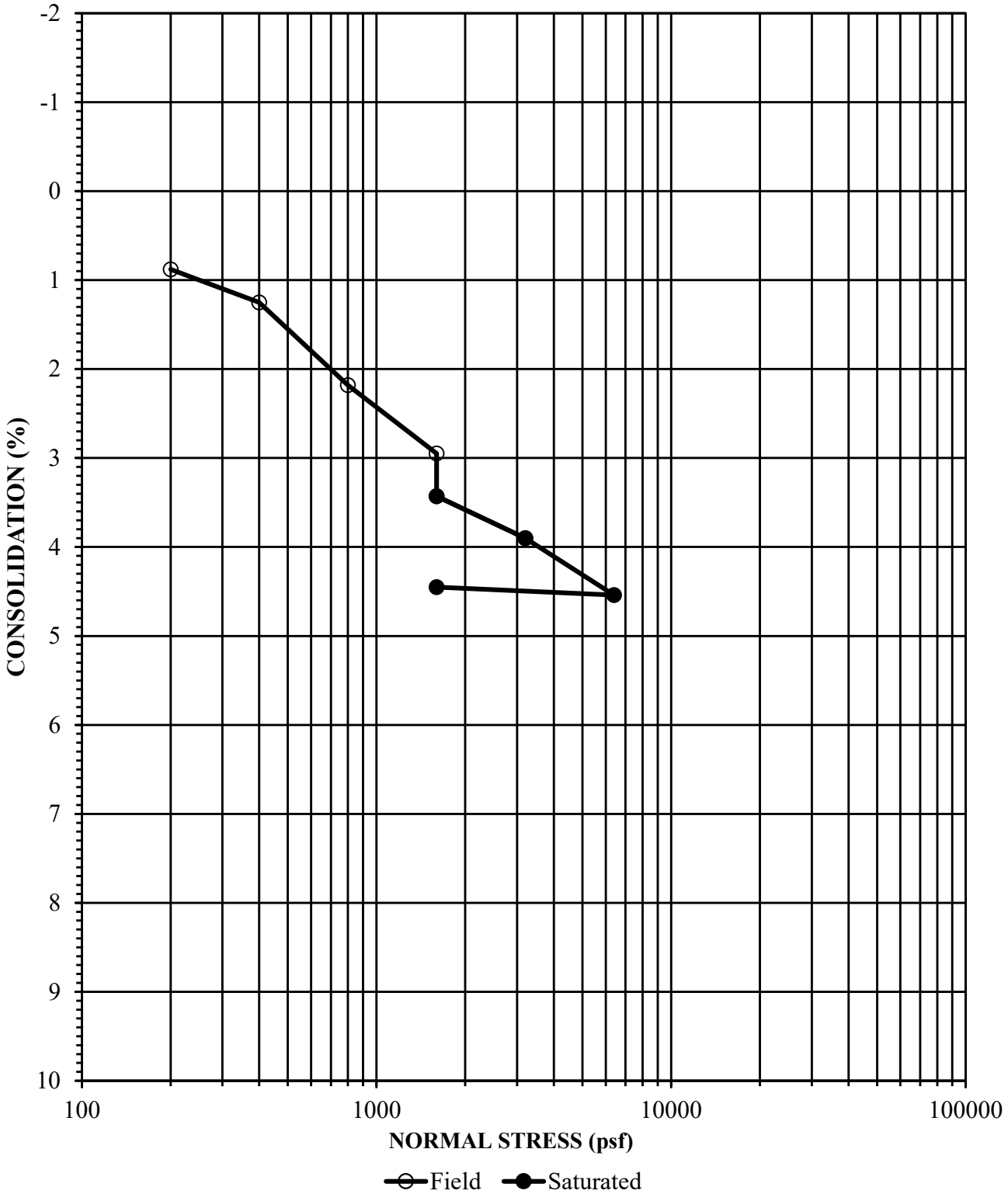
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-1	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
117.9	10.5	12.4

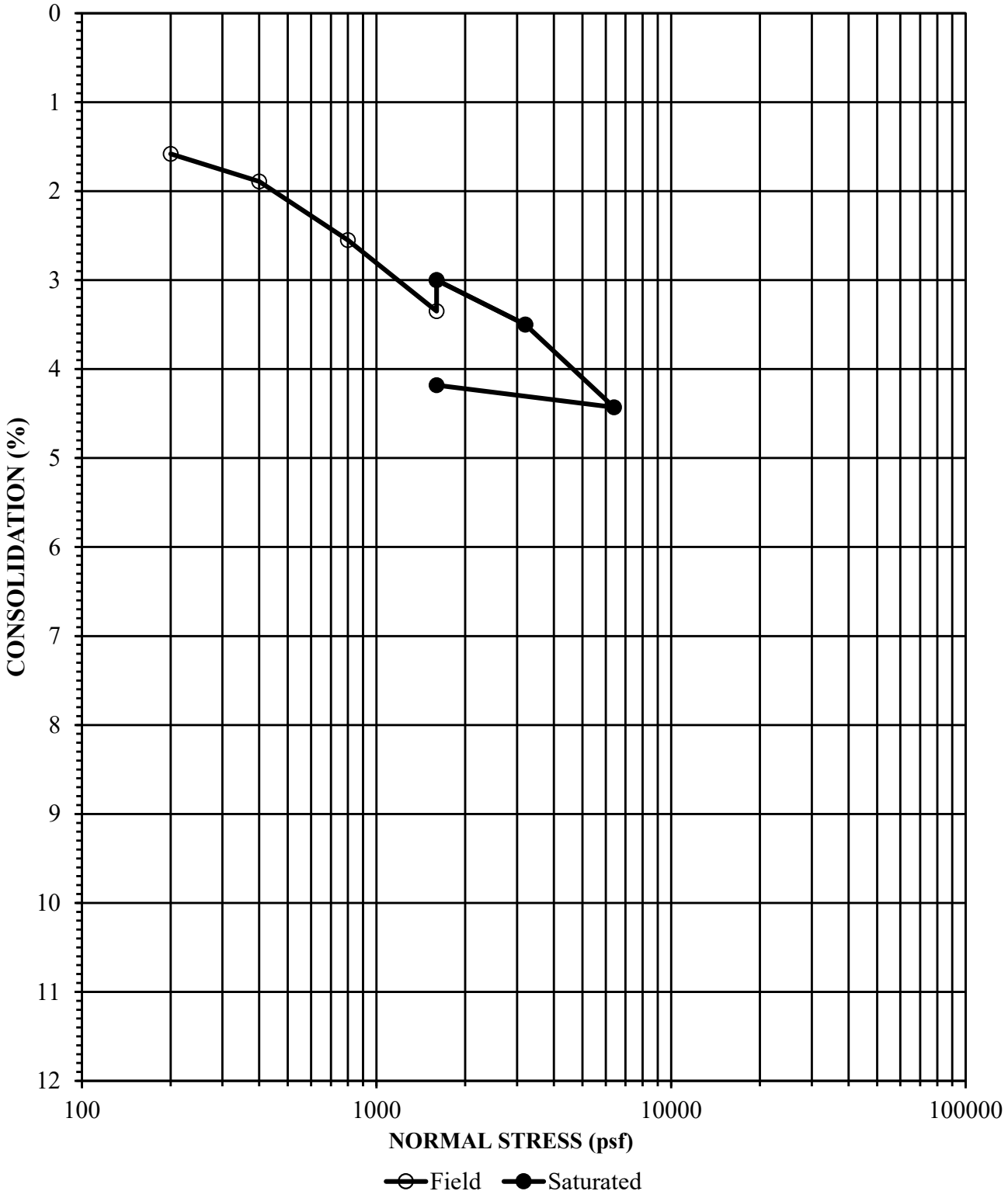
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
123.8	9.5	9.2

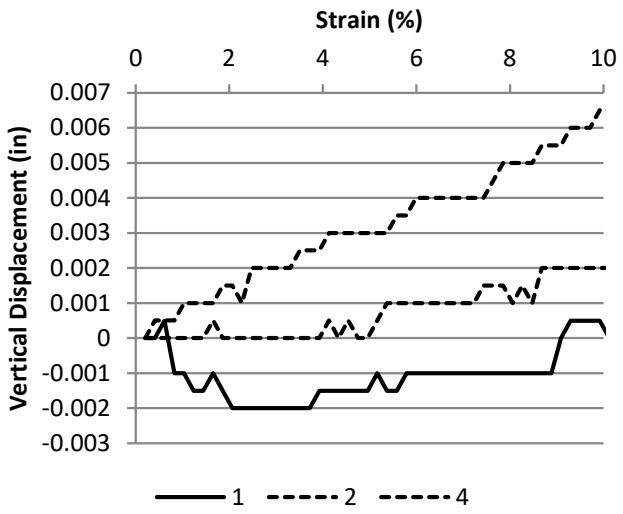
CONSOLIDATION

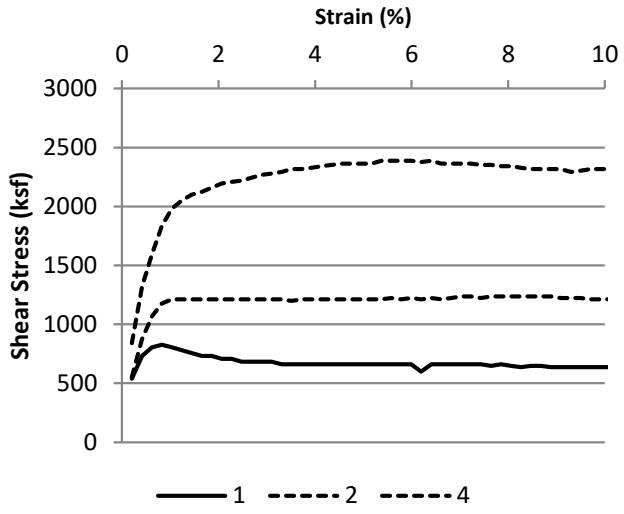


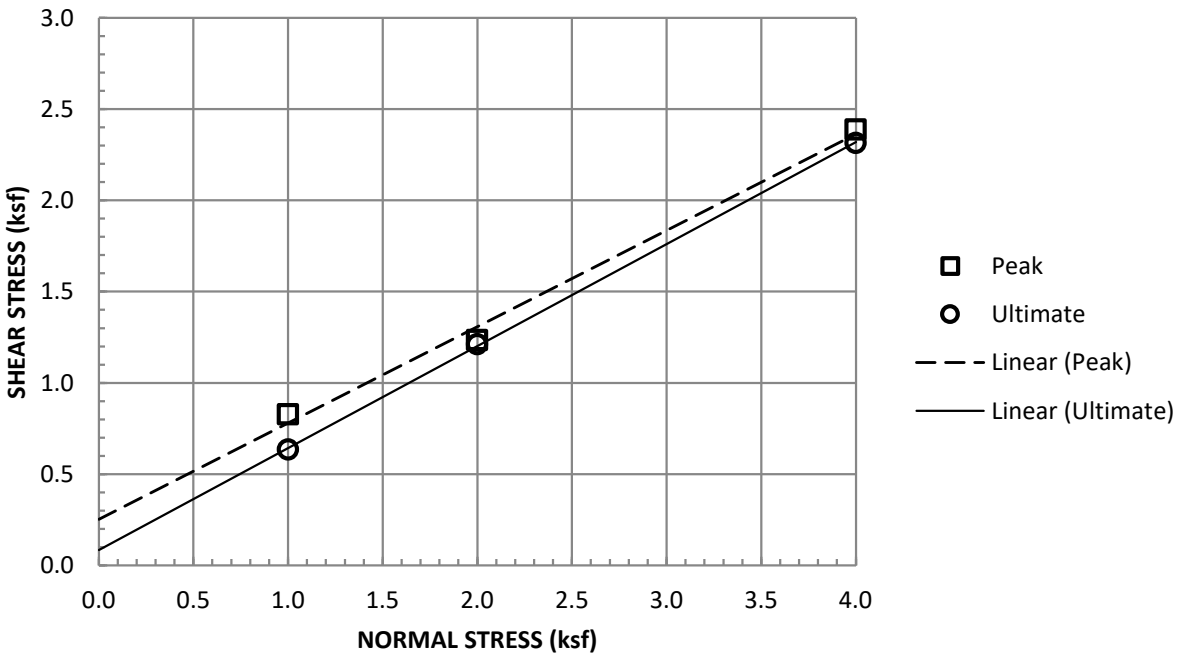
Job Number	Location	Depth	Description
2841.00	B-4	6	Silty Sand with Clay (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
111.2	17.3	17.2

DIRECT SHEAR







Sample Type:	Remolded 90% of 124.5 @ 11%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.828	1.236	2.388
Peak Displacement (in)	0.002	0.002	0.007
Ultimate Shear Stress (ksf)	0.636	1.212	2.316
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	112.1	112.1	112.1
Initial Moisture Content (%)	11	11	11
Final Moisture Content (%)	14.8	15.1	15.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2841.00	B-1	0-5	Silty Sand (SM)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

April 20, 2020
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, CA 91730

Subject: Revised Preliminary Percolation Study, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killan,

Albus-Keefe & Associates, Inc. has completed a geotechnical investigation of the site for evaluation of the percolation characteristics of the site soils. The scope of this investigation consisted of the following:

- Exploratory drilling, soil sampling and test well installation
- Field percolation testing
- Laboratory testing of selected soil samples
- Engineering analysis of the data
- Preparation of this report

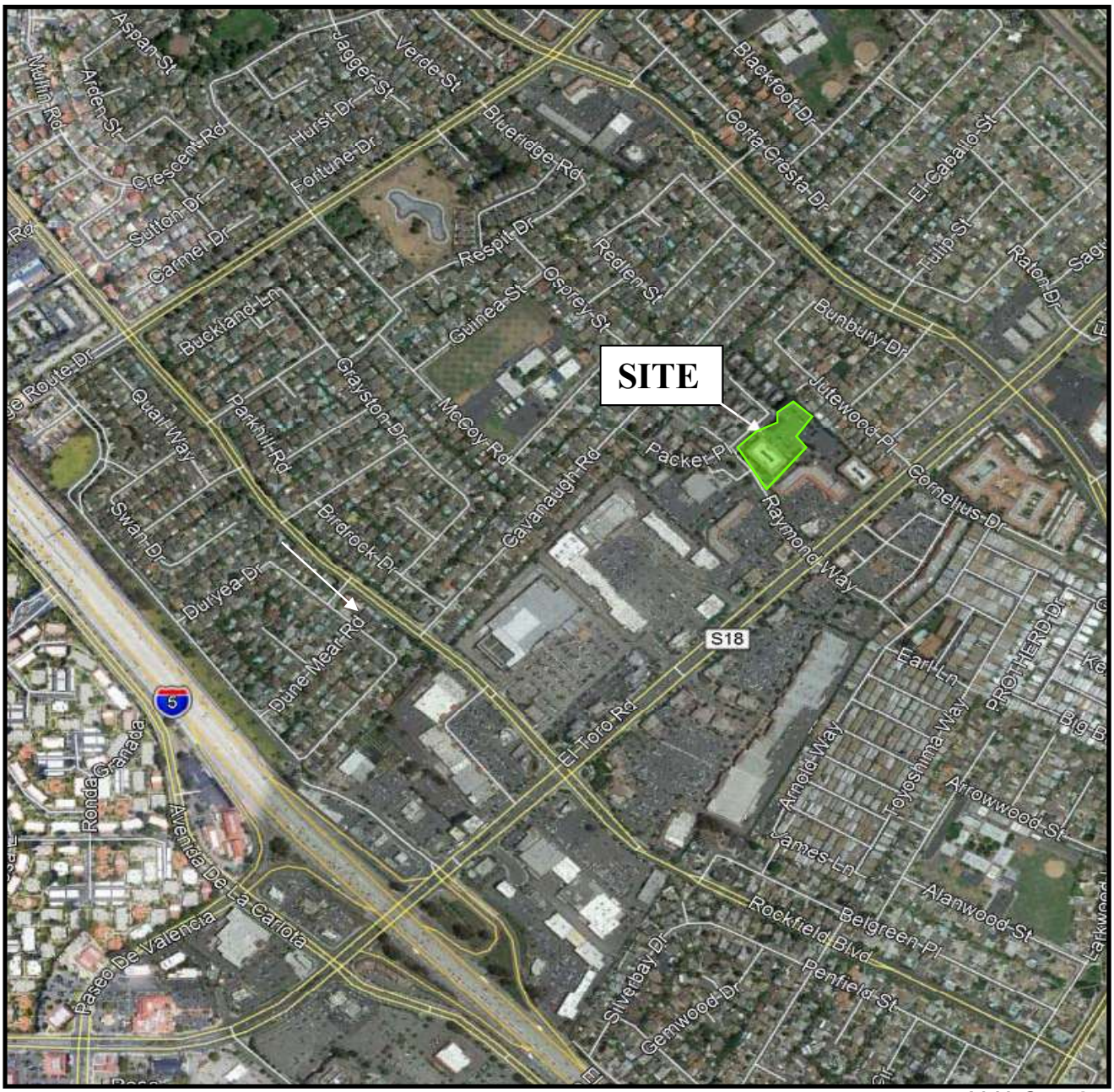
SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Site Location and Description

The site is located at 24551 Raymond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single-family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas are shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property comprising approximately 1.96 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth). Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass turf adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



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SITE LOCATION MAP

National Community Renaissance
Proposed Multi-Family Residential Development
24551 Raymond Way
Lake Forest, California

NOT TO SCALE

FIGURE 1

Proposed Development

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparation of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

SUMMARY OF FIELD AND LABORATORY WORK

Subsurface Investigation

Subsurface exploration for this investigation was conducted on October 2, 2019, and consisted of drilling four (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. Two additional borings were drilled near boring B-1 for use in percolation testing. These borings were not logged or sampled. Approximately 5 feet of well screening was installed at the bottom of each percolation well with solid pipe extending the reminder of the distance to the ground surface. The annular space of the well screen sections was filled with gravel. At the completion of all work, piping for the test wells were removed and the borings were backfilled with auger cuttings. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and standard penetration test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

Percolation Testing

Percolation testing was performed on October 2, 2019, in general conformance with the constant-head test procedures outlined in the referenced Well Permeameter Method (USBR 7300-89). A water hose attached to a water source on site was connected to an inline flowmeter to measure the water flow. The flowmeter is capable of measuring flow rates up to 10 gallons per minute and as low as 0.06 gallons per minute. A valve was connected in line with the flowmeter to control the flow rate. A filling hose was used to connect the flowmeter and the test wells. Water was introduced by the filling

hose near the bottom of the test wells. A water level meter with 1/100-foot divisions was used to measure the depths to water surface from the top of well casings.

Flow to the wells was terminated upon either completion of testing of all the pre-determined water levels or the flow rate exceeded the maximum capacity of the flowmeter. Measurements obtained during the percolation testing are provided in Appendix C on Plates C-1 and C-2.

Laboratory Testing

Selected soil samples of representative earth materials were tested to assist in the formulation of conclusions and recommendations presented in this report. Tests consisted of in-situ moisture contents and dry densities, and sieve analyses. Results of laboratory testing relevant to percolation characteristics are presented in Appendix B and on the Exploration Logs in Appendix A.

ANALYSIS OF DATA

Subsurface Conditions

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are primarily comprised of reddish-brown clayey sand to a depth of approximately 35 feet. Below this depth, the very old alluvium becomes a silty clay/clayey silt that is slightly moist to moist and hard.

Groundwater

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet. The shallower occurrences of ground water in other locations in the vicinity are likely due to localized perched conditions upon finer-grained soil layers within the granular zone. The finer-grained layers are likely lenticular and appear absent from the subject site within the upper 35 feet.

Percolation Data

Analyses were performed to evaluate permeability using the flow rate obtained at the end of the constant-head stage of field percolation testing. These analyses were performed in accordance with the procedures provided in the referenced USBR 7300-89. The procedure essentially uses a closed-form solution to the percolation out of a small-diameter well.

Using the USBR method, we calculated a composite permeability value for the head condition maintained in each well. The results are summarized in Table 1 below and the supporting analyses are included in Appendix C, Plates C-3 and C-4.

TABLE 1
Summary of Back-Calculated Permeability Coefficient

	Total Depth of Well (ft)	Depth to Water in Well (ft)	Height of Water in Well (ft)	Static Flow Rate (gal./min.)	Estimated Permeability, k_s (in/hr.)
P-1	20.0	15.0	5.0	1.5	2.27
P-2	25.0	20.0	5.0	0.75	1.13

Design of Dry Well

The ***infiltration rate*** in a dry well is dependent upon several factors including the soil permeabilities of the various soil layers throughout the soil mass, hydraulic gradient of water pressure head in the soil mass, and depth to groundwater. The infiltration rate is related to the permeability by Darcy's equation:

$$V = ki$$

Where:

V= water velocity (infiltration rate)
k= permeability
i=hydraulic gradient

The presence of differing soil layers with differing permeabilities, the variable head condition in the well shaft, and presence of ground water are factors that make determining the effective infiltration rate of the dry well somewhat complicated. We have performed the Well Permeameter tests in accordance with the test method. This test provides a means to estimate the ***Permeability Rate*** of the soils influencing the dry well, not the infiltration rate. Therefore, the effective infiltration rate must be determined using the relationship between permeability and infiltration rate as expressed by Darcy's equation. Solution of the Darcy equation essentially requires solving a differential mass balance equation. Due to these complications, the infiltration characteristics of the proposed dry well were modeled using a computer program.

Infiltration in a dry well was modeled using the software Seep/W, version 2007, by Geo-Slope International. The program allows for modeling of both partially-saturated and saturated porous medium using a finite element approach to solve Darcy's Law. The program can evaluate both steady-state and transient flow in planar and axisymmetric cases. Boundaries of the model can be identified with various conditions including fix total head, fix pressure head, fix flow rate, and head as a function of flow. Soil conductivity properties can be modeled with either Fredlund et al (1994), Green and

Corey (1971), Van Genuchten (1980), or Saxton et al. (1986). The parameters suggested by Van Genuchten (1980) were selected for use in our model and were based on test results of particle-size analyses and estimated in-place densities.

A Seep/W model was setup with the bottom of the dry well at a depth of 30 feet below ground surface. The top 20 feet of the dry well assumed a shaft that is 6 feet in diameter and contains a settling chamber having an inside diameter of 4 feet, outside diameter of 4.5 feet, and length of 18 feet. Below 20 feet, the shaft diameter was 4 feet in diameter. The annular space around the chamber between the depths of 0 and 13 feet was assumed to consist of a cement slurry. Below a depth of 13 feet, the annular space around the chamber and below the chamber is assumed to consist of gravel. A more detailed model of the dry well design can be found on Plate 2.

The model consisted of three zones of material to represent the general soil profile. The upper zone (depth 0 to 10 feet) was represented by a set of input parameters to practically make it impermeable due to the fine-grained nature of the material. For the second layer (depth 10 to 35 feet), the saturated conductivity was modeled to represent the clayey sand observed predominantly in this depth range. The properties of this layer were selected based on the coefficient of permeability estimated from percolation tests as well as laboratory gradation test results (Plates B-1 through B-3). The third layer (below depth 35 feet) was estimated from laboratory gradation test results. The soil parameters are summarized in Table 2.

Groundwater was set at a depth of 40 feet using a fix-head boundary which was set on the outside boundary of the problem. Water in the well was assumed to be at a depth of 7 feet below the ground surface so a fix-head boundary was set with a total head elevation of 93 feet around the edge of the well.

TABLE 2
Summary of Characteristic Curve Parameters

Material No.	Material Type	Depth (ft)	Sat. Perm., Ks (in/hr)	Van Genuchten Parameters				
				a (psf)	n	m	Sat. Water Content	Residual Water Content
1	Imperm.	0 – 10	0.001	196	1.21	0.17	0.40	0.010
2	SC/SP	10 – 35	1.0	28	1.17	0.14	0.42	0.010
3	ML/CL	>35	0.05	32	1.32	0.24	0.36	0.025

A steady state analysis was performed to estimate the maximum inflow that the well can accommodate. Using a well as described above, we obtain a static total flow of 0.018 ft^3/sec. A plot depicting the resulting pressure head contours and flow vectors for the model is provided on Plate C-5. The average infiltration rate can be determined by taking the flow rate divided by the wetted surface area. The surface area is equal to 258 square feet which includes the side and bottom area. Based on the above flow rate and surface area, the average "measured" infiltration rate across the wetted surface area is 3.0 in/hr.

To evaluate the time required to empty the well once no more water is introduced, the model was reanalyzed with a variable head condition that was dependent upon the volume of water leaving the well. As water infiltrates into the surrounding soil, the volume of water remaining in the well is reduced as well as the resulting water head. A graph of the well head versus exit volume is provided in Figure 2. The function assumes a void ratio of 0.4 within the zones occupied by gravel. If some other well configuration is used, then the analyses will require updating.

The analysis was performed as a transient case over a total time of 13 hours. The conditions in the model were evaluated in 12 increments of time over the total duration. From our analyses, the water is evacuated from the chamber in approximately 8.5 hours. Plots depicting the resulting pressure head contours and flow vectors at selected times are provided in Appendix C on Plates C-6 through C-10. A plot of time versus water height in the well is shown on Figure 3.

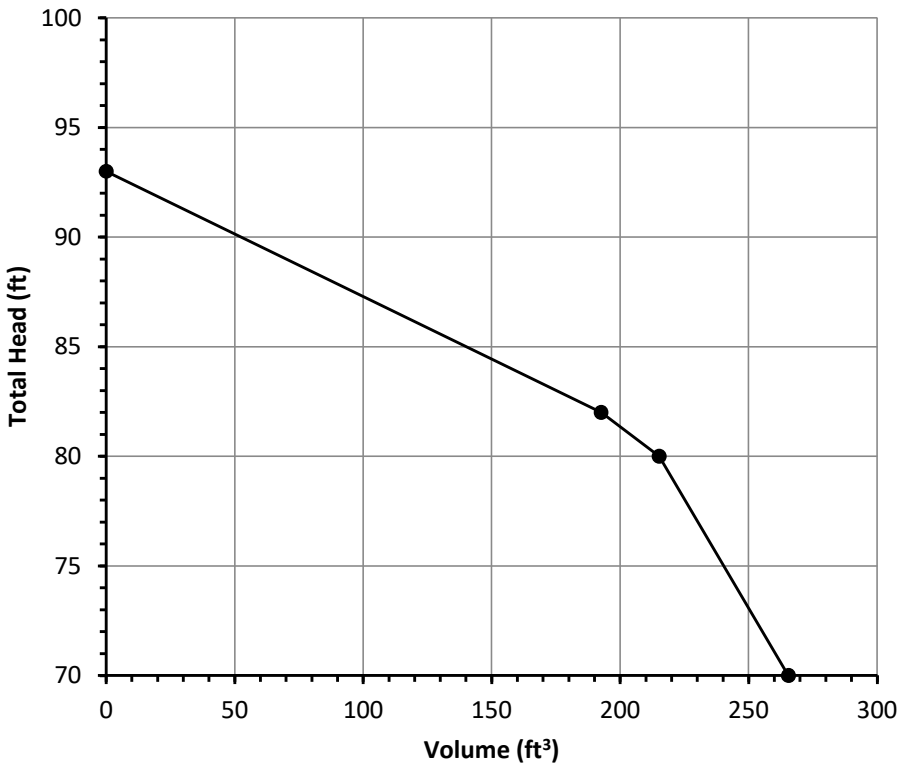

FIGURE 2- Well Head versus Exit Volume

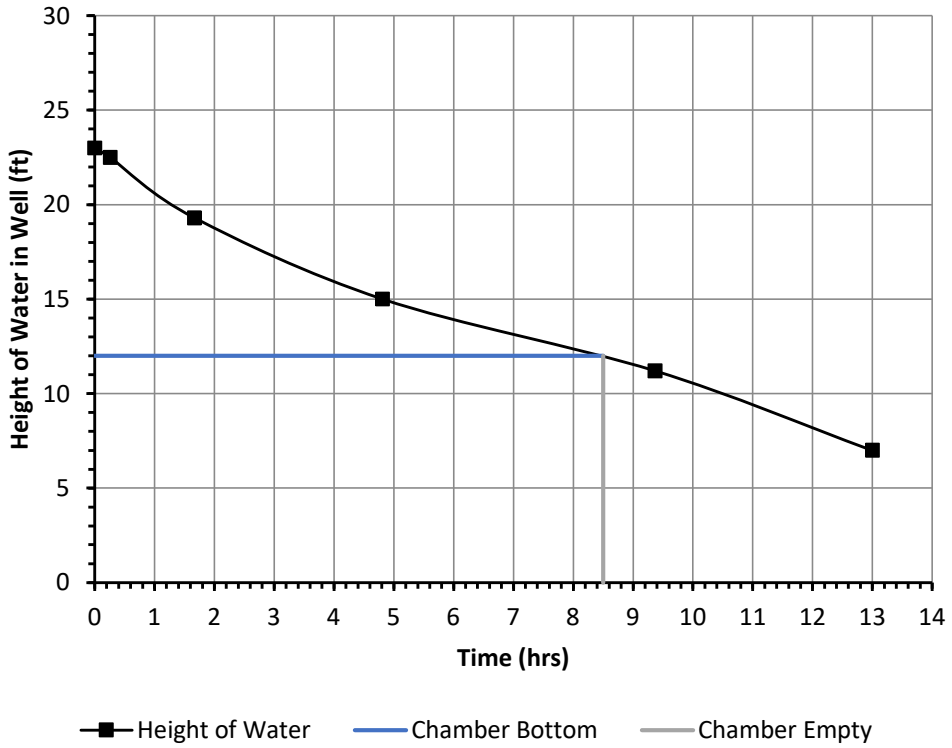

FIGURE 3- Water Head Versus Time

CONCLUSIONS AND RECOMMENDATIONS

Results of our work indicate a storm water disposal system consisting of a dry well is feasible at the site. The use of a dry well is not anticipated to result in worsening any adverse conditions or hazards that may be present for the proposed site development or adjacent properties including subsidence, landsliding, or liquefaction. As discussed above, the groundwater level in this area is approximately 41 feet below ground surface. Therefore, a dry well having a total depth of 30 will maintain a clearance above groundwater greater than the minimum required clearance of 10 feet.

Based on the results of percolation testing and analyses, the well configuration as depicted on Plate 2 may utilize a "measured" peak flow rate of 0.018 ft^3/sec. This flow rate corresponds to an average peak infiltration rate of 3.0 in./hr. This flow rate and infiltration rate only apply to the well configuration evaluated and will differ for other configurations. These values are "measured" values and as such, an appropriate factor of safety should be applied to determine the "design" rates.

The "measured" infiltration rates reported above should be adjusted by applying an appropriate factor of safety. Table 3 includes the details of estimating this factor of safety for Factor Category A per requirements of the Santa Ana Regional Water Quality Control Board. The civil engineer should assign appropriate factor values for Factor Category B to obtain the overall factor of safety.

TABLE 3
Factor Values for Factor Category A

Infiltration Facility Safety Factor Determination Worksheet					
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w * v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.5

Once water flow to the well has ceased, it is estimated to require approximately 8.5 hours to empty the chamber. As such, the time to empty for the dry well should be considered in the overall draw down time of the storm system.

Should you require multiple dry wells across the site, the wells should be spaced at least 120 feet, center to center, to avoid cross influence. The wells should be located at least 10 feet horizontally from any habitable structure or property line.

The actual flow capacity of the dry well could be less or more than the estimated value. As such, provisions should be made to accommodate excess flow quantities in the event the dry well does not infiltrate the anticipated amount. The design also assumes that sediments will be removed from the inflowing water through an upper chamber or other device. Sediments that are allowed to enter the dry well will tend to degrade the flow capacity by plugging up the infiltration surfaces.

In general, the dry well shaft is anticipated to be adequately stable under temporary construction conditions for uncased drilling. However, layers or lenses of granular materials are present and may be prone to sloughing and caving. In the event of caving, casing will be required to install the well. Workers should not enter the shaft unless the excavation is laid back or shored in accordance with OSHA requirements. The placement and compaction of backfill materials, including the gravel and slurry, should be observed by the project geotechnical consultant.

LIMITATIONS

This report is based on the geotechnical data as described herein. The materials encountered in our boring excavations and utilized in our laboratory testing for this investigation are believed representative of the project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observations by a geotechnical consultant during the construction phase of the storm water infiltration systems are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty.

This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** to assist the project consultants in the design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

This report is subject to review by the controlling governmental agency.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

David E. Albus
Principal Engineer
GE 2455

Enclosures: Plate 1- Geotechnical Map
Plate 2- Dry Well Diagram
Appendix A - Exploratory Logs
Appendix B – Laboratory Testing
Appendix C - Percolation Testing and Analyses

REFERENCES

Publications and Reports

CDMG, "Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California," Seismic Hazard Zone Report 047, 2000.

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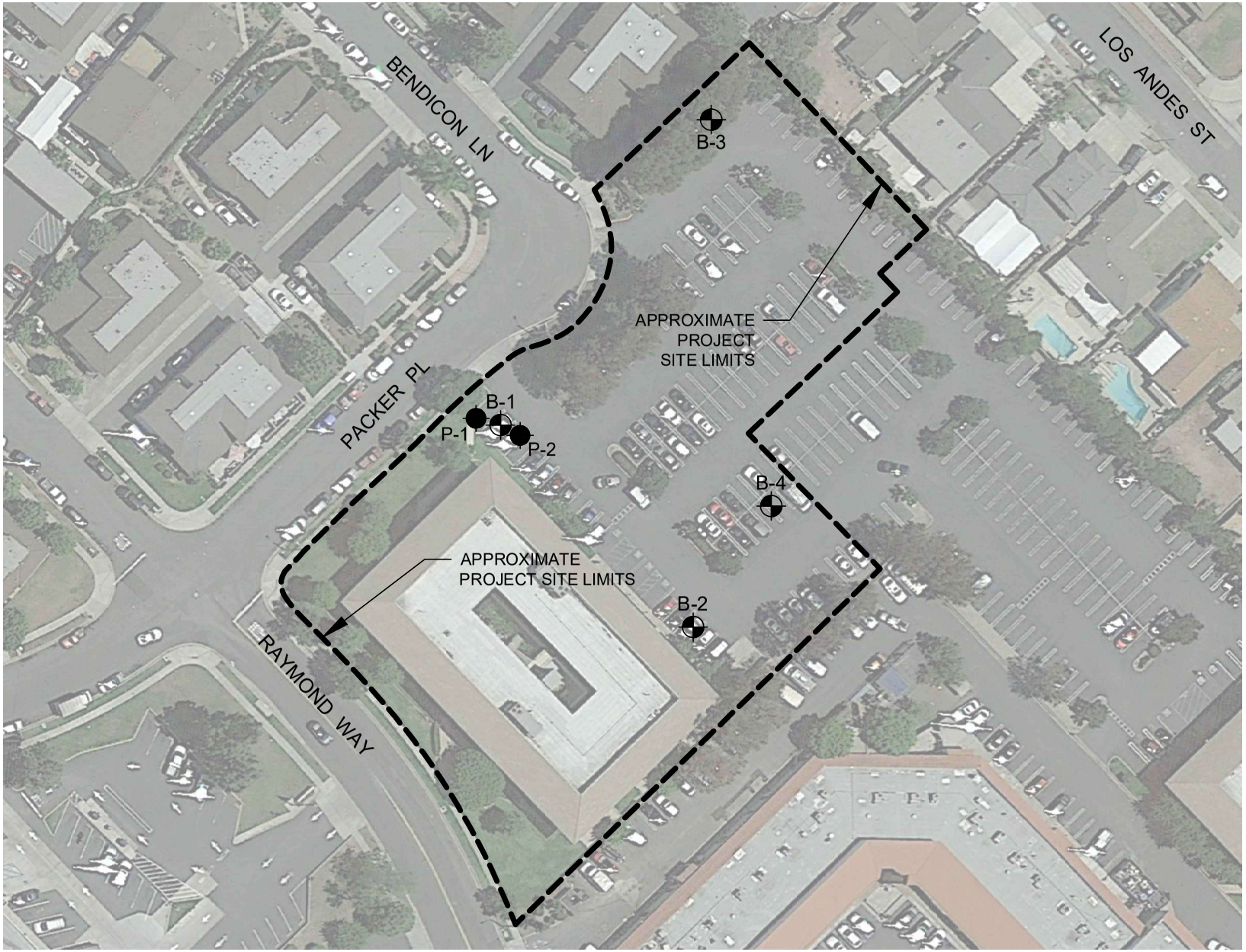
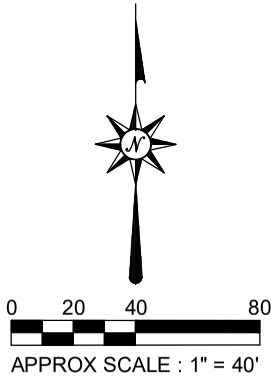




EXPLANATION

(Locations Approximate)

- Exploratory Boring
- Percolation Test Boring

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

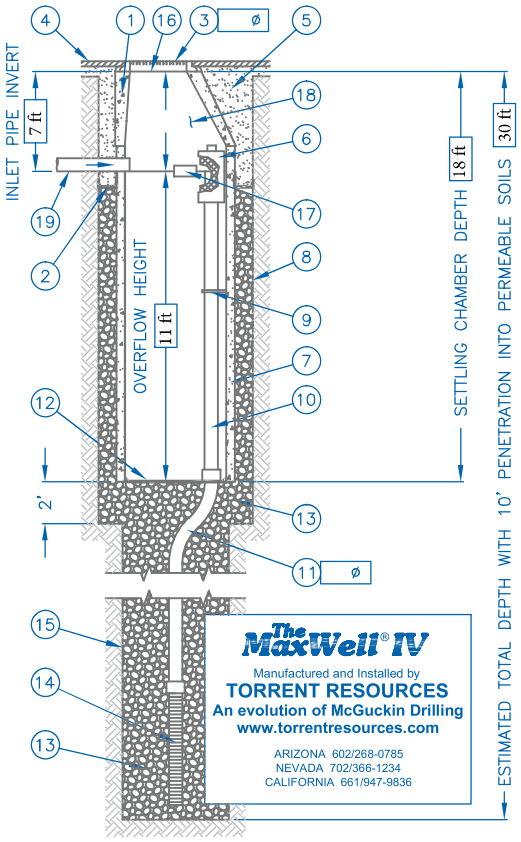
GEOTECHNICAL MAP

Job No.: 2841.00	Date: 04/20/20	Plate: 1

MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. **Manhole Cone** – Modified Flat Bottom.
2. **Moisture Membrane** – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. **Bolted Ring & Grate** – Diameter as shown. Clean cast iron with wording **"Storm Water Only"** in raised letters. **Bolted in 2 locations** and secured to cone with mortar. Rim elevation ±0.02' of plans.
4. **Graded Basin or Paving** (by Others).
5. **Compacted Base Material** – 1-Sack Slurry except in landscaped installtions with no pipe connections.
6. **PureFlo® Debris Shield** – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. **Fusion bonded epoxy coated.**
7. **Pre-cast Liner** – 4000 PSI concrete 48" ID. X 54" OD. **Center in hole** and align sections **to maximize bearing surface.**
8. **Min. 6' Ø Drilled Shaft.**
9. **Support Bracket** – Formed 12 Ga. steel. **Fusion bonded epoxy coated.**
10. **Overflow Pipe** – Sch. 40 PVC mated to drainage pipe at base seal.
11. **Drainage Pipe** – ADS highway grade with TRI-A coupler. **Suspend pipe** during backfill operations to prevent buckling or breakage. Diameter as noted.
12. **Base Seal** – Geotextile or concrete slurry.
13. **Rock** – Washed, sized between 3/8" and 1-1/2" to **best complement soil conditions.**
14. **FloFast® Drainage Screen** – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. **Min. 4' Ø Shaft** – Drilled to **maintain permeability** of drainage soils.
16. **Fabric Seal** – U.V. resistant geotextile – **to be removed by customer** at project completion.
17. **Absorbent** – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. **Freeboard Depth** Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. **Optional Inlet Pipe** (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.



AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 363
CA Lic. 528080, C-42, HAZ.
NV Lic. 0035350 A - NM Lic. 90504 GF04

U.S. Patent No. 4,923,330 - ™ Trademark 1974, 1990, 2004

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of MaxWell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" Ø from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to **"Design Suggestions For Retention And Drainage Systems"** or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized **"crowd"** equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet.** Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet .** For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

"Ø DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

"Ø BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" Ø or 30" Ø manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

"Ø INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

TORRENT RESOURCES INCORPORATED
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TORRENT RESOURCES (CA) INCORPORATED
phone 661~947~9836
CA Lic. 886759 A, C-42
www.TorrentResources.com
An evolution of McGuckin Drilling

The watermark for drainage solutions.®

Plate 2

TORRENT RESOURCES ®

APPENDIX A

EXPLORATORY LOGS

EXPLORATION LOG

Project:		Location:
Address:		Elevation:
Job Number:	Client:	Date:
Drill Method:	Driving Weight:	Logged By:

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		EXPLANATION							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).							
		Double triangle in core column represents SPT sampler.							
10		**Vertical Lines** in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column respresents large bag sample.							
		Other Laboratory Tests:							
15		Max = Maximum Dry Density/Optimum Moisture Content							
		EI = Expansion Index							
		SO4 = Soluble Sulfate Content							
		DSR = Direct Shear, Remolded							
		DS = Direct Shear, Undisturbed							
		SA = Sieve Analysis (1" through #200 sieve)							
		Hydro = Particle Size Analysis (SA with Hydrometer)							
20		200 = Percent Passing #200 Sieve							
		Consol = Consolidation							
		SE = Sand Equivalent							
		Rval = R-Value							
		ATT = Atterberg Limits							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							SO4 DS pH Resist Ch
		ARTIFICIAL FILL (Af) Silty Sand (SM): Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros		80/ 10"			11.1	116	
5		@ 4 ft, light grayincreased clay content		76/ 8"			10.2	111.2	Consol
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Sandy Clay (CL): Gray, moist, hard, fine grained sand		72/ 11"			12.8	118.2	
		Clayey Sand (SC): Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche							
10		Clayey Sand/ Sandy Clay (SC/CL): yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings		73/ 8"			11		
		Clayey Sand (SC): Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings							
15		@ 15 ft, reddish brown, moist		29					SA Hydro
		Clayey Sand : Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay							
20				36					SA Hydro

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Plate A-2

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		@ 25 ft, caliche		43	▼ ▲				
30				45	▼ ▲				SA Hydro
35		@ 35 ft, , moist to very moist		56	▼ ▲				
		Silty Clay/ Clayey Silt (CL/ ML-CL): Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide							
40			▽	31	▼ ▲				
45				37	▼ ▲				

Albus-Keefe & Associates, Inc.

Plate A-3

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
				35					
		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel wth Silt and Sand (CAB): Dark brown							
		ARTIFICIAL FILL (Af) Silty Sand (SM): Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▼		12.8	109.1	
				79	▼		11.2	111.3	
5		**Very Old Alluvium fan Deposits (Qovf)** Clay (CL): Reddish brown, slightly moist, hard							
		Clayey Sand/ Sandy Clay (SC/CL): Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▼		6.4	124.4	
		Silty Clay with Sand (CL-ML): Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10				81	▼		13.5	105.6	
		Sandy Silt (ML): Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand							
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand/ Sandy Clay (SC/CL): mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick		72/ 8"			11.2	119.6	
5				76/ 11"			7	113	
		Silty Sand (SM): Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments		57			9.9	120.1	
		@ 6 ft, dense							
		Clayey Sand (SC): Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments							
10				75/ 8"			12.1	113.6	
		Sand (SP): Light brown, moist, dense, trace clay, clay nodules							
15				31					
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

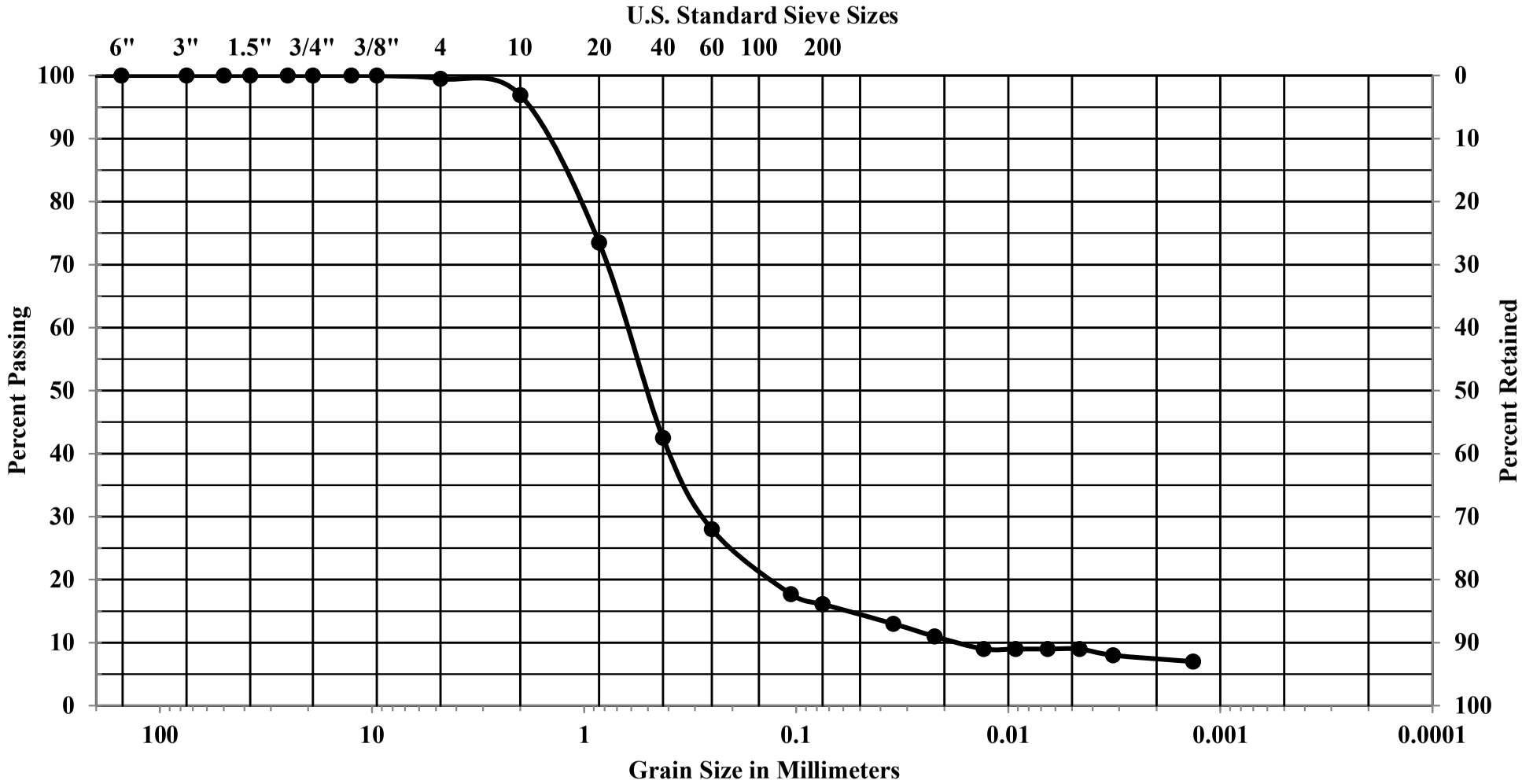
Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand with Gravel (SC): Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		Silty Sand (SM): Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		Silty Sand with Clay (SM): Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish browndecreased in clay content		36			13.8	117	
15		@ 15 ft, Light brownno gravel		20					
20				20					
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

APPENDIX B

LABORATORY TEST PROGRAM

GRAIN SIZE DISTRIBUTION

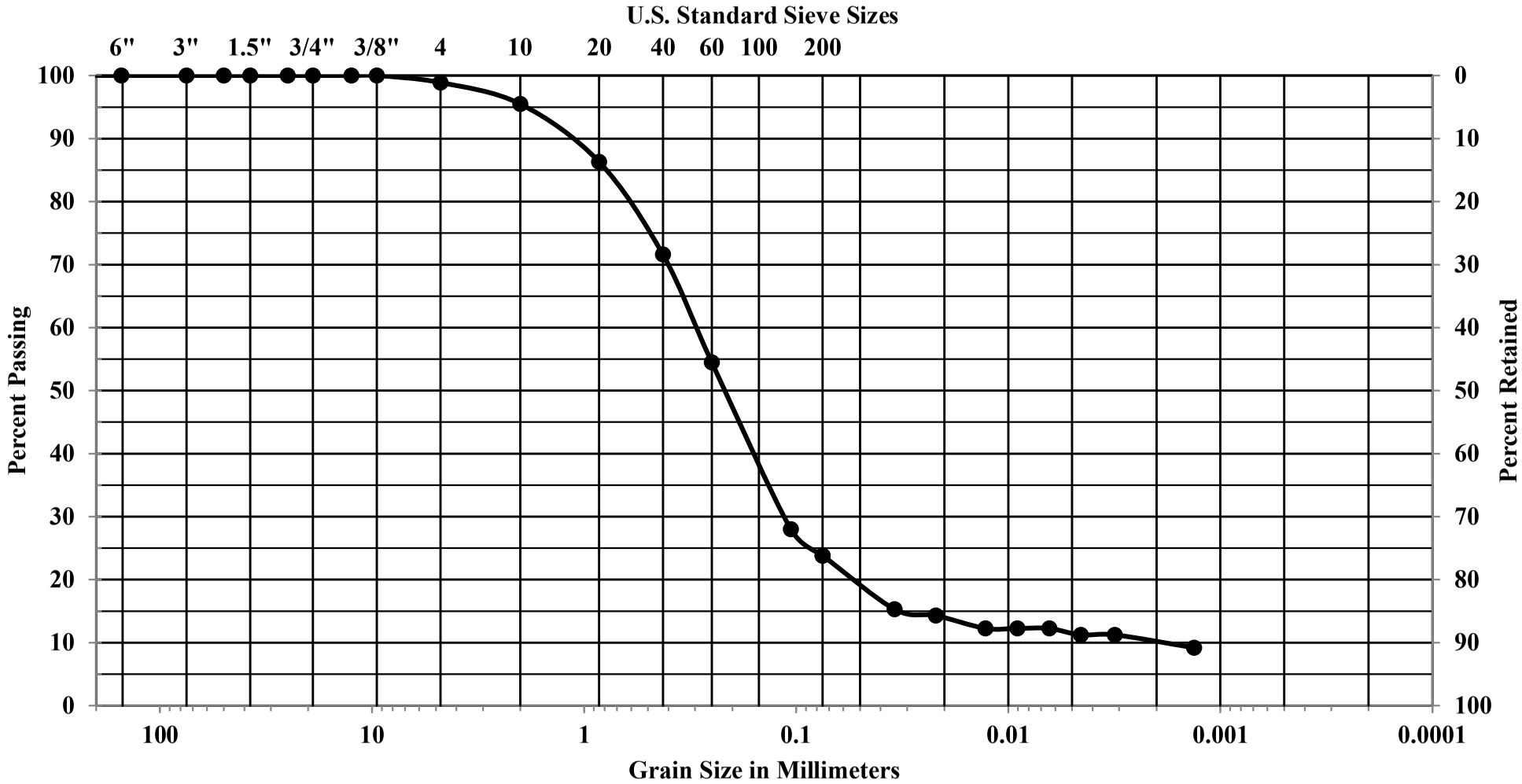
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	15	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

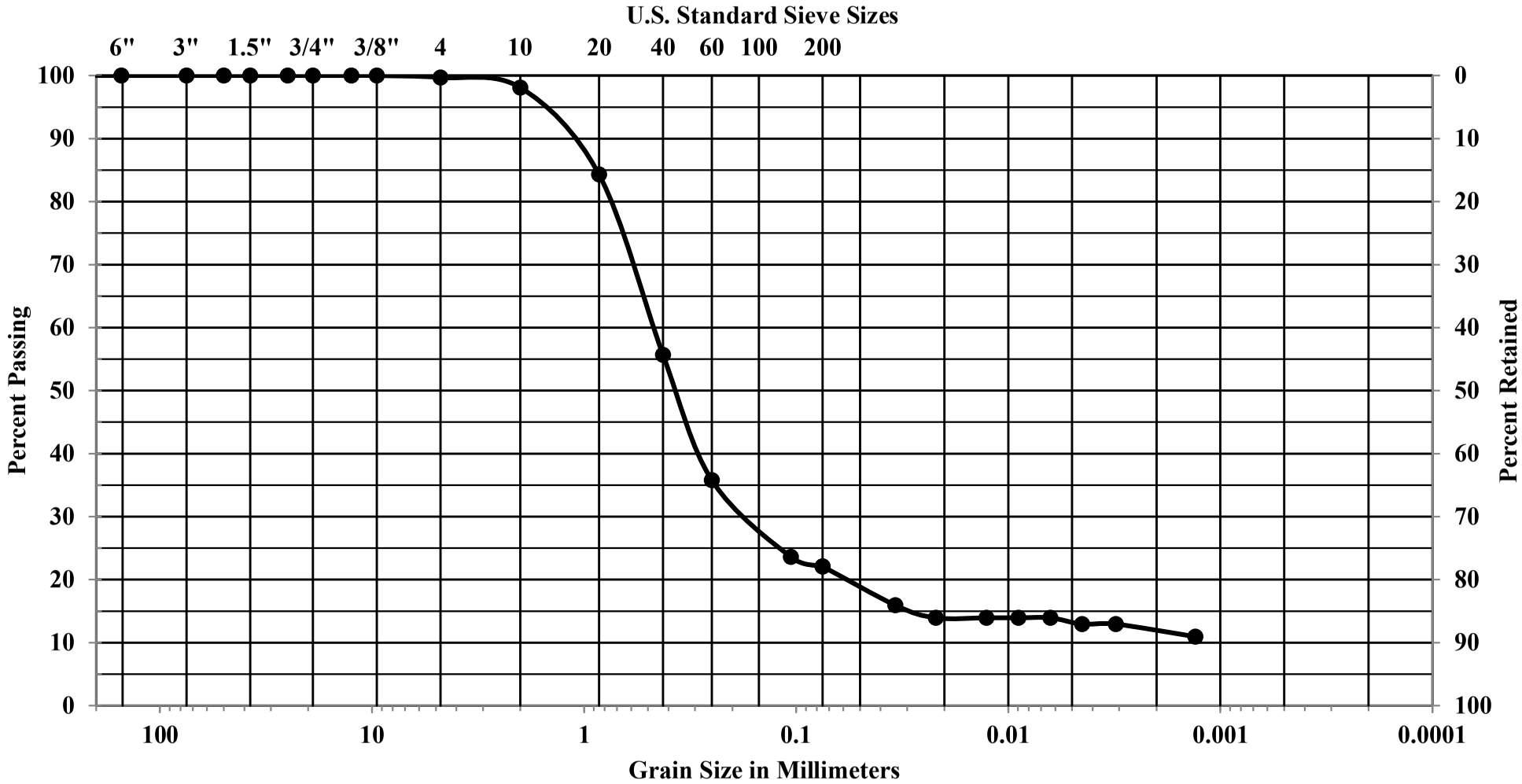
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	20	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	30	Clayey Sand (SC)

APPENDIX C

PERCOLATION TESTING AND ANALYSES

Field Percolation Testing - Constant Head

Client: National Core

Job. No.: 2841.00

Date Tested: 10/2/2019

Test by: SD

Location: P-1

Top of Casing to Bottom of Well (ft): 20.3

Elev. of Ground Surface (ft):

Diam. of Test Hole (in): 8

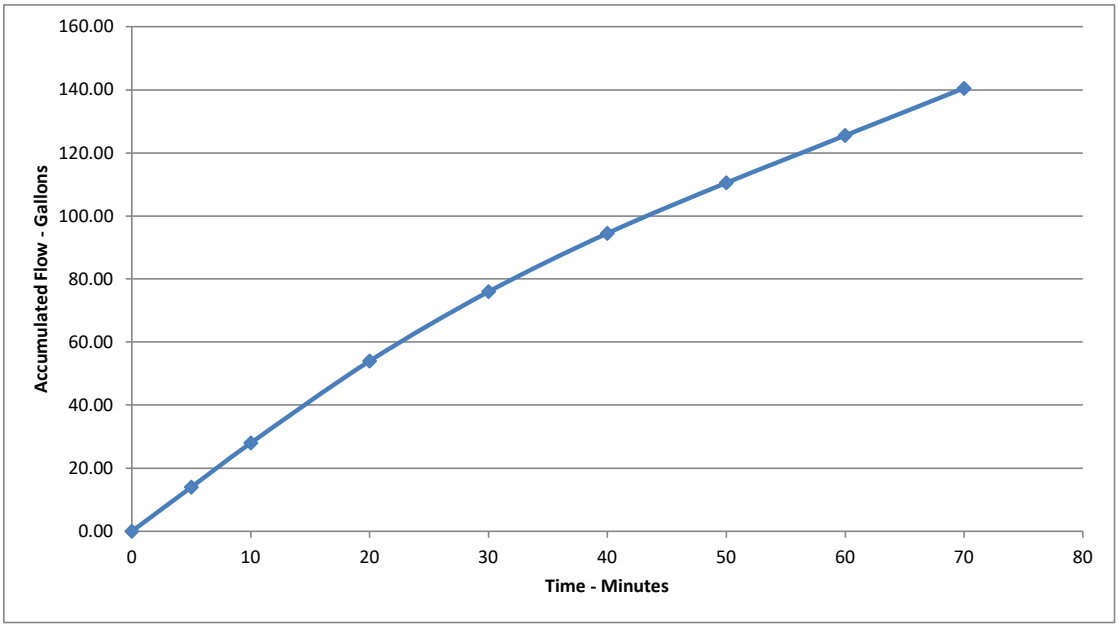
Diam. of Casing (in): 3

Ht. to Top of Casing (ft): 0.3

Water Tempurature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H_2O used (gal)
0	14:40	15.3		0.00
5	14:45	15.3	2.80	14.00
10	14:50	15.3	2.40	28.00
20	15:00	15.3	2.00	54.00
30	15:10	15.3	1.70	76.00
40	15:20	15.3	1.50	94.50
50	15:30	15.3	1.50	110.50
60	15:40	15.3	1.50	125.50
70	15:50	15.3	1.50	140.50



Field Percolation Testing - Constant Head

Client: National Core

Job. No.: 2841.00

Date Tested: 10/2/2019

Test by: SD

Location: P-2

Top of Casing to Bottom of Well (ft): 25.4

Elev. of Ground Surface (ft):

Diam. of Test Hole (in): 8

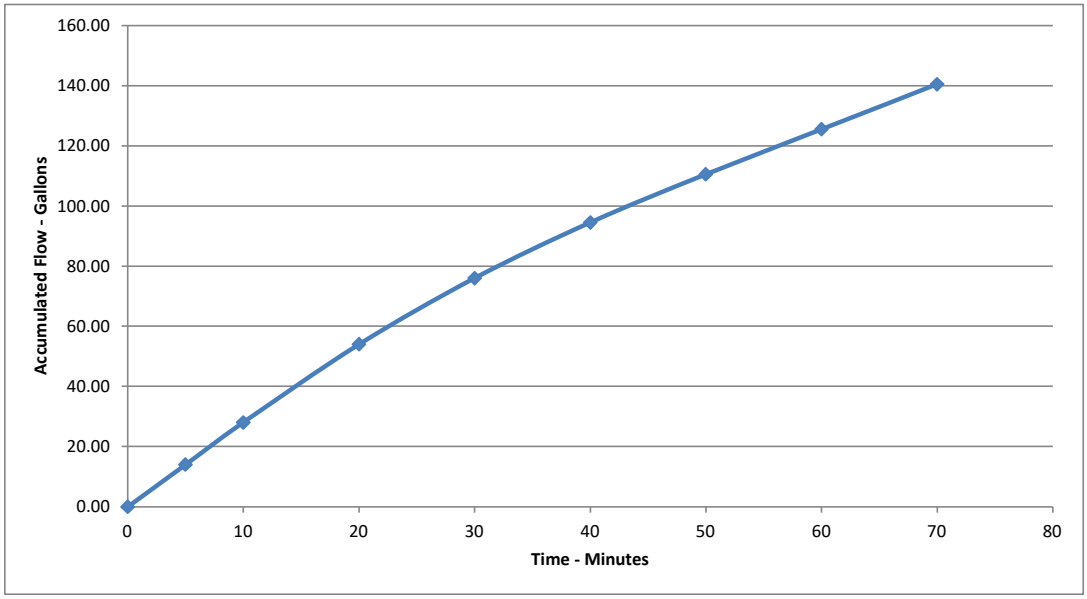
Diam. of Casing (in): 3

Ht. to Top of Casing (ft): 0.4

Water Tempurature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H_2O used (gal)
0	16:00	20.4		0.00
5	16:05	20.4	2.40	12.00
10	16:10	20.4	1.80	24.00
20	16:20	20.4	1.40	45.00
30	16:30	20.4	1.10	61.00
40	16:40	20.4	0.90	73.50
50	16:50	20.4	0.75	83.50
60	17:00	20.4	0.75	91.75
70	17:10	20.4	0.75	99.25
80	17:20	20.4	0.75	106.75



INFILTRATION WELL DESIGN

Constant Head
USBR 7300-89 Method
J.N.: 2841.00
Client: National Core
Well No.: P-1

Low Water Table	Condition 1	
High Water Table & Water Below Bottom of Well	Condition 2	
High water Table with Water Above the Well Bottom	Condition 3	
		Units:
Enter Condition (1, 2 or 3):	1	
Ground Surface to Bottom of Well (**h_1**):	20	feet
Depth to Water (**h_2**):	15	feet
Height of Water in the Well (h_1-h_2=**h**):	5	feet
Radius of Well (**r**):	4.0	Inches
Minimum Volume Required:	1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (**q**):	1.5	Gal/min.
Temperature (**T**):	20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (**V**):	0.9889	ft^3/min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (**T_u**):		Ignore T_u
Factor of Safety:	1	
Coefficient of Permeability @ 20° C (**k_{20}**):	3.15E-03	ft/min.
Design k_{20}:	2.27	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condtion III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

INFILTRATION WELL DESIGN

Constant Head
USBR 7300-89 Method
J.N.: 2841.00
Client: National Core
Well No.: P-2

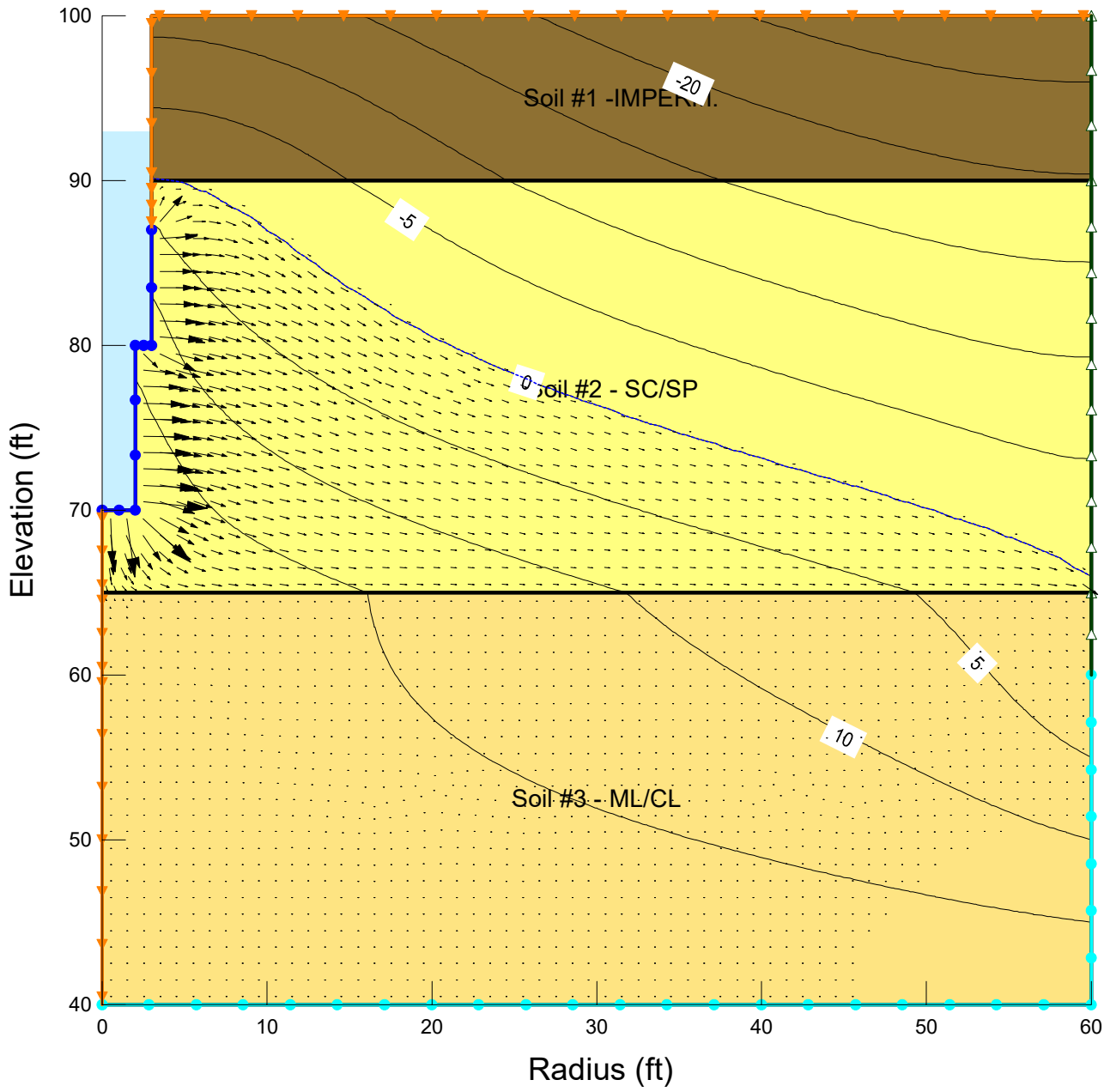
Low Water Table	Condition 1	
High Water Table & Water Below Bottom of Well	Condition 2	
High water Table with Water Above the Well Bottom	Condition 3	
		Units:
Enter Condition (1, 2 or 3):	1	
Ground Surface to Bottom of Well (**h_1**):	25	feet
Depth to Water (**h_2**):	20	feet
Height of Water in the Well (h_1-h_2=**h**):	5	feet
Radius of Well (**r**):	4.0	Inches
Minimum Volume Required:	1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (**q**):	0.75	Gal/min.
Temperature (**T**):	20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (**V**):	0.9889	ft^3/min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (**T_u**):		Ignore T_u
Factor of Safety:	1	
Coefficient of Permeability @ 20° C (**k_{20}**):	1.57E-03	ft/min.
Design k_{20}:	1.13	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condtion III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

STEADY STATE CASE



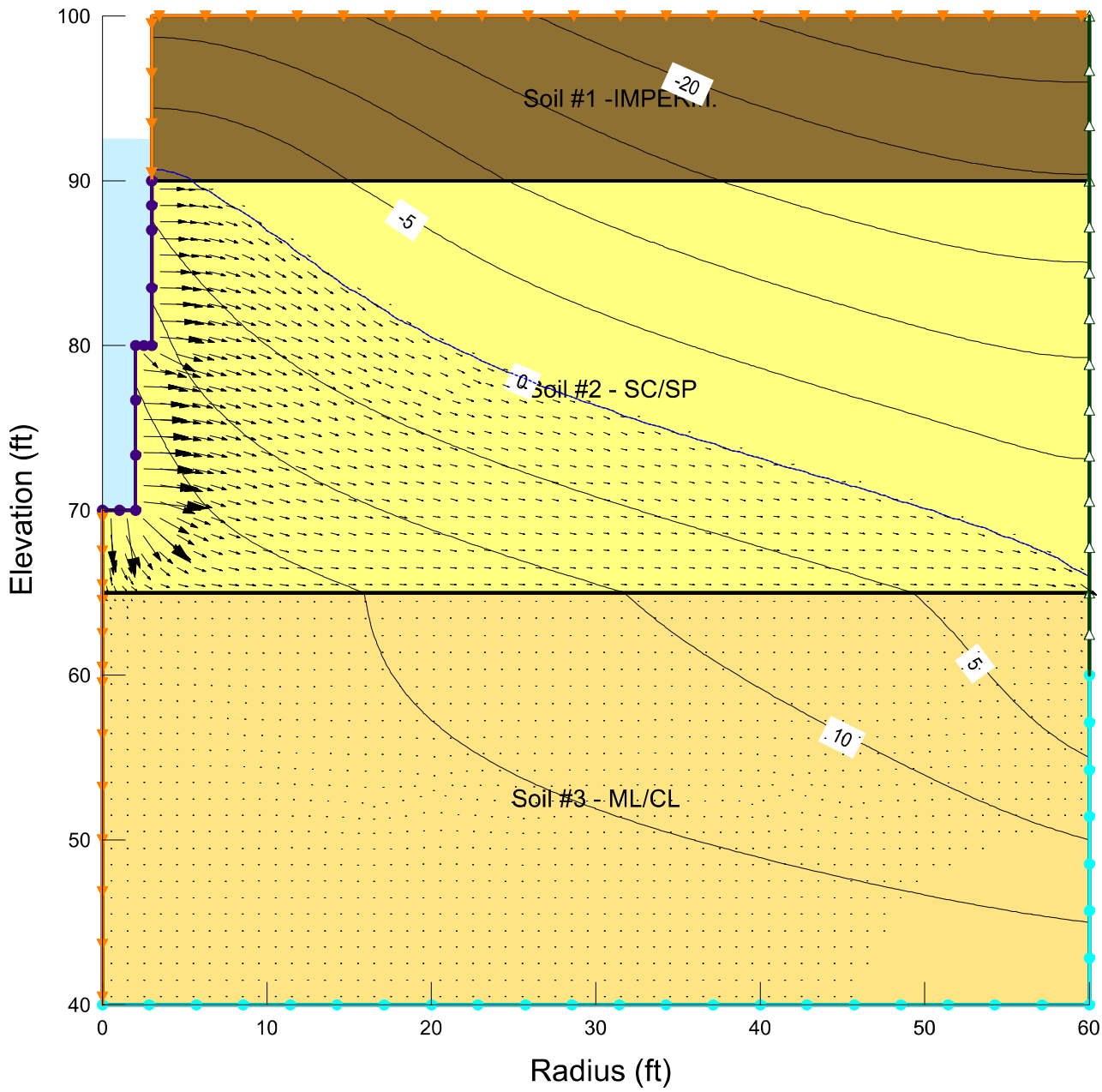
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Fixed Total Head = **93 ft.**
- Fixed Total Head = 60 ft.

TRANSIENT CASE- TIME=0.26 HR



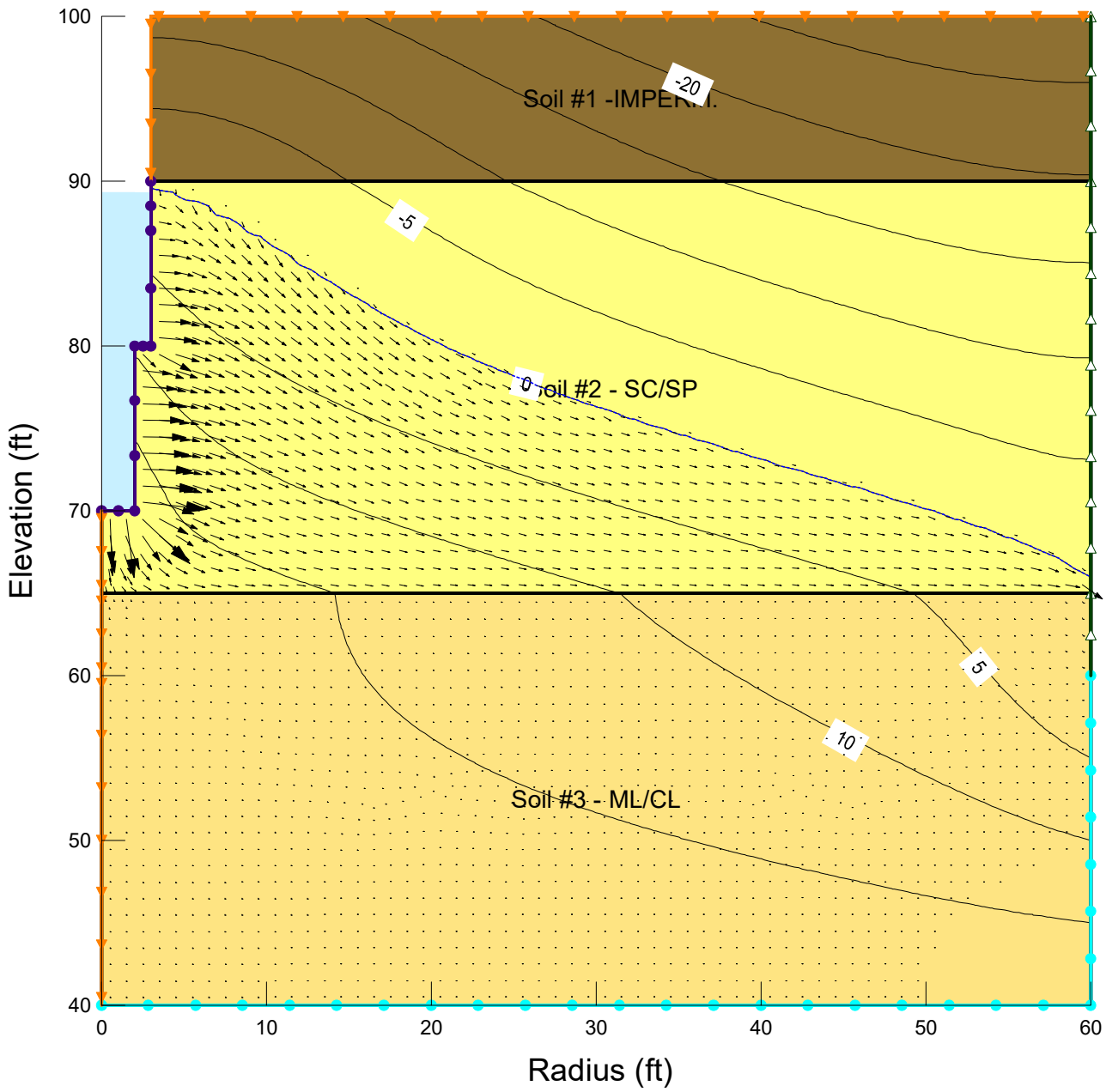
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head =**60 ft**

TRANSIENT CASE T=1.7 HR.



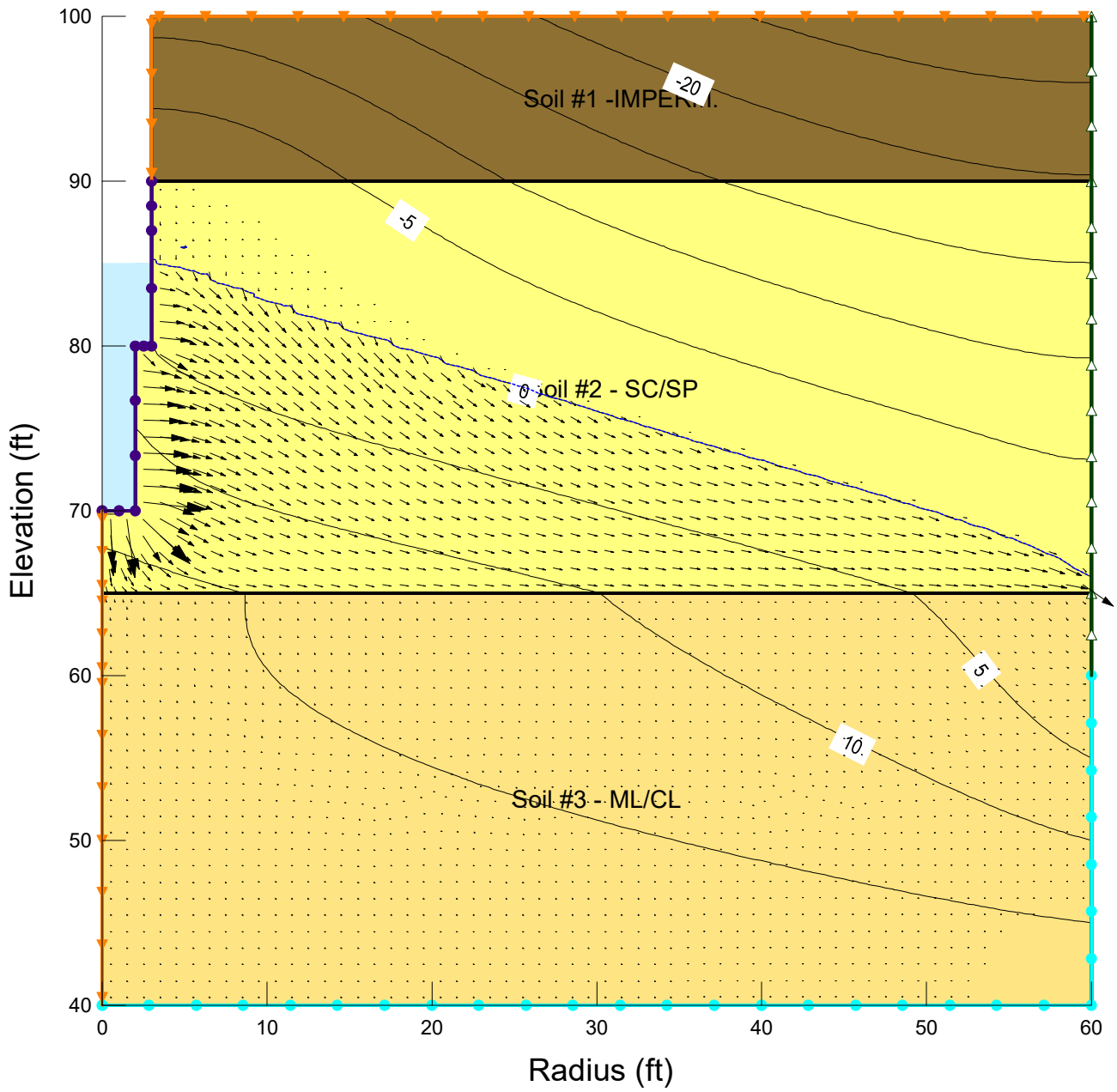
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=4.8 HR.



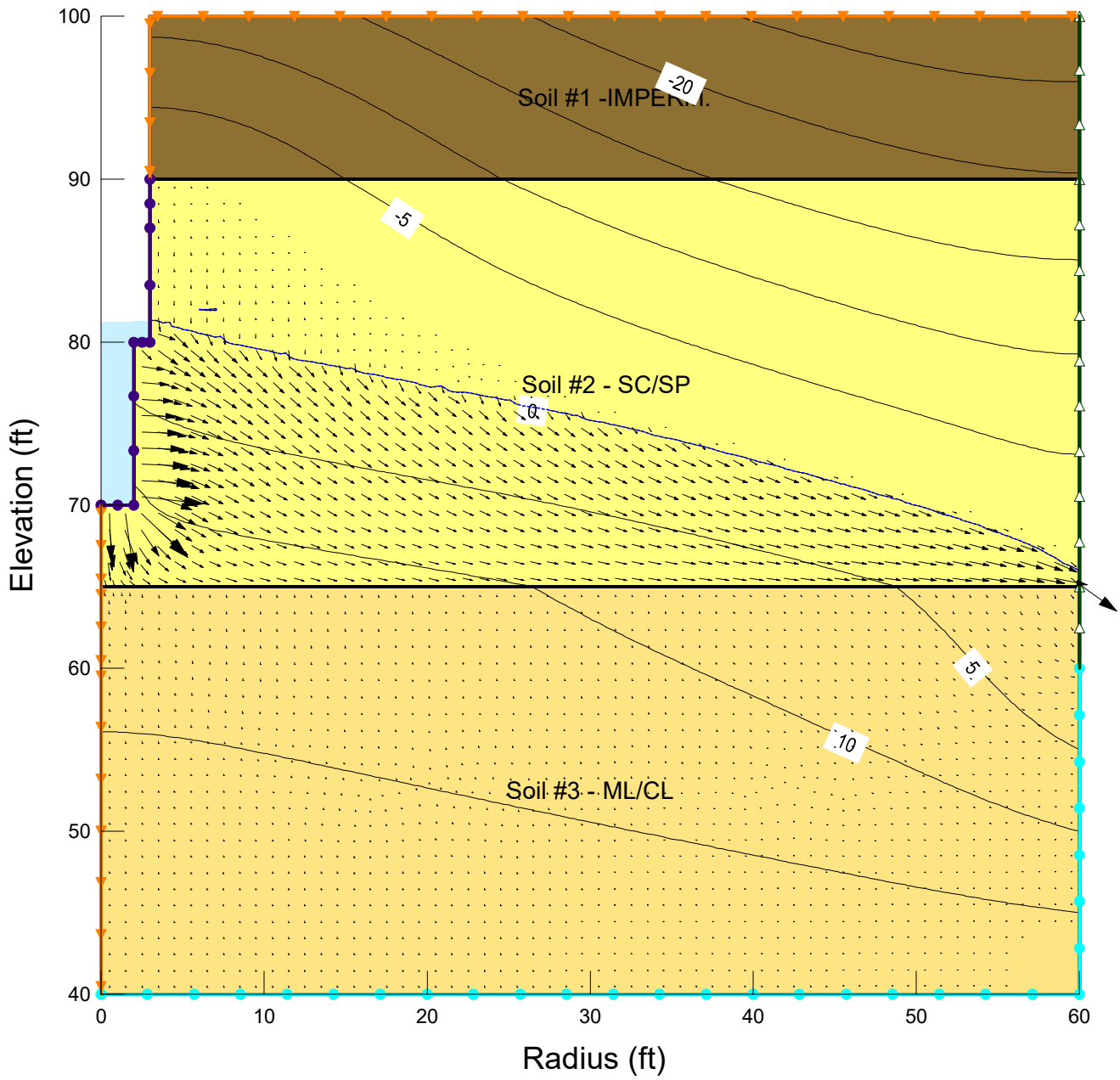
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=9.4 HR.



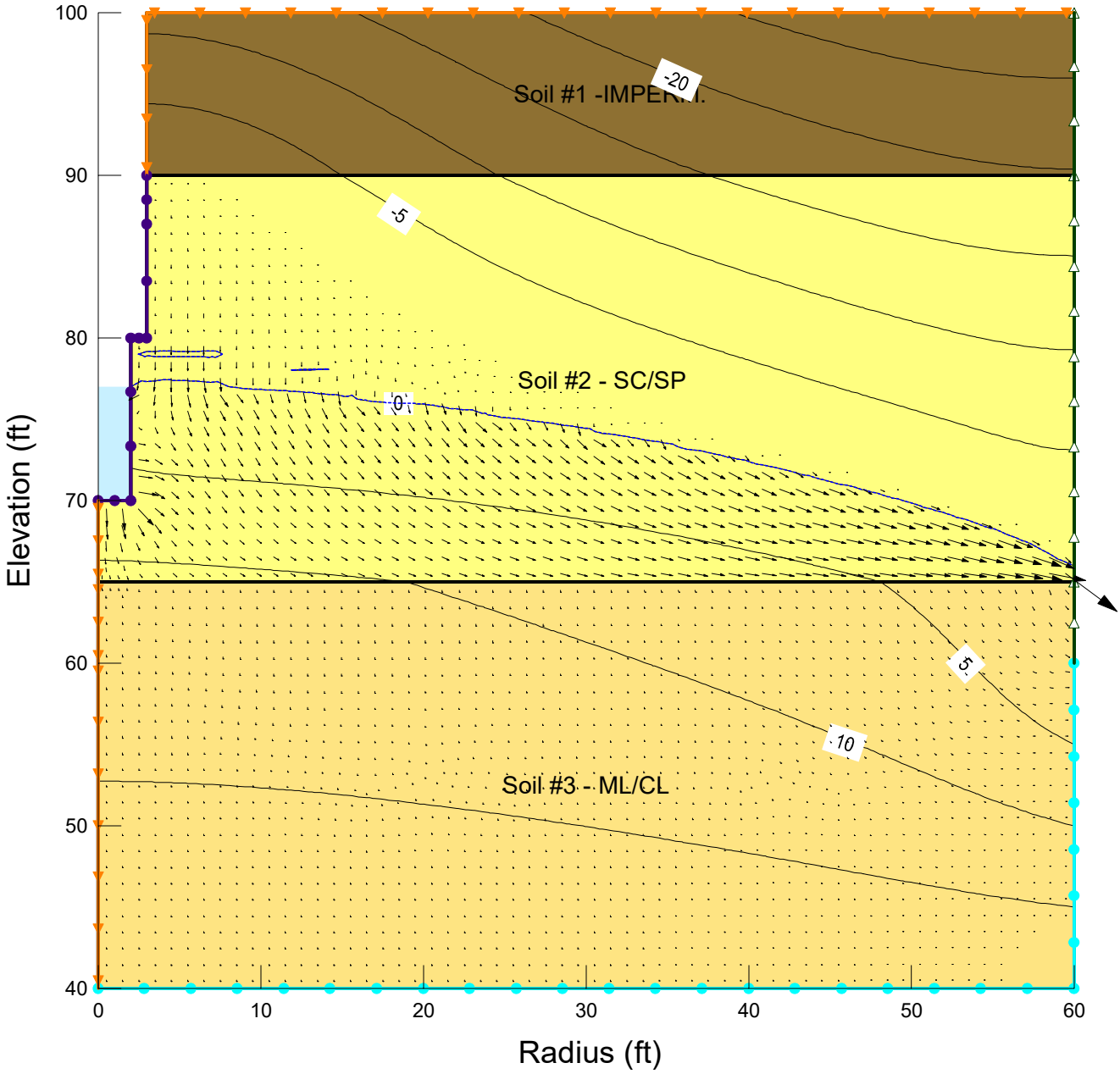
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=13.0 HR.



Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

APPENDIX D – PHASE I ENVIRONMENTAL SITE ASSESSMENT

CONVERSE CONSULTANTS

Phase I Environmental Site Assessment Report

23591 El Toro Road and 24551 Raymond Way
Lake Forest, California

Converse Project No. 19-42-162-01
July 5, 2019 revised April 21, 2020

Prepared For:

National CORE
lcontreras@nationalcore.org

Prepared By:

Converse Consultants
717 South Myrtle Avenue
Monrovia, California 91016

Converse Consultants
Geotechnical Engineering, Environmental and Groundwater Science, Inspection and Testing Services

July 5, 2019 revised April 21, 2020

Ms. Lorna Contreras
National CORE
lcontreras@nationalcore.org

Subject: **PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT**
23591 El Toro Road and 24551 Raymond Way
Lake Forest, California
Converse Project No. 19-42-162-01

Ms. Contreras:

Converse Consultants (Converse) is pleased to submit the attached report that summarizes the activities and the results of a Phase I Environmental Site Assessment (Phase I ESA) that was conducted at the referenced property.

A summary of the assessment is presented in the Executive Summary, as well as in Sections 8.0, 9.0, and 10.0 of the report. Recognized Environmental Conditions were identified during this assessment. Further assessment is recommended.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Spencer Wagner at (562) 505-5219 or Norman S. Eke at (626) 930-1260 .

CONVERSE CONSULTANTS

Spencer Wagner
Senior Staff Environmental Scientist

Norman S. Eke
Senior Vice President/Managing Officer

717 South Myrtle Avenue, Monrovia, California 91016
Telephone: (562) 505-5219 ♦ Facsimile: (626) 930-1212 ♦ www.converseconsultants.com

Executive Summary

The following is an Executive Summary of the Phase I Environmental Site Assessment (Phase I ESA) that was conducted by Converse Consultants (Converse). Please refer to the appropriate sections of the report for a complete discussion of these issues. In the event of a conflict between this Executive Summary and the report, or an omission in the Executive Summary, the report shall prevail.

This report presents the results of the Converse Phase I ESA performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County County, California, referred to as the Property in this report. Converse was retained by National CORE to conduct this Phase I ESA. Our study has been conducted in order to identify, to the extent practical within the scope of an ESA, Recognized Environmental Conditions (RECs) in connection with the Property.

Converse has compiled and reviewed information that was obtained from interviews, document research, and on-site and area reconnaissance to identify potential environmental conditions at the Property, in conformance with the ASTM Standard E: 1527-13 Environmental Site Assessment Standard Practice (ASTM Standard: E1527- 13). This Phase I ESA was conducted during the period of June 7, 2019 to July 5, 2019 revised April 21, 2020.

Recognized Environmental Conditions were identified during this assessment.

Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
3.0	USER PROVIDED INFORMATION & RESPONSIBILITIES	✔					
5.2.5	Summary of Historical Property Use	✔					The historical agricultural use on portion of the Property is not considered a REC as the Property has since been redeveloped.

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Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.2.6	Summary of Past Uses of Adjoining Properties		✔				The former dry cleaning operations on the southern/ southwestern adjoining property is considered a REC due to the proximity to the Property, and the ongoing open investigation at the site. The former dry cleaning operations at the southeastern adjoining property is not considered a REC due to the distance from the Property and the cross-gradient location of the site from the Property with respect to the groundwater gradient.
5.2.7	Summary of Past Uses of the Surrounding Area	✔					
5.3.1	Property Listings	✔					

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Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.3.2	Adjoining Properties		✔				The open investigation/ remediation of PCE contamination on the southern/ southwestern adjoining property is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property. The ongoing PCE investigation on the southeastern adjoining shopping center does not rise to the level of a REC due to the distance from the Property and the cross-gradient location of the Property with respect to the

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Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
							direction of groundwater flow; however, the site is considered an environmental concern.
5.3.3	Other Off-site Locations of Concern	✔					

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Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.4	Additional Environmental Record Sources		✔				The open investigation/ remediation of PCE contamination on the southern/ southwestern adjoining property (24601 Raymond Way) is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property. The ongoing PCE investigation on the southeastern adjoining shopping center (23512-23532 El Toro Road) does not rise to the level of a REC due to the distance from the Property and the cross-gradient

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Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
							location of the Property with respect to the direction of groundwater flow; however, the site is considered an environmental concern.
6.3	Interior Observations of Property	✔					
6.4	Exterior Observations of Property	✔					
6.5	Current Uses of Adjoining Properties	✔					
6.6	Current Uses of Surrounding Area	✔					
7.0	INTERVIEWS	✔					

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TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Purpose and Scope of Services 1

1.2 Non-Scope Considerations 2

1.3 Significant Assumptions 2

1.4 Limitations and Exceptions 2

1.5 Special Terms and Conditions 2

1.6 Reliance 3

2.0 PROPERTY DESCRIPTION 4

3.0 USER PROVIDED INFORMATION & RESPONSIBILITIES 6

3.1 Requested Documents and Information 6

3.2 User Provided Information 6

3.2.1 Environmental Cleanup Liens 7

3.2.2 Activity and Use Limitations 7

3.2.3 Specialized Knowledge or Experience 7

3.2.4 Reason for Significantly Lower Purchase Price 8

3.2.5 Commonly Known or Reasonably Ascertainable Information 8

3.2.6 Obviousness of Contamination 8

3.3 Continuing Obligations 8

4.0 OWNER PROVIDED INFORMATION 9

5.0 RECORDS REVIEW 10

5.1 Physical Setting 10

5.2 Historical Review 10

5.2.1 Aerial Photograph and Map Review 10

5.2.2 Building Permit Review 12

5.2.3 City Directories 13

5.2.4 Data Failure 13

5.2.5 Summary of Historical Property Use 13

5.2.6 Summary of Past Uses of Adjoining Properties 13

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5.2.7 Summary of Past Uses of the Surrounding Area 14
5.3 Results of Environmental Records Sources Review 14
5.3.1 Property Listings 14
5.3.2 Adjoining Properties 16
5.3.3 Other Off-site Locations of Concern 26
5.3.4 Orphan Listings 27
5.4 Additional Environmental Record Sources 27
6.0 PROPERTY RECONNAISSANCE 32
6.1 Methodology 32
6.2 Limiting Conditions 32
6.3 Interior Observations of Property 32
6.4 Exterior Observations of Property 34
6.5 Current Uses of Adjoining Properties 36
6.6 Current Uses of Surrounding Area 37
7.0 INTERVIEWS 38
8.0 FINDINGS 39
9.0 OPINION 41
10.0 CONCLUSIONS AND RECOMMENDATIONS 42
11.0 DEVIATIONS AND LIMITATIONS 43
12.0 ADDITIONAL NON-SCOPE SERVICES 44
13.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL 45
14.0 LIST OF PREPARERS 46
15.0 REFERENCES 48

TABLE OF APPENDICES

Appendix A - Application for Authorization to Use
Appendix B - Property Plans
Appendix C - Pertinent Property Photographs
Appendix D - Historical Information: Aerials, Maps & City Directory
Appendix E - Regulatory Database Report

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Appendix G - Dry Cleaner Reports

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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents the results of the Converse Consultants (Converse) Phase I Environmental Site Assessment (ESA) performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County County, California, referred to as the Property in this report. Converse was retained by National CORE to conduct this Phase I ESA. Our study has been conducted in order to identify, to the extent practical, Recognized Environmental Conditions (RECs) in connection with the Property. The term Recognized Environmental Conditions is defined in Section 1.1.1 of the American Society of Testing and Materials (ASTM) Standard Practice as the presence or likely presence of any hazardous substances or petroleum products in, at or on a property due to any release to the environment; under conditions indicative of a release to the environment; under conditions that pose a material threat of a future release to the environment.

This Phase I ESA was completed in accordance with our proposal dated June 7, 2019. Our work consisted of the following and was completed in general conformance with the scope and limitations of the ASTM Practice E1527-13 and complies with standards and practices set forth in 40 Code of Federal Regulations (CFR) Part 312 for AAI.

- Interviews with the Property owner representatives
- Property and vicinity reconnaissance
- Review of regulatory agency records
- Description of physical setting
- Historical review
- Interviews with public agency personnel
- Preparation of this report

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1.2 Non-Scope Considerations

There are a number of non-scope issues which are sometimes assessed concurrently with a Phase I ESA. Unless specifically agreed in the contract proposal documents, these non-scope considerations are not included as part of the Phase I ESA. Examples of non-scope issues include:

- Asbestos-containing Building Materials
- Biological Agents
- Cultural & Historic Resources
- Diffuse Anthropogenic Pollution
- Ecological Resources
- Endangered Species
- Health & Safety
- Indoor Air Quality
- Industrial Hygiene
- Lead-base Paints
- Lead in Drinking Water
- Mold
- Non-liquid Polychlorinated Biphenyls
- Radon
- Regulatory Compliance
- Wetlands

No Non-Scope issues were addressed in this report.

1.3 Significant Assumptions

No assumptions were made for this assessment that need to be noted as significant.

1.4 Limitations and Exceptions

The following limitations and exceptions were encountered during the course of this assessment:

- An information request pertaining to the Property was submitted to the Orange County Fire Authority, however, a response was not received during the timeframe of this assessment.

1.5 Special Terms and Conditions

There were no special terms or conditions.

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1.6 Reliance

This report is for the sole benefit and exclusive use of National CORE in accordance with the terms and conditions attached to our proposal under which these services have been provided. Its preparation has been in accordance with generally accepted environmental practices. No other warranty, either express or implied, is made. The Scope of Services associated with the report was designed solely in accordance with the objectives, schedule, budget, and risk-management preferences of National CORE.

This report should not be regarded as a guarantee that no further contamination, beyond that which could be detected within the scope of this assessment, is present at the Property. Converse makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others. It is possible that information exists beyond the scope of this assessment. It is not possible to absolutely confirm that no hazardous materials and/or substances exist at the Property. If none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence of such materials, but merely the results of the evaluation of the property at the time of the assessment. Also, events may occur after the Property visit, which may result in contamination of the Property. Additional information, which was not found or available to Converse at the time of report preparation, may result in a modification of the conclusions and recommendations presented.

Any reliance on this report by Third Parties shall be at the Third Party's sole risk. Should National CORE wish to identify any additional relying parties not previously identified, a completed Application of Authorization to Use (see Appendix A of this report) must be submitted to Converse Consultants.

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2.0 PROPERTY DESCRIPTION

Item	Comment
Current Use(s) of the Property	The Study Property is developed with two (2) commercial office buildings. A Study Property location map and a field generated Property plan are provided in Appendix B. Pertinent Property photographs are provided in Appendix C.
Location and Legal Description	The Study Property is located at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California. It is located north of the intersection of El Toro Road and Raymond Way and is located approximately 0.56-miles northeast of Interstate 5 (San Diego Freeway). The Study Property consists of one (1) single parcel (APN 617-441-02) totalling 3.76-acres. The parcel is fully developed with two 2-story office buildings, surface parking lots and landscaped areas. The proposed Project will require a Tentative Parcel Map to divide the parcel into two. Parcel 1 will be approximately 1.96 acres (85,590 square feet) on the western and northern portion of the site fronting Raymond Way and Packer Place. Parcel 2 will be approximately 1.798 acres (78,320 square feet) rectangular parcel on the southeastern half of the site, fronting El Toro Road.
Zoning Information	According to the City of Lake Forest, Planning Department, the zoning for the proposed project site is zoned PA for professional/ administrative (APN: 617-441-02).

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Item	Comment
Property Characteristics	The Study Property consists of one single L-shaped parcel totaling 3.76 acres. The Property is generally level, covered with asphalt-paved parking and is developed with two (2), two-story commercial office buildings. Properties in the general area are used for commercial and residential purposes.
Description of Property Structure(s)	There are one (1), two-story commercial-office buildings located on the Property. The buildings are wood-framed and concrete masonry block structures. Building materials in the interior of the building consisted primarily of ceramic tile flooring, drop-tile ceiling panels, and painted drywall or concrete masonry walls.
The following services were present at the Property at the time of the assessment.	
Electricity:	Southern California Edison
Gas:	The Gas Company
Potable Water:	El Toro Water District
Sanitary Sewer:	El Toro Water District
Heating, Ventilation, Air Conditioning (HVAC):	Roof-mounted HVAC units
Solid Waste:	CR&R

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3.0 USER PROVIDED INFORMATION & RESPONSIBILITIES

3.1 Requested Documents and Information

The ASTM E1527-13 specifies that the User, National CORE provide any helpful documents that may be available, as listed below.

- Environmental site assessment or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports
- Registrations for aboveground and underground storage tanks
- Septic systems, oil wells, or water wells
- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans; or Safety, Preparedness and prevention Plans; Spill Protection Countermeasures and Control Plans
- Reports regarding hydrologic conditions on the Property or surrounding area
- Notices or other correspondence form any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property.
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded Activity Use Limitations (AULs)
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

No information/documentation was provided by National CORE.

3.2 User Provided Information

Section 6 of ASTM E1527-13 outlines specific User's responsibilities. This information will help identify the possibility of RECs in connection with the Property. The ASTM Standard provides a questionnaire to help the User to comply with the statutory

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requirements to perform tasks which would help identify RECs. Converse included the questionnaire as Attachment A to our proposal. In general, any Users should make Converse aware of information they have regarding the following:

- Environmental Cleanup Liens filed or recorded against the Property
- Activity and land use limitations that are in place on the Property or have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the Legal Liability Protections (LLP)
- Relationship of the purchase price to fair market value of the Property if it were not contaminated
- Commonly known or reasonably ascertainable information about the Property
- The degree or obviousness of the presence or likely presence of contamination at the Property, and the ability to detect this contamination by appropriate investigation.

The following information was requested from the User, National Core.

3.2.1 Environmental Cleanup Liens

The User had no information regarding environmental cleanup liens or title records.

3.2.2 Activity and Use Limitations

The User did not have any information indicating they were aware of any AULs.

3.2.3 Specialized Knowledge or Experience

The User did not have any information indicating they had specialized knowledge or experience related to the Property or nearby property.

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3.2.4 Reason for Significantly Lower Purchase Price

Converse has no information regarding the purchase price of the Property or comparable properties. The User has not indicated to Converse that there is any conclusion that there was a lower purchase price because of known or suspected contamination at the Property.

3.2.5 Commonly Known or Reasonably Ascertainable Information

The User did not have any information about past uses, specific chemicals at the Property, past spills, environmental cleanup or other reasonably ascertainable information regarding the Property.

3.2.6 Obviousness of Contamination

The User did not provide any information based on their knowledge or experience that would be obvious indicators of contamination on the Property.

Unless specifically stated otherwise in the Scope of Services, the purpose of this Phase I ESA was to qualify for the landowner liability protections to CERCLA Liability as described in ASTM E1527-13.

Business risk unrelated to the CERCLA innocent landowners defense are only assessed as specifically agreed in the Scope of Services and discussed in Section 11.0, Additional Non-Scope Services, of this report.

3.3 Continuing Obligations

In order to assert a LLP, the User must satisfy a number of statutory requirements that are generally referred to as Continuing Obligations, which are outside the Scope of Services of the Phase I ESA. Examples of Continuing Obligations include providing legally required notices, stopping continuing releases and complying with land use restrictions. Failure to comply with these and other statutory post-acquisition requirements will jeopardize liability protection.

It is the responsibility of the User to comply with the Continuing Obligations requirements of ASTM E1527-13 and AAI. Anyone seeking LLP protections should take independent action beyond this Phase I ESA to perfect their position.

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4.0 OWNER PROVIDED INFORMATION

The ASTM E1527-13 specifies that the Property owner and the Key Site Manager provide any helpful documents that may be available as listed below.

- Environmental site assessment or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports

- Registrations for aboveground and underground storage tanks
- Septic systems, oil wells, or water wells
- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans; or Safety, Preparedness and Prevention Plans; Spill Protection Countermeasures and Control Plans
- Reports regarding hydrologic conditions on the Property or surrounding area
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property.
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded AULs
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

The Owner representative, Ms. Kristi Cozens, did not provide any documentation, and had no knowledge of any environmental issues associated with the Property.

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5.0 RECORDS REVIEW

5.1 Physical Setting

Item	Comments
Physical Setting:	The Property is located approximately 400 feet above mean sea level with surface topography sloping towards the north/northeast (United States Geological Survey [USGS] Topographic Map, Lake Forest, CA.
Geology:	The Property is underlain by unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (Division of Mines and Geology, Geologic Map of California, 2010).
Groundwater:	According to data obtained from the State Water Resources Control Board's Geotracker database, results of groundwater monitoring on the southwestern/western adjoining property indicate that groundwater levels in March of 2019 were measured to be between 19 and 26 feet beneath ground surface (bgs). Groundwater flow direction was measured to be to the northeast.
Potable Water Supply:	Potable water is supplied by the El Toro Water District.

5.2 Historical Review

5.2.1 Aerial Photograph and Map Review

Available historical aerial photographs and historical maps, which were provided by Environmental Risk Information Services (ERIS), were reviewed.

A summary of the review is provided in the following table. Copies of the aerial photographs and maps are provided in an appendix to this report.

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The Property was not depicted on the 1935, 1950, 1978, 1982 and 1997 Topographic Maps so those maps were not discussed.

Table 1 – Historical Resource Review

Property	Adjoining Properties	General Vicinity
1931 and 1939 Aerial Photographs, 1942 Topographic Map, 1946 Aerial Photograph, 1948 and 1949 Topographic Maps, 1952, 1958, and 1963 Aerial Photographs		
The Property is primarily undeveloped with a strip of agricultural land located in the southeast corner of the Property.	The adjoining properties are typically undeveloped or developed for agricultural use.	Undeveloped; Agricultural
1968 Topographic Map, 1972 Aerial Photograph, 1974 Topographic Map		
There are no significant identifiable changes in use on the Property.	The adjoining properties to the northwest, north, and east are developed with the existing residential neighborhoods. The adjoining properties to the east, and southeast are developed for agricultural use. The adjoining properties to the south, southwest, and west are undeveloped.	Undeveloped; Agricultural; Residential
1981 Aerial Photograph and Topographic Map, 1988, 1994, 2002, 2005, 2009, 2010, 2012, 2014 Aerial Photographs, 2015 Topographic Map, 2016 and 2018 Aerial Photographs		

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Property	Adjoining Properties	General Vicinity
The Property is developed with the two (2) existing commercial office buildings.	The adjoining properties to the northwest, north, and northeast are developed with the existing residential neighborhoods. The adjoining properties to the east, southeast, south, and southwest are developed with the existing commercial shopping centers. The adjoining property to the west is developed with the existing commercial building.	Residential; Commercial

5.2.2 Building Permit Review

Available building permits were provided by the City of Lake Forest, Department of Building & Safety. A chronological summary is provided below.

Building permits for the construction of two (2) commercial office buildings were issued to Mr. Jaime Liverant on May 4, 1977. The building addresses were listed as 2351 El Toro Road and 24551 Raymond Way.

A release from the water department to supply water to the Property was issued on January 25, 1978.

A certificate of occupancy date 1978 identified the Property complex as the Golden Coast Executive Offices.

Various other tenant improvement permits and cetificates of occupancy showing commercial office tenants were issued at the Property between 1978 and 2018.

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5.2.3 City Directories

A city directory search was completed on the Property by EDR. The complete city directory is provided in Appendix D, Historical Research.

The Property was identified under commercial office listings from as early as 1981 through 2018.

The adjoining properties were identified under various commercial-retail listings from as early as 1981 through 2018.

A drycleaners was identified as operating on the southern adjoining property (24601 Raymond Way) in 1994 and 2000.

A drycleaners was identified as operating on the southeastern adjoining property (23532 El Toro Road) in 1989, 1994, and 2014.

5.2.4 Data Failure

Historical information regarding the Property indicated the Property was undeveloped land as early as 1931 with a minor portion used for agricultural. Therefore, historical data failure occurred during this assessment.

Additional standard ASTM resources are not deemed likely to yield any significant new information. This is not deemed a significant data gap.

5.2.5 Summary of Historical Property Use

From as early as 1931 to 1974, the majority of the Property was undeveloped land. During that time period, a strip of land located along the southeastern Property boundary was developed for agricultural use. The Property was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

5.2.6 Summary of Past Uses of Adjoining Properties

From as early as 1931 to 1963, the adjoining properties were undeveloped and/or developed for agricultural use. By 1968, the adjoining properties to the northwest, north, and northeast were developed with the existing residential neighborhoods.

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By 1981, the adjoining properties to the east, southeast, south, and southwest were developed with the existing shopping centers, and the adjoining property to the west was developed with the existing USPS building. A drycleaner operated on the southeastern adjoining property from 1985 to 2012. A drycleaner also operated on the southern/southwestern adjoining property from the 1970s through 2010.

5.2.7 Summary of Past Uses of the Surrounding Area

The surrounding area was typically undeveloped or developed for agricultural use from as early as 1931 through the 1960s. The area was further developed for residential and commercial-retail uses in the late 1960s through the early 1980s. The area has remained primarily developed for residential and commercial-retail uses.

5.3 Results of Environmental Records Sources Review

An ERIS Database Report prepared specifically for the Property, adjoining properties and other off-site locations of concern. The search included queries to the following databases for cases within specified ASTM search distances. A copy of the database report is provided in an appendix to this report.

5.3.1 Property Listings

The Property was identified on the following databases in the ERIS report:

Facility and Manifest Data (HAZNET)
Database of sites which submit a hazardous waste manifest to DTSC.

There were seven (7) former tenants listed in this database. The listings appear to be related to medical wastes. No specific information pertaining to the quantities of wastes was listed.

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Target Property Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	DR STEVE PARHAM	23591 EL TORO SUITE 110, LAKE FOREST, CA, 926300000	0.00/-	5.0	
HAZNET	TEKRANGE	23591 EL TORO RD STE 178, LAKE FOREST, CA, 92630	0.00/-	5.0	
HAZNET	LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120, LAKE FOREST, CA, 926300000	0.00/-	5.0	
HAZNET	AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130, LAKE FOREST, CA, 92630	0.00/-	5.0	

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130, LAKE FOREST, CA, 926304704	0.00/-	5.0	
HAZNET	CHOICE HEALTH CENTERS	24551 Raymond Way, Lake Forest, CA, 926304400	0.00/ SW	-4	
HAZNET	CHOICE HEALTH CENTER	24551 RAYMOND WAY, LAKE FOREST, CA, 926300000	0.00/ SW	-4	

5.3.2 Adjoining Properties

The following adjoining properties were identified in the regulatory database report:

- 23532 El Toro Road - The property is located southeast of the Property and was identified in the DRYCLEANERS, EMISSIONS, Orange County Industrial Cleanup Site (ORANGE ICP), Resource Conservation and Recovery Act Non-Generator (RCRA-Non Gen), and RCRA Small Quantity Generator (RCRA-SQG), Voluntary Cleanup Program (VCP), and Department of Toxic Substances Control (DTSC) Envirostor databases. The listings are related to the former Green Tree Cleaners, a dry cleaning business, that operated at the site from 1985 to 2012. Former drycleaning operations at the site have

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impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency.

- 24601 Raymond Way - The site is located contiguous to the south/southwest of the Property and was identified in the California Environmental Reporting System (CERS) Hazardous Waste Site, DRYCLEANERS, EMISSIONS, Cleanup Sites, Orange County Lead Cases List (Orange LOP), and Orange ICP, databases. The listings are related to the former operation of a drycleaners at the site (Crown Cleaners). According to the databases. An active investigation was opened at the site in Septemeber 2016 and identified contamination beneath the site related to the former drycleaner operations. The databases provided links to records on the State Water Resources Control Board's Geotracker database. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L. In addition, the most recent monitoring event showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations.

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Surrounding Properties Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY, LAKE FOREST, CA, 926309978	0.01/ SSW	-2.0	Southwest - The Property is listed in the database. No additional pertinent information was provided.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD, LAKE FOREST, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO BLVD, EL TORO, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD #3, EL TORO, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
EMISSIONS	ORANGE TREE CLEANERS	23532 EL TORO RD, #3, EL TORO, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
EMISSIONS	ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3, EL TORO, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
ORANGE ICP	ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD, LAKE FOREST, CA, 92630-	0.02/ ESE	5.0	Southeast - See write up above.
RCRA NON GEN	SALONCENTRIC INC 6034	23532 EL TORO RD STE 6, LAKE FOREST, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
RCRA SQG	ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3, LAKE FOREST, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD, LAKE FOREST, CA, 92630	0.02/ ESE	6.0	Southeast - The facility is listed in the database as a facility that uses hazardous wastes (CO2). The database identified several inspection reports from 2016 to 2018. No violations were noted.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	O'Reilly Auto Parts #2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site is listed in the database as a facility that utilizes hazardous wastes. Several inspection reports from 2016 to 2017 were identified. No violations were issued.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY UNIT 15, EL TORO, CA, 926300000	0.03/S	2.0	Southwest - See write-up above.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY STE 15, LAKE FOREST, CA, 926304460	0.03/S	2.0	Southwest - See write-up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DRYCLEANERS	MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15, LAKE FOREST, CA, 926304460	0.03/S	2.0	Southwest - See write-up above.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY, EL TORO, CA, 926300000	0.03/S	2.0	Southwest - See write-up above.
EMISSIONS	CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15, EL TORO, CA, 92630	0.03/S	2.0	Southwest - See write-up above.
EMISSIONS	CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15, EL TORO, CA, 92630	0.03/S	2.0	Southwest - See write-up above.
CLEANUP SITES	FORMER CROWN CLEANERS	24601 RAYMOND WAY, LAKE FOREST, CA, 92603	0.03/S	2.0	Southwest - See write-up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ORANGE HW	OREILLY AUTO PARTS #2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site was listed in this database. No additional pertinent information was provided.
ORANGE ICP	CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY, LAKE FOREST, CA, 92630-	0.03/S	2.0	Southwest - See write-up above.
RCRA NON GEN	O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site was listed in this database. No additional pertinent information was provided.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	Sizzler Restaurant #409	23501 EL TORO RD, LAKE FOREST, CA, 92630	0.03/ SE	0.0	South - Several inspection reports between 2015 and 2018 were described in the database. No violations were issued at the site.
EMISSIONS	SIZZLER-MORRISON MANAGEMENT	23501 EL TORO RD, EL TORO, CA, 92630	0.03/ SE	0.0	South - The site is listed in the database. No additional pertinent information was provided.
ENVIROSTOR	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD, LAKE FOREST, CA, 92630	0.07/ ESE	0.0	Southeast - See write-up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
VCP	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD, LAKE FOREST, CA, 92630	0.07/ ESE	0.0	Southeast - See write-up above.
CLEANUP SITES	THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD, LAKE FOREST, CA,	0.09/ ESE	0.0	Southeast - See write-up above.

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Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD, LAKE FOREST, CA, 92630	0.10/E	7.0	East - Several site inspection reports were listed in the database. The facility received a violation for failure to electronically submit a hazardous material inventory. The violation was brought into compliance.

5.3.3 Other Off-site Locations of Concern

Other off-site locations of concern identified by ERIS within a maximum one-mile radius from the Property included CERS HAZ, RCRA Non Gen, DELISTED TANK, CDL, HHSS, HIST TANK, ORANGE LOP, LUST, DRYCLEANERS, EMISSIONS, RCRA LQG, CLEANUP SITES, ENVIROSTOR, and SCHOOL sites. These sites are not considered RECs in connection with the Property due to the distance from the Property, type of listing, regulatory status of the sites, or the identification of responsible parties.

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5.3.4 Orphan Listings

The database report identified six (6) orphan listings. The locations of sites were identified only by street name. These street names were found in the general vicinity of the Property; however, the specific site locations could not be determined. These orphan sites appeared to have a low potential for environmental impact to the Property due to one or more of the following: type of regulatory listing or distance from the Property.

5.4 Additional Environmental Record Sources

Federal Agencies

Federal Agencies	
Source	**Comments**
U.S. Department of Transportation, Pipeline and Hazardous Material Safety Administration (PHMSA)	PHMSA online mapping system for gas transmission pipelines and hazardous liquid pipelines on the Property or adjacent properties was reviewed (https://www.npms.phmsa.dot.gov/PublicViewer/). No pipelines were identified on the Property or adjacent properties.

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State Agencies

State Agencies	
Source	**Comments**
California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC)	No information regarding the Property was on file with DTSC. The Envirostor website (http://www.envirostor.dtsc.ca.gov/public/) was reviewed for information, and the Property was not listed in the database. The southeastern adjoining property (23512-23532 El Toro Road) was listed in the database as a voluntary cleanup site that is currently under the oversight of the Orange County Health Care Agency. According to the database, the site was formerly under the oversight of the DTSC. During investigations conducted at the site in 2011, elevated levels of PCE were detected in soil-vapor. Based on these findings, DTSC recommended further action. The responsible party proceeded to a voluntary cleanup action with OCHCA, and DTSC concurred with the proposed oversight change in 2013.

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State Agencies	
Source	**Comments**
Cal/EPA, Regional Water Quality Control Board (RWQCB)	The RWQCB had no records on file regarding underground storage tank (UST) issues at the Property. The Geotracker website (http://geotracker.waterboards.ca.gov/) was reviewed for information, and the Property was not listed in the database. • The Geotracker database had records pertaining to an open case in the southwest adjoining shopping center (24601 Raymond Way). The site is located contiguous to the southwest of the Property. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L (5ug/L is maximum contaminant level). In addition, the most recent monitoring event (March 2019) showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that

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State Agencies	
Source	**Comments**
	the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations. The concentrations exceed the regulatory thresholds for commercial use. Site consultant has proposed more assessment and remediation. • Former drycleaning operations at the southeastern adjoining site (23532 El Toro Road) have impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency. According to records reviewed on the Geotracker database, groundwater beneath the site was measured to be between 16 and 23 feet bgs with groundwater gradient calculated to be to the southwest (cross-gradient of the

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State Agencies	
Source	**Comments**
	Property). Data from the February 2019 groundwater monitoring event showed non-detectable concentrations of VOCs in the groundwater monitoring well nearest the western boundary of the site (closest proximity to the Property).
California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)	According the DOGGR online database (http://maps.conservation. ca.gov/doms/doms-app.html), there are no oil or gas wells located on the Property or adjacent properties.

Local Agencies

Source	Comments
South Coast Air Quality Management District (SCAQMD)	There were no agency records pertaining to the Property on file with this agency.
Orange County Health Care Agency (OCHCA)	There were no agency records pertaining to the Property on file with this agency.
Orange County Fire Authority (OCFA)	There were no agency records pertaining to the Property on file with this agency.

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6.0 PROPERTY RECONNAISSANCE

6.1 Methodology

On June 24, 2019, Converse visited the Property to evaluate present use and to identify observable environmental conditions at the Property. Our methodology involved walking the perimeters, center lines, and accessible interior areas of the buildings while noting observed evidence of present and potential environmental concerns

A field-generated map is provided in Appendix B. Pertinent Property photographs are provided in Appendix C.

6.2 Limiting Conditions

Converse's findings are based on the Property conditions observed on Monday, June 24, 2019

6.3 Interior Observations of Property

During our Property visit, Converse made the following observations of the interior of the Property's building(s):

Table 3 – Interior Observations of Property

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Hazardous Substances & Petroleum Products:	✔		Minor quantities of cleaning agents and paints were observed in utility closets in both buildings. No leaking or staining was observed.

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Item or Condition	Observed Evidence	No Evidence Observed	Comments
Storage Tanks & Related Equipment:		✔	
Odors:		✔	
Standing Surface Water or Other Pools of Liquid:		✔	
Drums & Other Containers of Hazardous Substances, Petroleum Products, or Other Unidentified Contents:	✔		See above.
Transformers or Equipment containing Polychlorinated Biphenyls (PCBs):	✔		A single elevator was located in each of the two (2) buildings. Elevator equipment rooms were observed. No leaking or staining was observed.
Heating/Cooling System:	✔		HVAC vents were observed in individual tenant spaces and common areas.
Stains or Corrosion on Floors, Walls or Ceilings:		✔	

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Item or Condition	Observed Evidence	No Evidence Observed	Comments
Drains and Sumps		✔	

Additional Comments

6.4 Exterior Observations of Property

During our Property visit, Converse made the following observations of the exterior of the Property:

Table 4 – Exterior Observations of Property

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Hazardous Substances & Petroleum Products:		✔	
Storage Tanks & Related Equipment:		✔	
Odors:		✔	
Standing Surface Water or Other Pools of Liquid:		✔	

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Item or Condition	Observed Evidence	No Evidence Observed	Comments
Drums & Other Containers of Hazardous Substances, Petroleum Products, or Other Unidentified Contents:		✔	
Transformers or Equipment containing Polychlorinated Biphenyls (PCBs):		✔	
Pits, Ponds, or Lagoons:		✔	
Stained Soil or Pavement:		✔	
Stressed Vegetation (other than from insufficient water):		✔	
Evidence of Mounds, Depressions or Filled or Graded Areas Suggesting Trash or Other Solid Waste Disposal:		✔	

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Item or Condition	Observed Evidence	No Evidence Observed	Comments
Waste Water or any discharge (including storm water) into a Drain, Ditch, or Stream on or Adjacent to the Property:		✔	
Wells (active, inactive, or abandoned):		✔	
Septic Systems or Cesspools:		✔	
Prior Structures:		✔	
Roads, Tracks, Railroad Tracks or Spurs:	✔		The Property fronts onto El Toro Road to the southeast, and Raymond Way to the southwest.

Additional Comments

In addition to the above items, Converse observed the following:

- A fenced enclosure with remediation equipment was observed southwest of the Property, in parking spaces associated with the southwestern adjoining shopping center.

6.5 Current Uses of Adjoining Properties

Based on our research and observations during our Property visit, the Property is bordered by the following:

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Table 5 – Adjoining Property Use

Direction	Current Development
North:	Residential
Northeast:	Residential
Northwest:	Raymond Way followed by residential.
South:	Commercial shopping center (24601 Raymond Way).
Southeast:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
Southwest:	Commercial shopping center (24601 Raymond Way).
East:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
West:	Raymond Way followed by US Post Office (24552 Raymond Way).

6.6 Current Uses of Surrounding Area

Based on our research and observations during our Property visit, the surrounding area of the Property consists of residential and commercial uses.

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7.0 INTERVIEWS

Interview:	Comments:
Property Owner:	The Property Owner representative, Ms. Kristi Cozens was interviewed during the Property reconnaissance. Ms. Cozens stated that the Property had been developed with the existing buildings in the 1970s, and had only been occupied by commercial office tenants since that time. Ms. Cozens was unaware of any environmental issues associated with the Property or any of the adjoining properties. Ms. Cozens had no knowledge of any of the ongoing remediation at the southwestern adjoining property, and stated that she was unaware as to whether any drilling related to the southwestern adjoining site had been conducted on the Property.
Tenant/ Occupant:	Ms. Cozens is also the Property manager, and has an office located in the El Toro Road building.
State or Local Government Officials:	Other than the information in Section 5.4, no additional information could be provided.
Owners and Occupants of Neighboring Sites:	No interviews of owners or occupants of neighboring sites were conducted.

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8.0 FINDINGS

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

The Property is developed with two (2) commercial office buildings.

From as early as 1931 to 1974, the majority of the Property was undeveloped land. During that time period, a strip of land located along the southeastern Property boundary was developed for agricultural use. The Property was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

Minor quantities of paints and cleaners were observed in utility closets in both buildings. Elevator equipment was observed in both buildings. No leaking or staining was observed.

Both Property buildings were identified in the Haznet database in the database report under multiple listings that appeared to be related to medical offices that operated at the Property.

The following adjoining properties were identified in the regulatory database report:

- 23532 El Toro Road - The property is located southeast of the Property and was identified in the DRYCLEANERS, EMISSIONS, Orange County Industrial Cleanup Site (ORANGE ICP), Resource Conservation and Recovery Act Non-Generator (RCRA-Non Gen), and RCRA Small Quantity Generator (RCRA-SQG), Voluntary Cleanup Program (VCP), and Department of Toxic Substances Control (DTSC) Envirostor databases. The listings are related to the former Green Tree Cleaners, a dry cleaning business, that operated at the site from 1985 to 2012. Former drycleaning operations at the site have impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency.
- 24601 Raymond Way - The site is located contiguous to the southwest of the Property and was identified in the California Environmental Reporting System (CERS) Hazardous Waste Site, DRYCLEANERS, EMISSIONS, Cleanup Sites, Orange County

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Lead Cases List (Orange LOP), and Orange ICP, databases. The listings are related to the former operation of a drycleaners at the site (Crown Cleaners). According to the databases. An active investigation was opened at the site in Septemeber 2016 and identified contamination beneath the site related to the former drycleaner operations. The databases provided links to records on the State Water Resources Control Board's Geotracker database. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L (5ug/L is maximum contaminant level). In addition, the most recent monitoring event showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations. The concentrations exceed the regulatory thresholds for commercial use. Site consultant has proposed more assessment and remediation.

- Various other tenants at the same properties were identified in databases; however, due to the types of listings or lack of information, were not deemed environmental concerns.

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9.0 OPINION

The historical agricultural operations on a portion of the Property are not considered a REC as the Property has since been redeveloped.

The current and historical commercial office use of the Property is not considered a REC.

The open investigation/remediation of PCE contamination on the southern/southwestern adjoining property is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property.

The ongoing PCE investigation on the southeastern adjoining shopping center does not rise to the level of a REC due to the distance from the Property and the cross-gradient location of the Property with respect to the direction of groundwater flow; however, the site is considered an environmental concern.

No significant data gaps were identified during this assessment that affect the ability of the Environmental Professional (EP) to identify RECs.

There are no unusual circumstances where greater certainty is required regarding RECs.

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10.0 CONCLUSIONS AND RECOMMENDATIONS

Converse has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E1527-13 for 23591 El Toro Road and 24551 Raymond Way, City of Lake Forest, Orange County County, California. Any exceptions to or deletions from this practice are described in the Limitations and Exceptions of Assessment section of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Property except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way). A Phase II Investigation appears warranted.

The following environmental concern was noted:

- The ongoing open site investigation of PCE contaminated soil, soil vapor, and groundwater on the southeastern adjoining property (23532 El Toro Road).

Converse recommends a Phase II investigation to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Property.

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11.0 DEVIATIONS AND LIMITATIONS

The following limitations and exceptions were encountered during the course of this assessment:

- An information request pertaining to the Property was submitted to the Orange County Fire Authority, however, a response was not received during the timeframe of this assessment.

Based on the known commercial office use at the Property, this is not deemed significant.

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12.0 ADDITIONAL NON-SCOPE SERVICES

There are environmental issues outside the scope of the ASTM E1527-13 that can be assessed in connection with a commercial real estate transaction. These are dealt with as non-scope considerations since they do not typically present a Superfund Liability. The specific level of inquiry (if any) is defined in the Proposal which contains a Scope of Work. These non-scope services are very client specific and not covered by the ASTM standard. They are frequently related to the business environmental risk which is defined in the standard as "risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate…"

No non-scope issues were addressed in this report.

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13.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standard and practices set forth in 40 CFR Part 312.

Spencer Wagner
Senior Staff Environmental Scientist

This Phase I ESA was completed by the above Environmental Professional. A complete list of preparers, and their responsibilities for this assessment, is provided in the following section (Section 14.0, List of Preparers).

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14.0 LIST OF PREPARERS

Norman S. Eke

Senior Vice President/Managing Officer

B.A., Liberal Studies, Environmental Studies Emphasis, University of California, Santa Barbara, 1988.
Cal/OSHA Certified Asbestos Consultant, #96-2093
NIOSH 582 Equivalent Training

Senior Vice President and Managing Officer of Converse's California Environmental offices. Mr. Eke has served as the Principal-in-Charge and Contract Administrator to deliver services to our public agency and private clients. Mr. Eke has 29 years of experience in the fields of Environmental Due Diligence including Phase I and Phase II Environmental Site Assessments, Asbestos surveys/specifications/abatement monitoring, Preliminary Endangerment Assessments and associated Supplemental Site Investigations and Removal Action Work Plans/Implementation, various forms of Remediation, Human Health Risk Assessment and Indoor Air Quality. Mr. Eke is the former Subcommittee Chairman for E.50-02 Real Assessment and Management of the ASTM E.50 Committee on Environmental Assessment, Risk Management, Corrective Action, which includes Phase I ESA standards (2008 to 2016).

Principal area of responsibility for this ESA report: Project Management, Client Point of Contact, and Quality Assurance/Quality Control and Technical Review.

Spencer Wagner

B.A., Environmental Science and Policy, California State University, Long Beach, 2006
B.A., Geography, California State University, Long Beach, 2006
40-Hour HAZWOPER Certified
Certified Wood Destroying Organism (WDO) Inspector

Mr. Wagner has over 9 years' experience conducting Phase I and II Environmental Site Assessments throughout California. Mr. Wagner has completed Phase I ESAs on undeveloped land, residential properties, commercial/retail facilities, industrial facilities, and school sites. His Phase II ESA experience includes collection of soil matrix, soil

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vapor, indoor air and groundwater samples. Phase II projects worked on have included residential properties, commercial warehousing sites, school sites, dry cleaning facilities, automotive service sites, metal plating facilities and multi-tenant commercial properties.

Principal area of responsibility for this ESA report: Project Management, Client Point of Contact, Historical Research, Regulatory Agency Interaction, Property Reconnaissance, Interviews, Report Generation, and Report Review.

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Appendix A - Application for Authorization to Use

Appendix A

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Converse Consultants

Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

Application for Authorization to Use

TO: Converse Consultants
717 South Myrtle Avenue
Monrovia, California 91016

Project Title & Date: _____

Project Address: _____

FROM: (Please identify name & address of person/entity applying for permission to use the referenced report.)

_____

_____

_____

Applicant _____ hereby applies for permission to use the referenced report in order to:

_____

_____

_____

Applicant wishes or needs to use the referenced report because:

_____

_____

_____

Applicant also understands and agrees that the referenced document is a copyrighted document and shall remain the sole property of Converse Consultants. Unauthorized use or copying of the report is strictly prohibited without the express written permission of Converse Consultants. *Applicant* understands and agrees that Converse Consultants may withhold such permission at its sole discretion, or grant such permission upon agreement to Terms and Conditions, such as the payment of a re-use fee, amongst others.

Applicant Signature: _____

Applicant Name (print): _____

Title: _____

Date: _____

Appendix B - Property Plans

Appendix B

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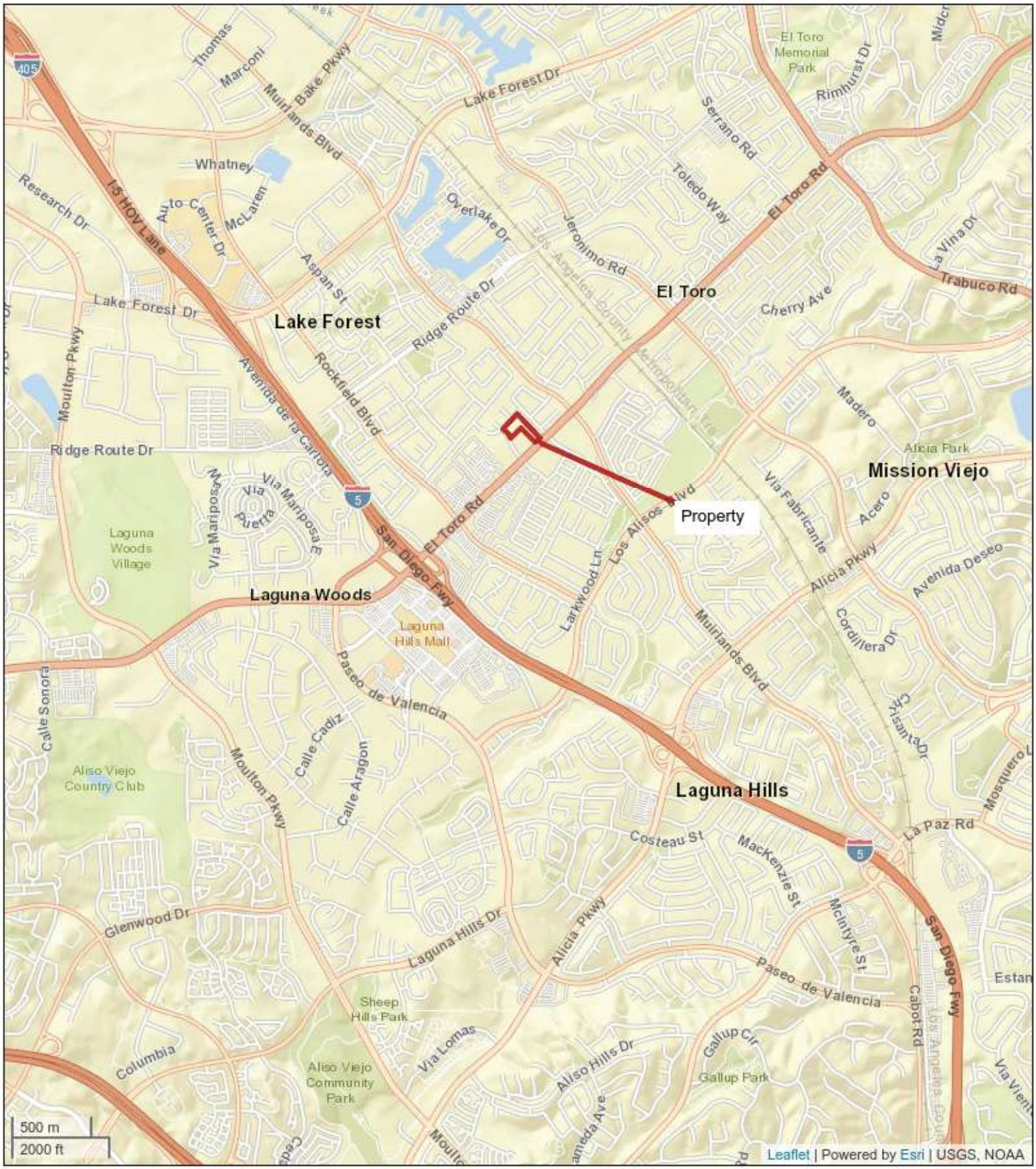

Figure 1 - Property Location Map

National Core

23591 El Toro Road and 24551 Raymond Way

Lake Forest, California

Figure 2 - Property Plan

National Core

23591 El Toro Road and 24551 Raymond Way

Lake Forest, California

Appendix C - Pertinent Property Photographs

Appendix C

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1

View of 23591 El Toro Road building (looking southeast).

2

View of 24551 Raymond Way building (looking southwest).

3

View of northwestern Property boundary.

4

View of northeastern Property boundary.

5

View of southern Property boundary.

6

View of southern Property boundary.

7

View of typical open-air interior as seen in both of the commercial buildings.

8

View of interior of leasing office (23591, Suite 100).

9

View of interior of optometry office (23514, Suite 145).

10

View of interior of optometry office (23514, Suite 145).

11

View of interior of communal conference room (23591 building).

12

View of elevator in 23591 building.

13

View of elevator equipment in 23591 building.

14

View of vacant suite (23591, Suite 216).

15

View of vacant suite (23591, Suite 216).

16

View of vacant suite (23591, Suite 216).

17

View of vacant suite (23591, Suite 216).

18

View of vacant suite (23591, Suite 216).

19

View of chemicals stored in utility closet (23591 building).

20

View of interior of Utility Services office space (24551, Suite 100).

21

View of vacant tenant space (24551 building).

22

View of vacant tenant space (24551 building).

23

View of vacant tenant space (24551 building).

24

View of Century Pacific office space (24551, Suite 250).

25

View of paints stored in utility room (24551 building).

26

View of northwestern adjoining residential properties.

27

View of northeastern adjoining residential neighborhood.

28

View of remediation compound at rear of former drycleaner tenant space (24601 Raymond Way).

29

View of southern/southwestern adjoining former drycleaner suite (24601 Raymond Way, Suite 15).

30

View of typical tenant spaces in southern/southwestern adjoining property.

View of southeastern adjoining shopping center with open site assessment (23532 El Toro Road).

Appendix D - Historical Information: Aerials, Maps & City Directory

Appendix D

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ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	National CORE/El Toro Road 23591 El Toro Road Lake Forest CA 92630
Requested By:	19-42-162-01
Order No:	20190618288
Date Completed:	June 20, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	National CORE/El Toro Road 23591 El Toro Road Lake Forest CA 92630
Requested By:	19-42-162-01
Order No:	20190618288
Date Completed:	June 19, 2019

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1997	7.5
1982	7.5
1981	7.5
1978	7.5
1974	7.5
1968	7.5
1950	7.5
1949	7.5
1948	7.5
1935	7.5
1942	15

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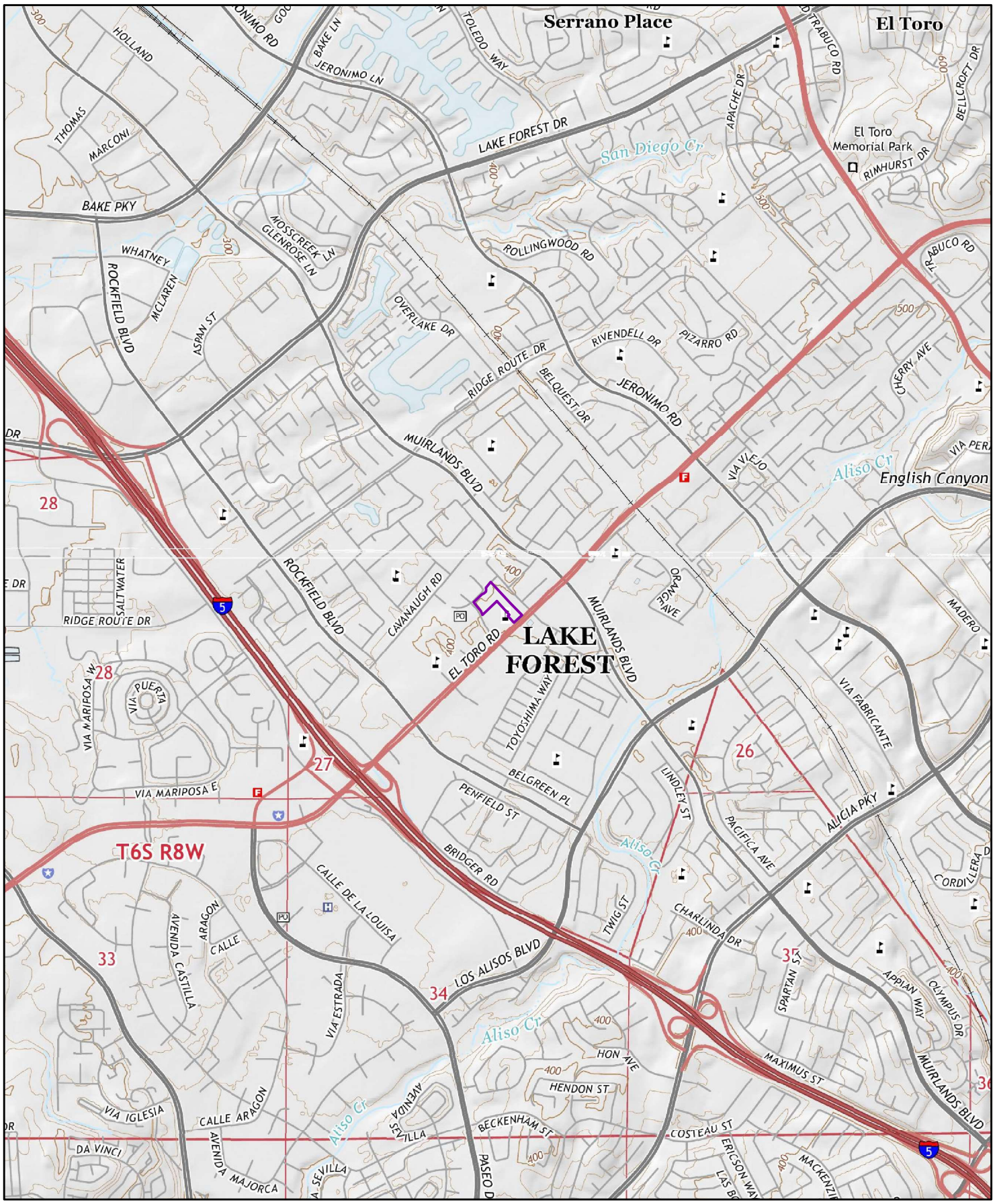


2015

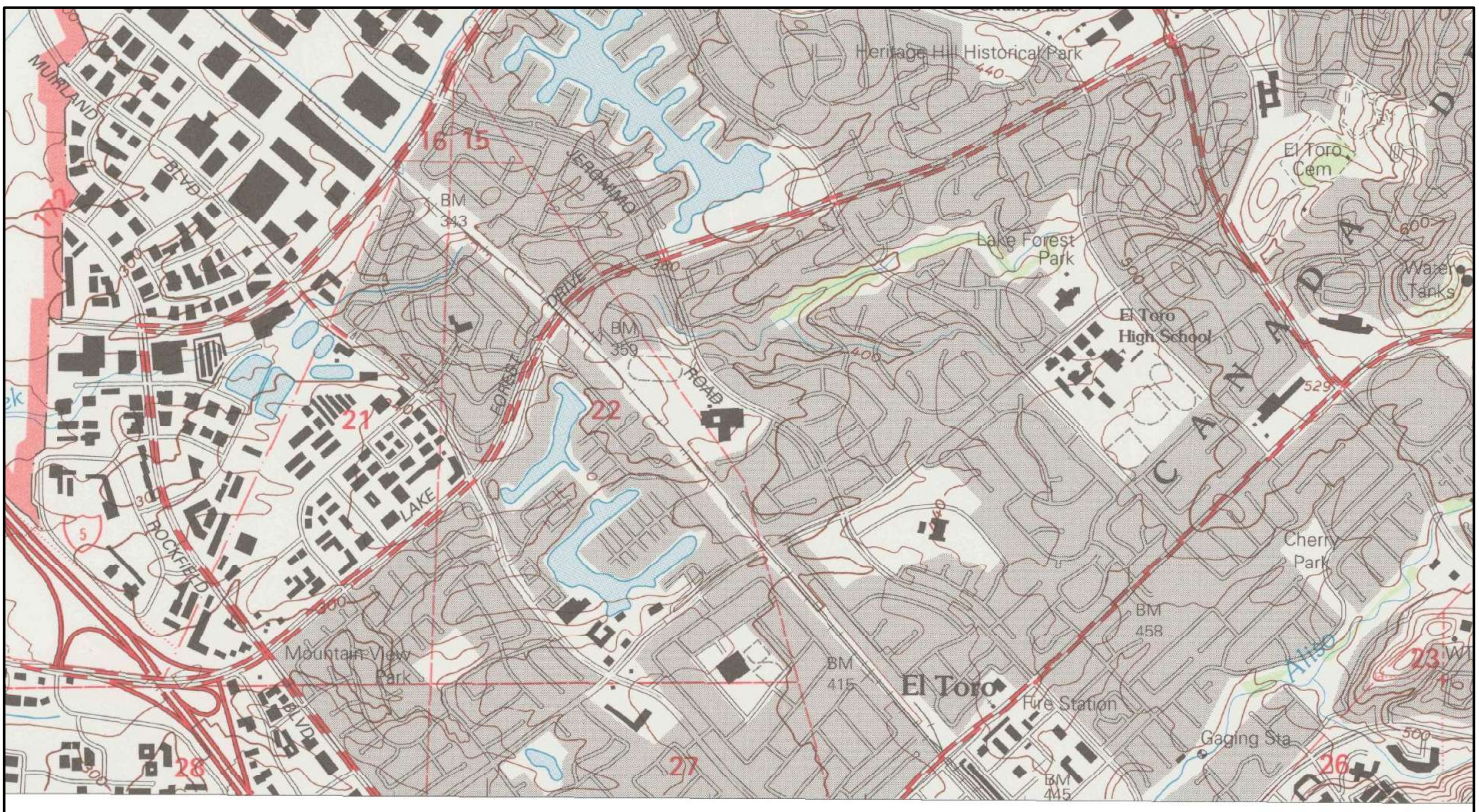
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): Lake Forest,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1997

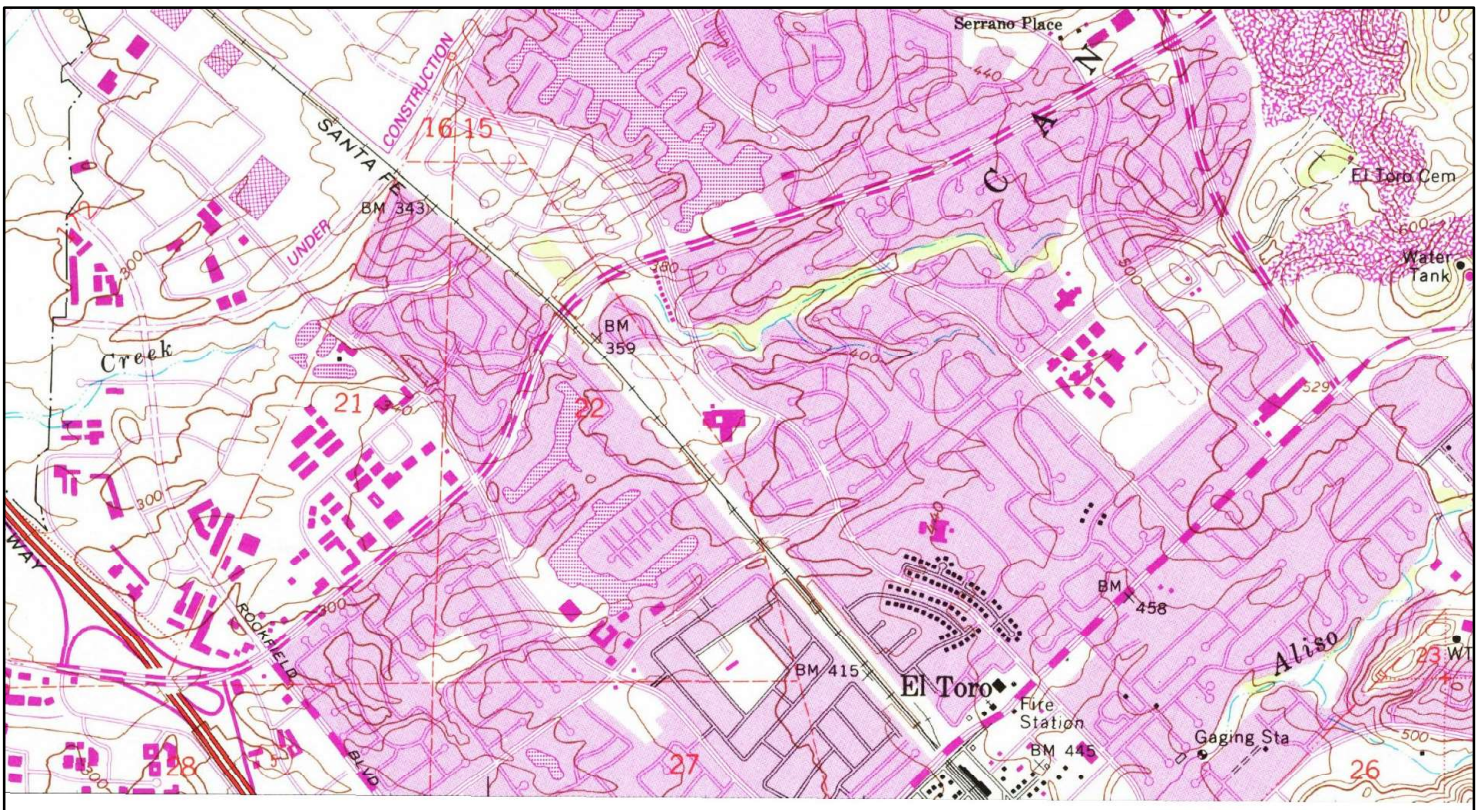
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1982

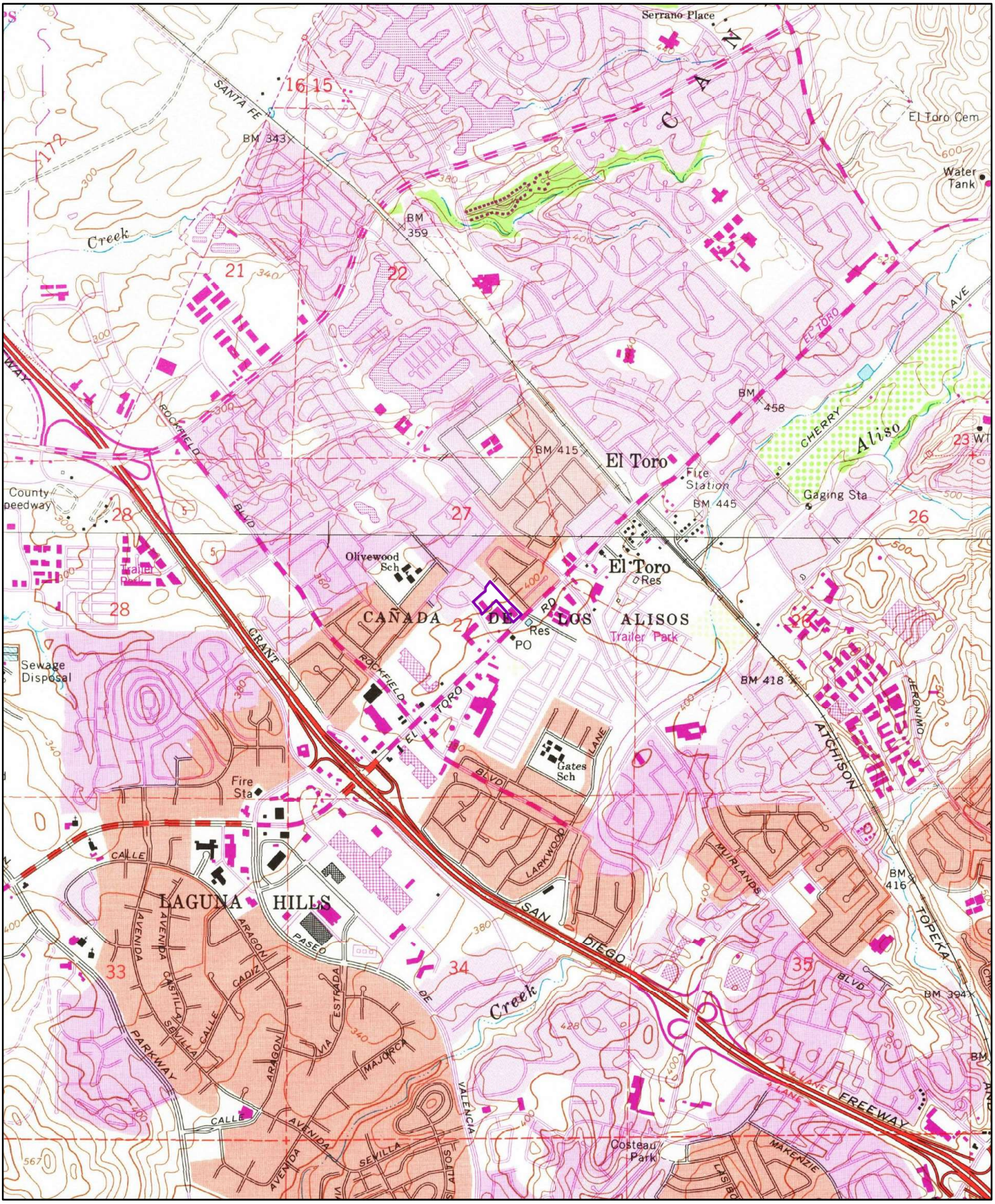
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1981

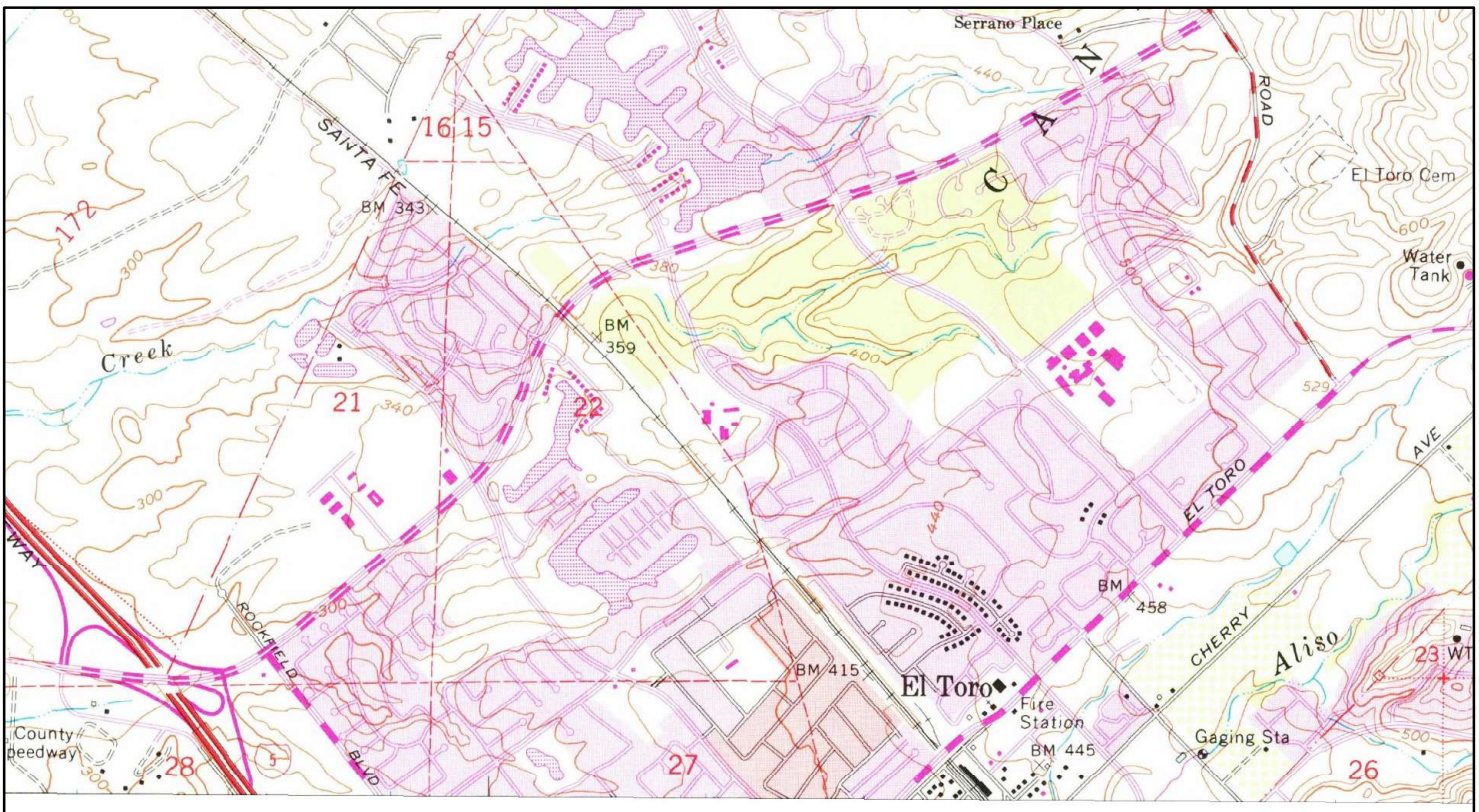
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1978

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

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ENVIRONMENTAL RISK INFORMATION SERVICES

1974

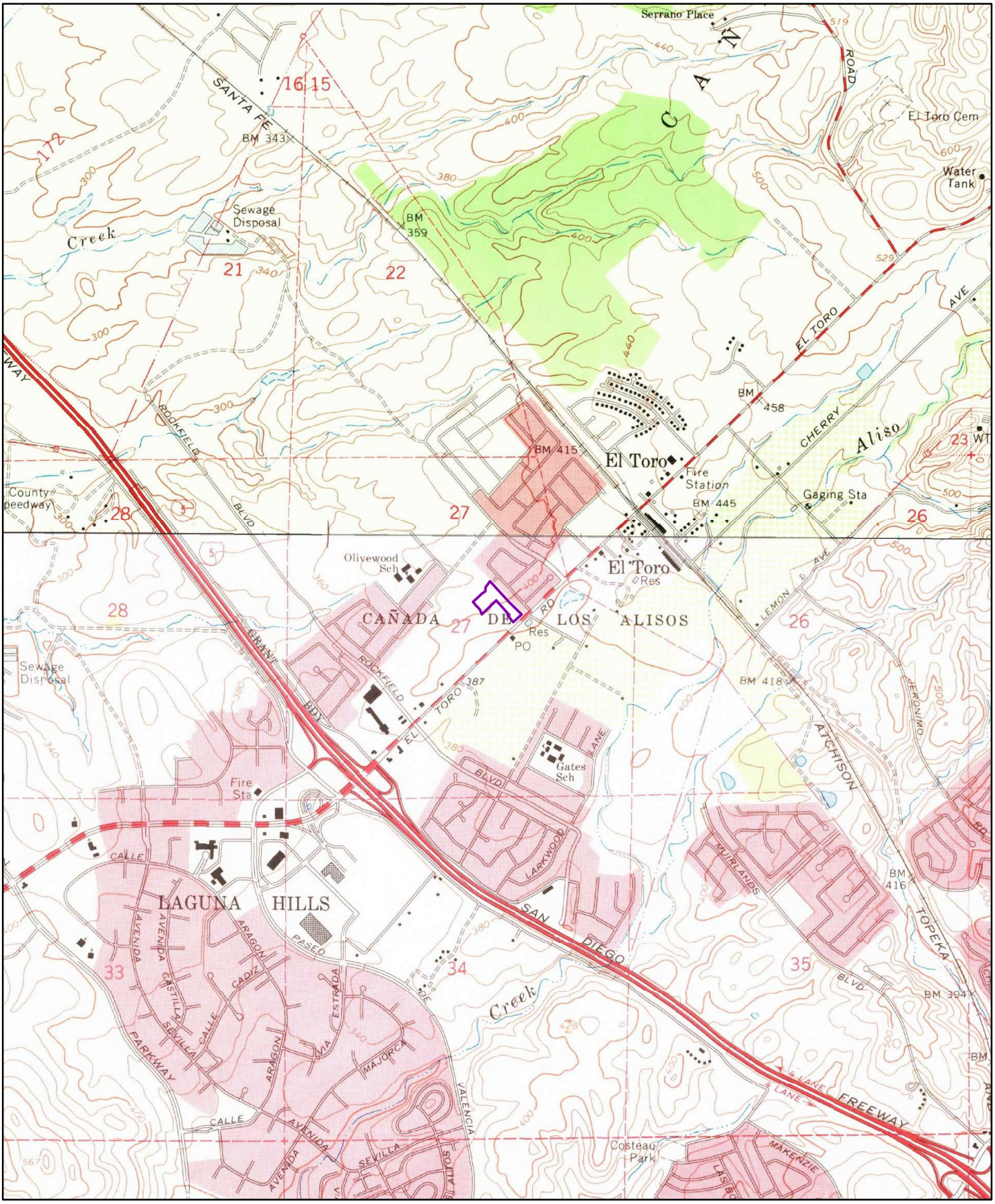
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1968

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
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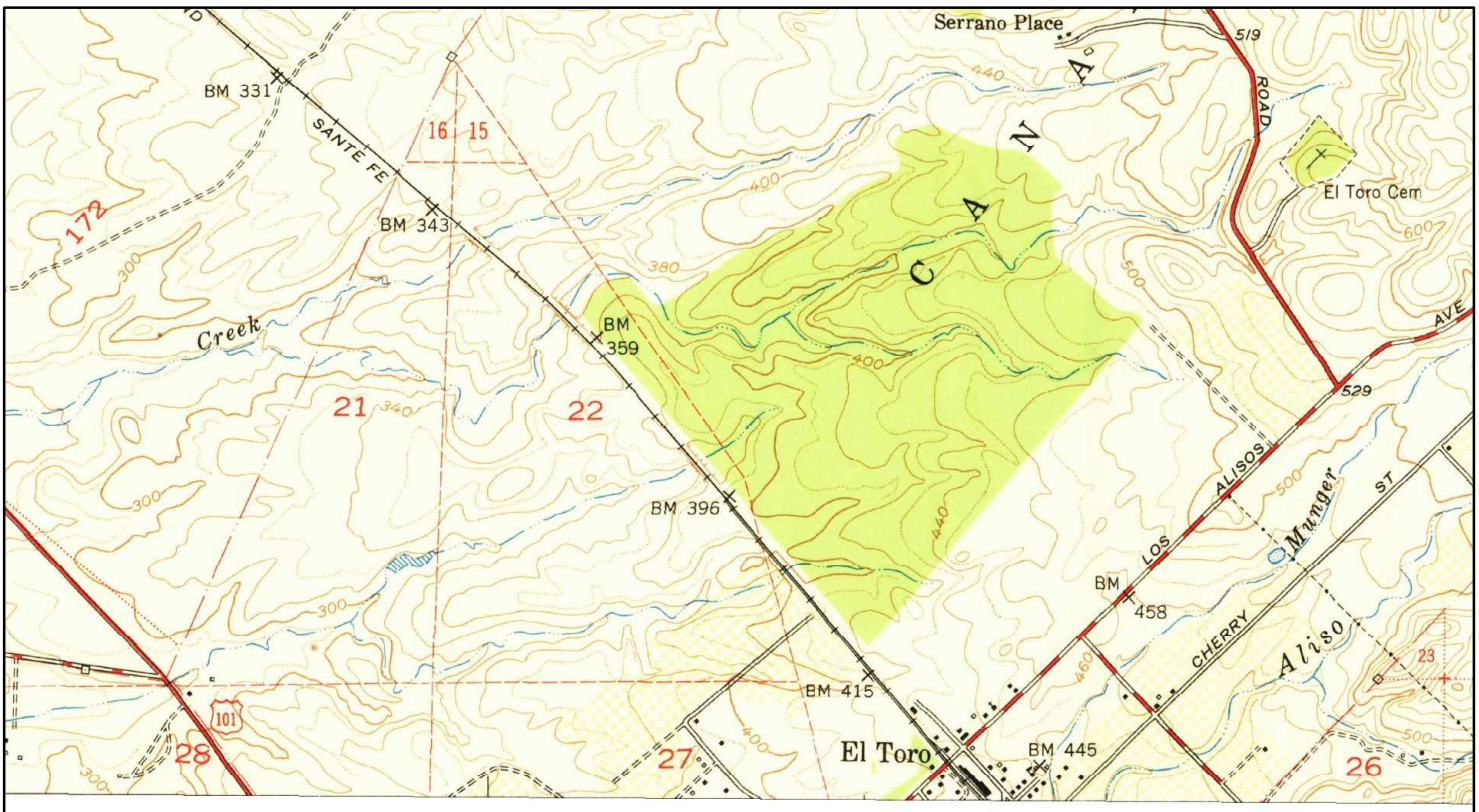


1950

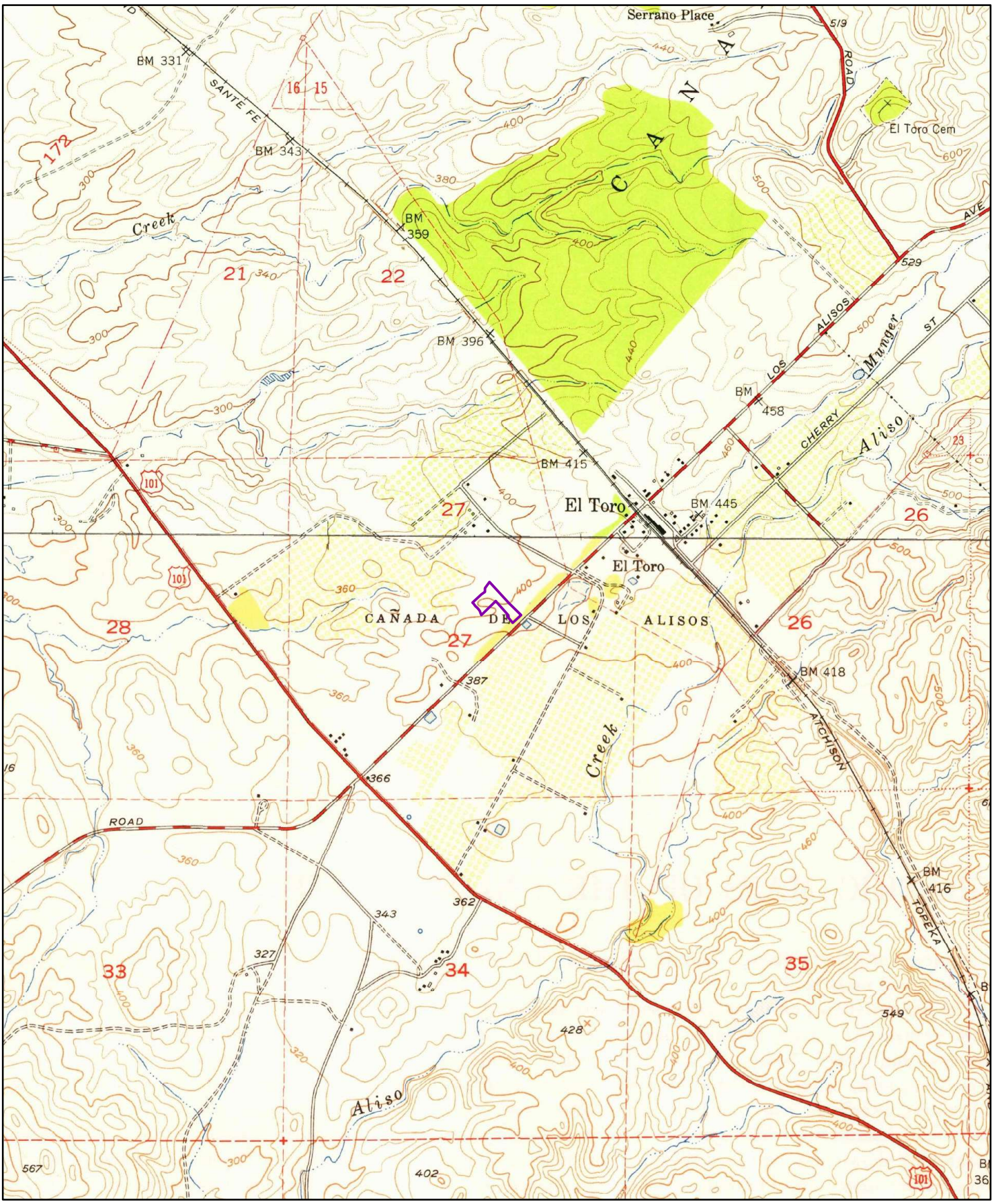
Miles
0 0.2 0.4 0.8

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1949

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

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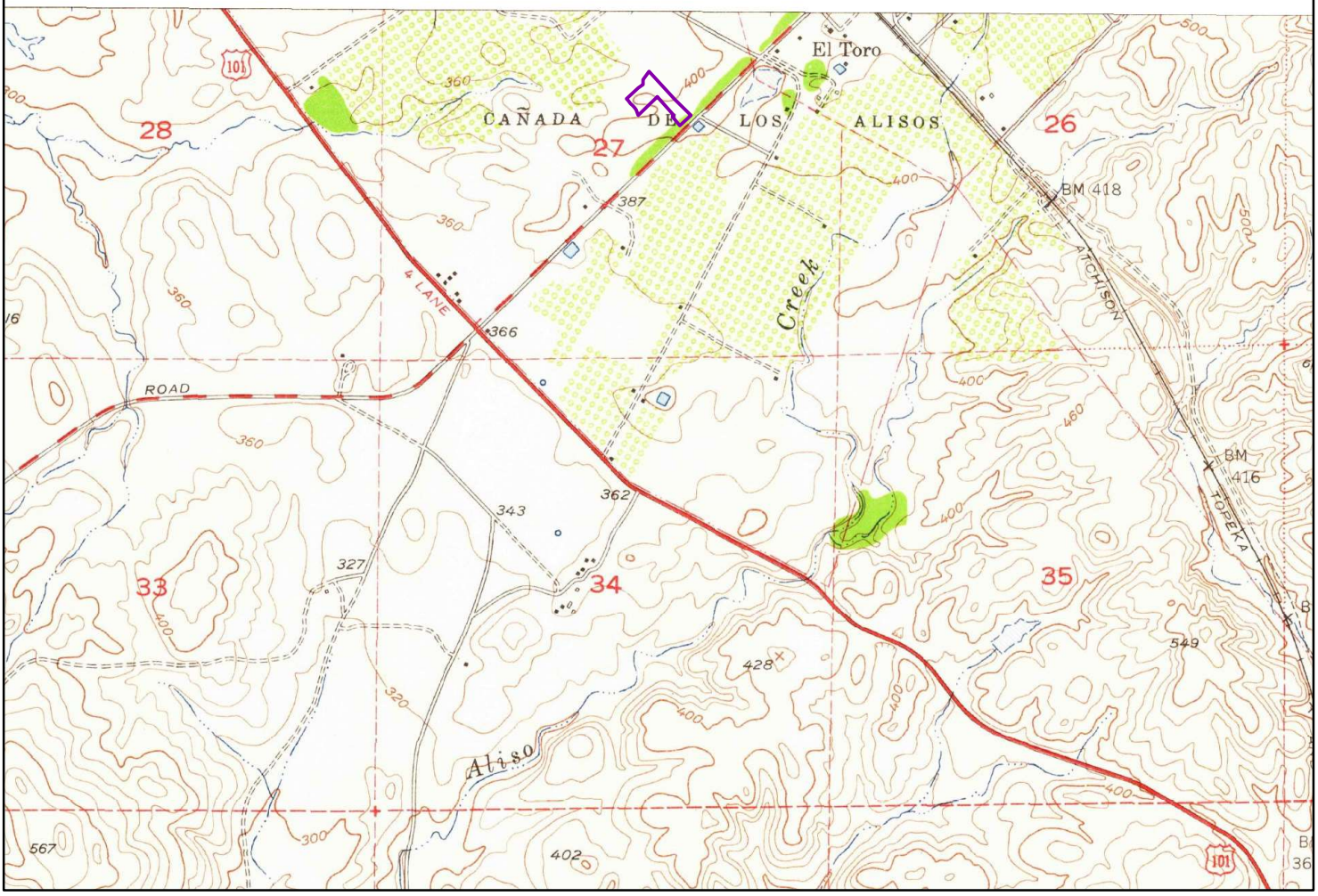
ENVIRONMENTAL RISK INFORMATION SERVICES



1948

Miles
0 0.2 0.4 0.8

Order No. 20190618288

Quadrangle(s): San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

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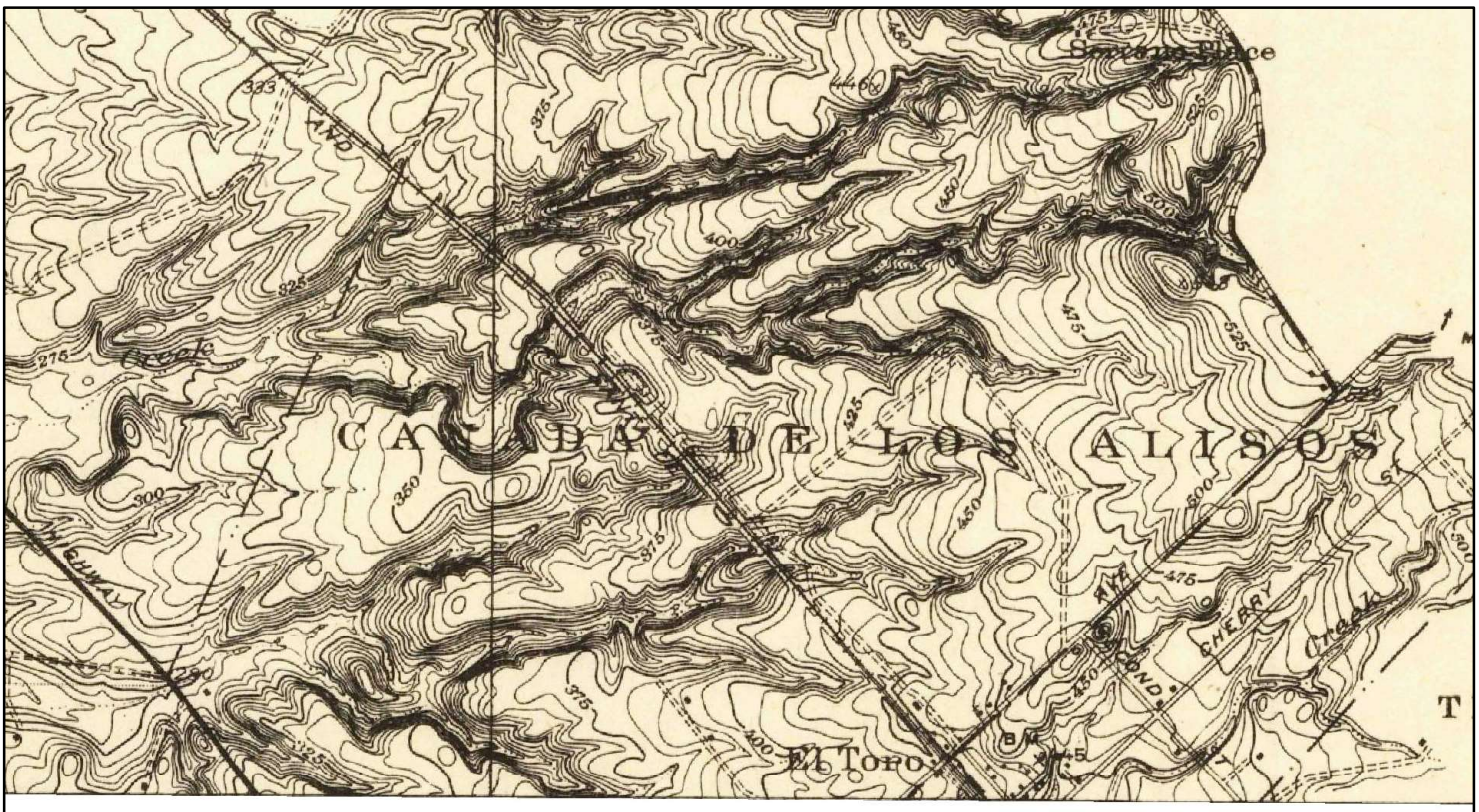
ENVIRONMENTAL RISK INFORMATION SERVICES



1935

Miles
0 0.2 0.4 0.8

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

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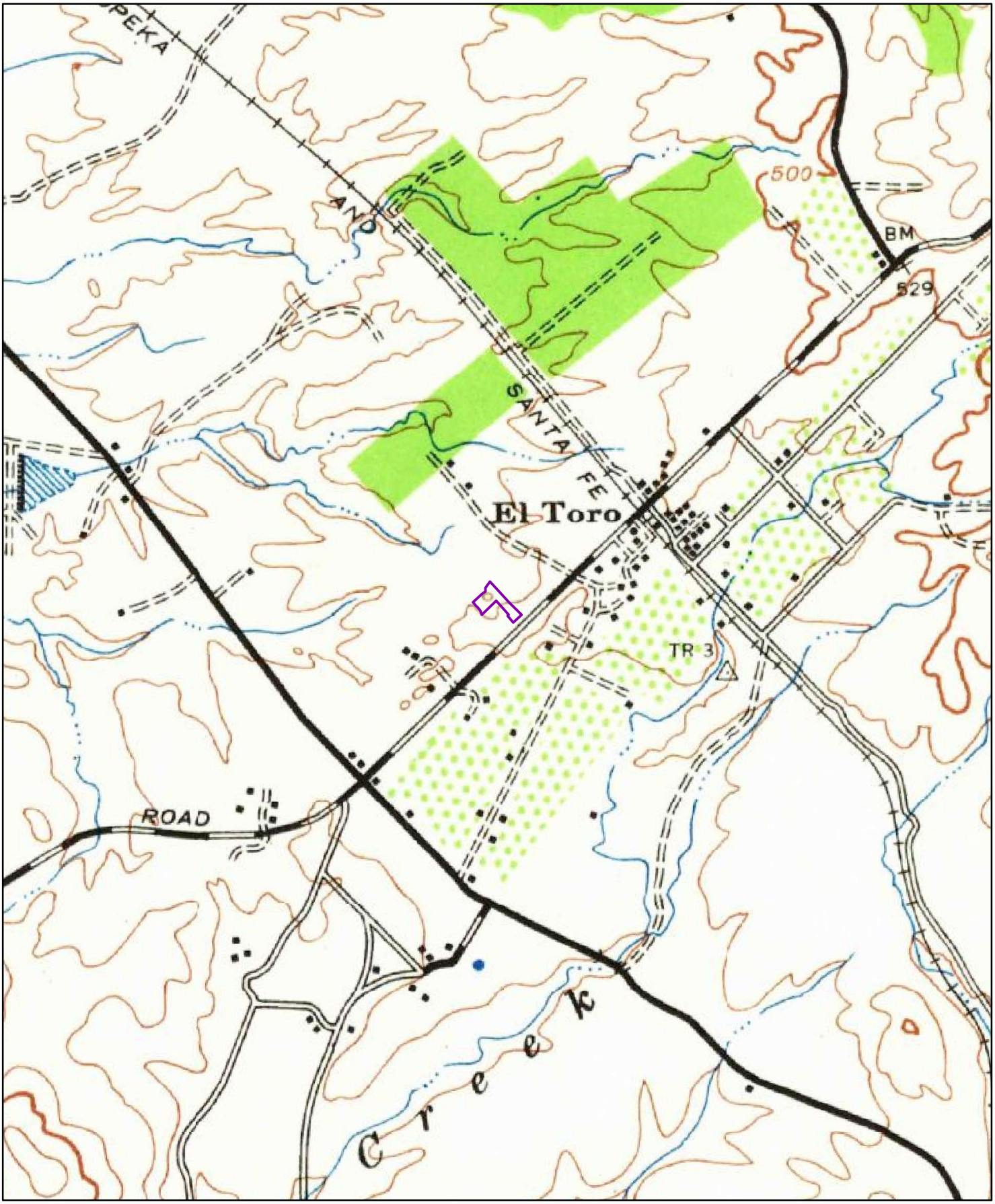
ENVIRONMENTAL RISK INFORMATION SERVICES



1942

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): Santiago Peak,CA

Source: USGS 15 Minute Topographic Map

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TOPOGRAPHIC MAPS

Project Property:	National CORE/El Toro Road 23591 El Toro Road Lake Forest CA 92630
Requested By:	19-42-162-01
Order No:	20190618288
Date Completed:	June 19, 2019

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1997	7.5
1982	7.5
1981	7.5
1978	7.5
1974	7.5
1968	7.5
1950	7.5
1949	7.5
1948	7.5
1935	7.5
1942	15

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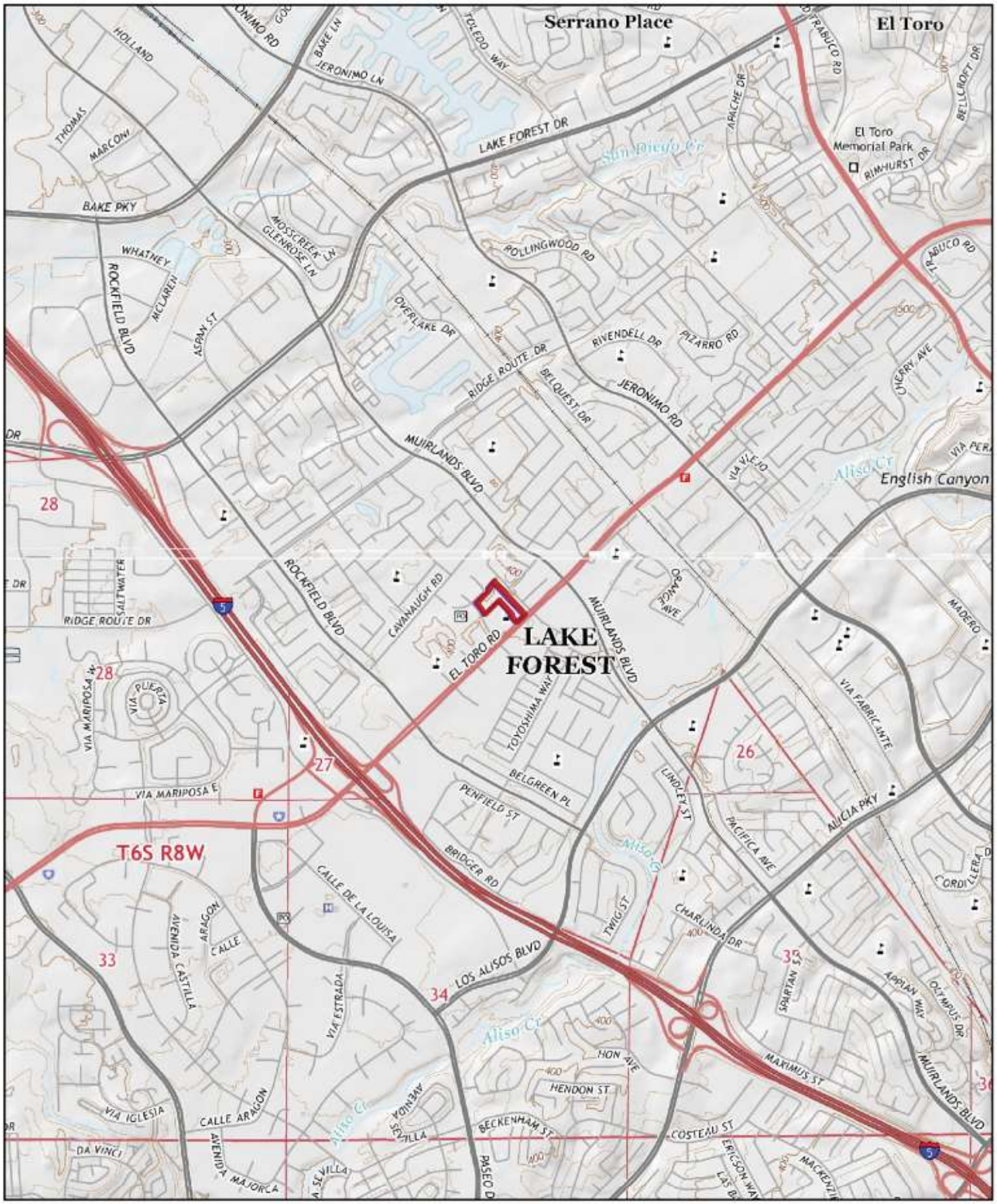

2015

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): Lake Forest,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

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ENVIRONMENTAL RISK INFORMATION SERVICES

1997

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

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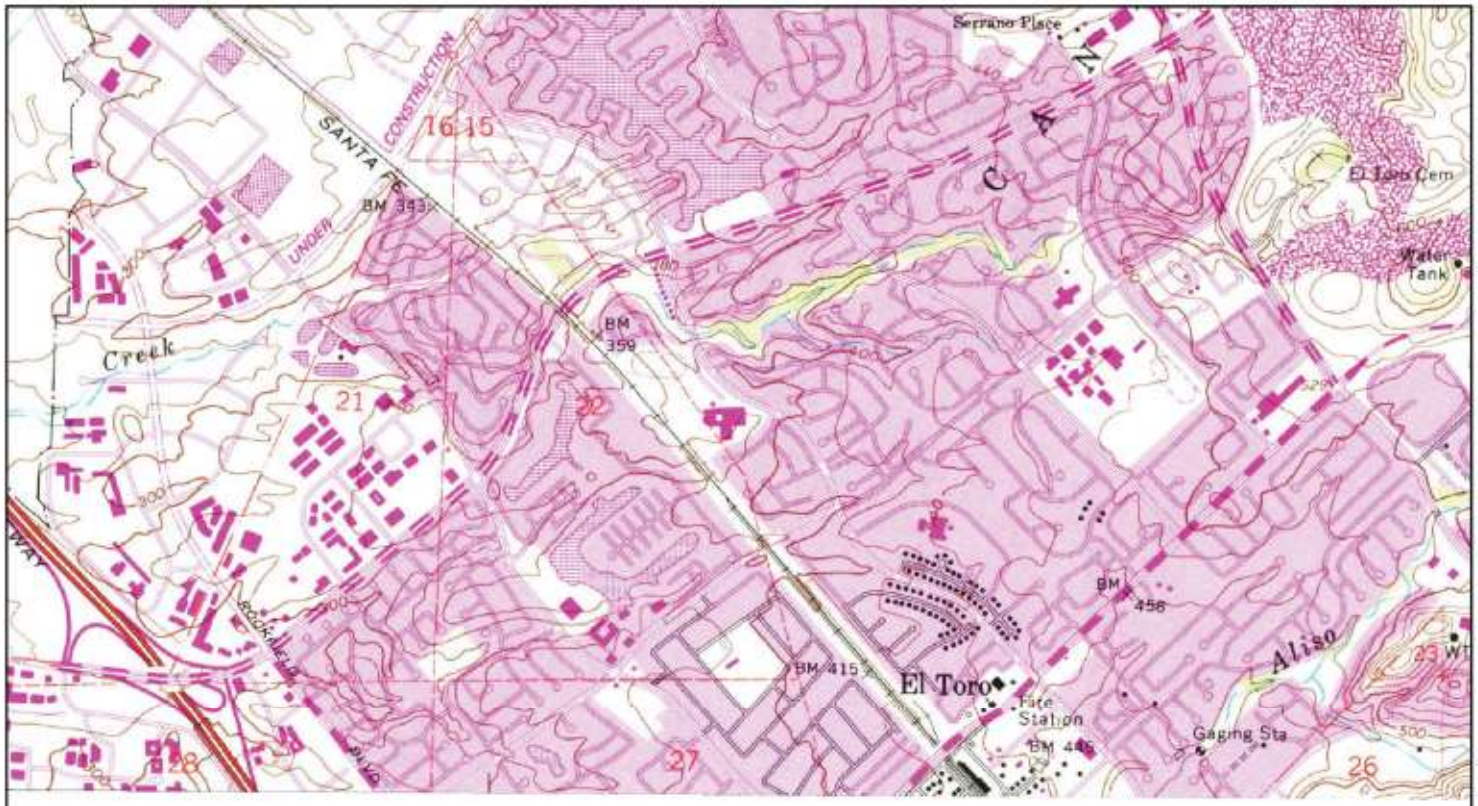
ENVIRONMENTAL RISK INFORMATION SERVICES



1982

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

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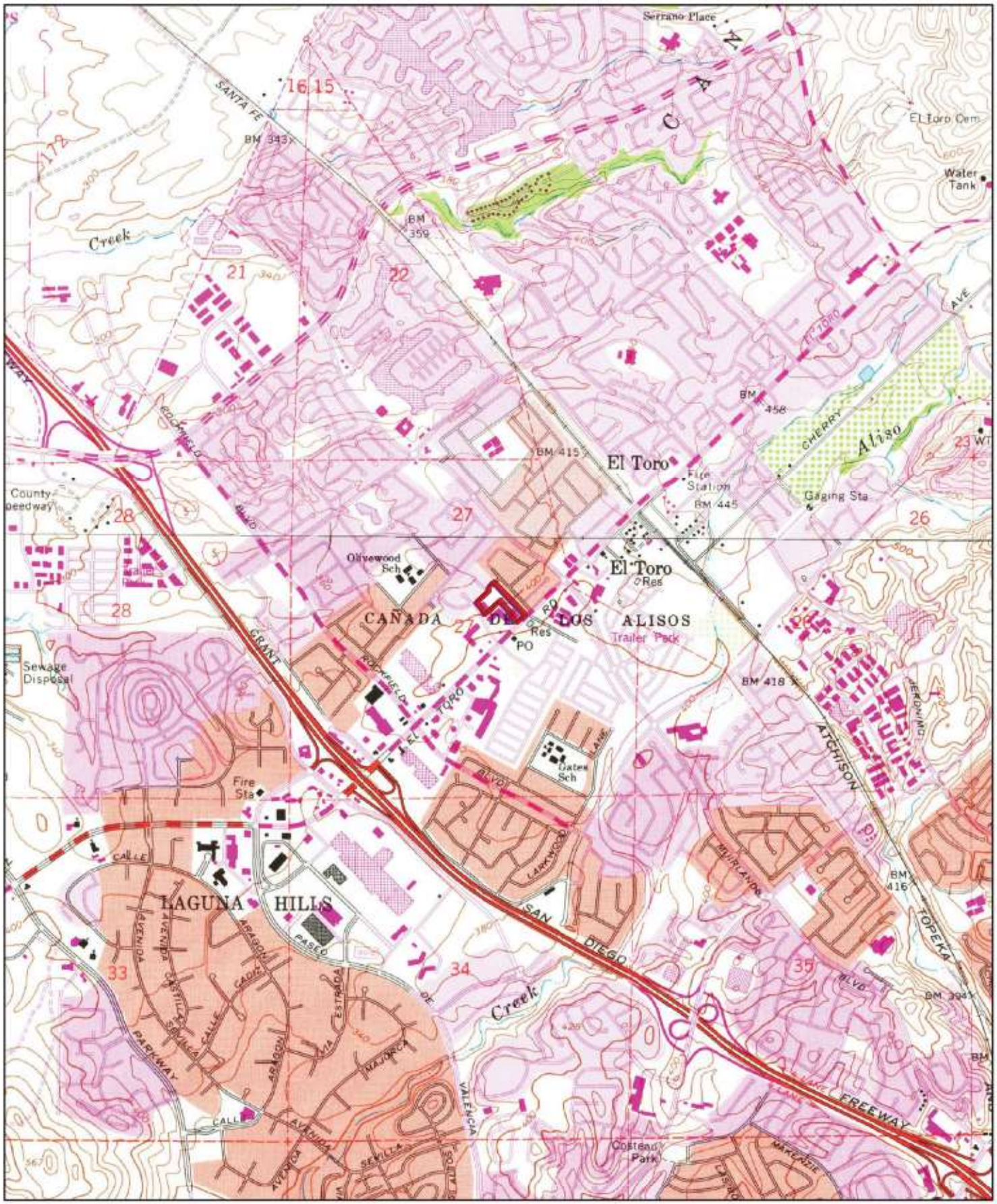
ENVIRONMENTAL RISK INFORMATION SERVICES



1981

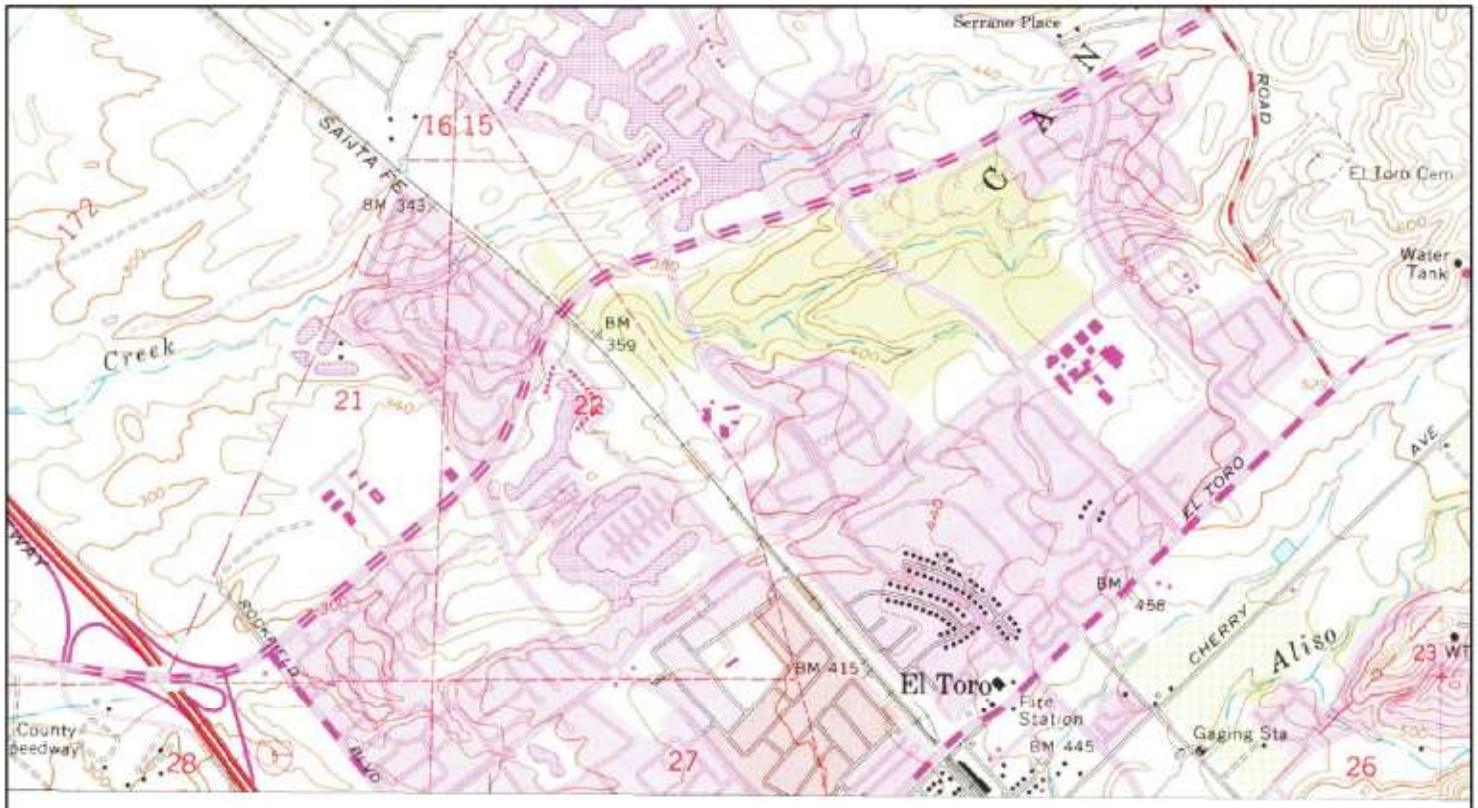
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1978

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

1974

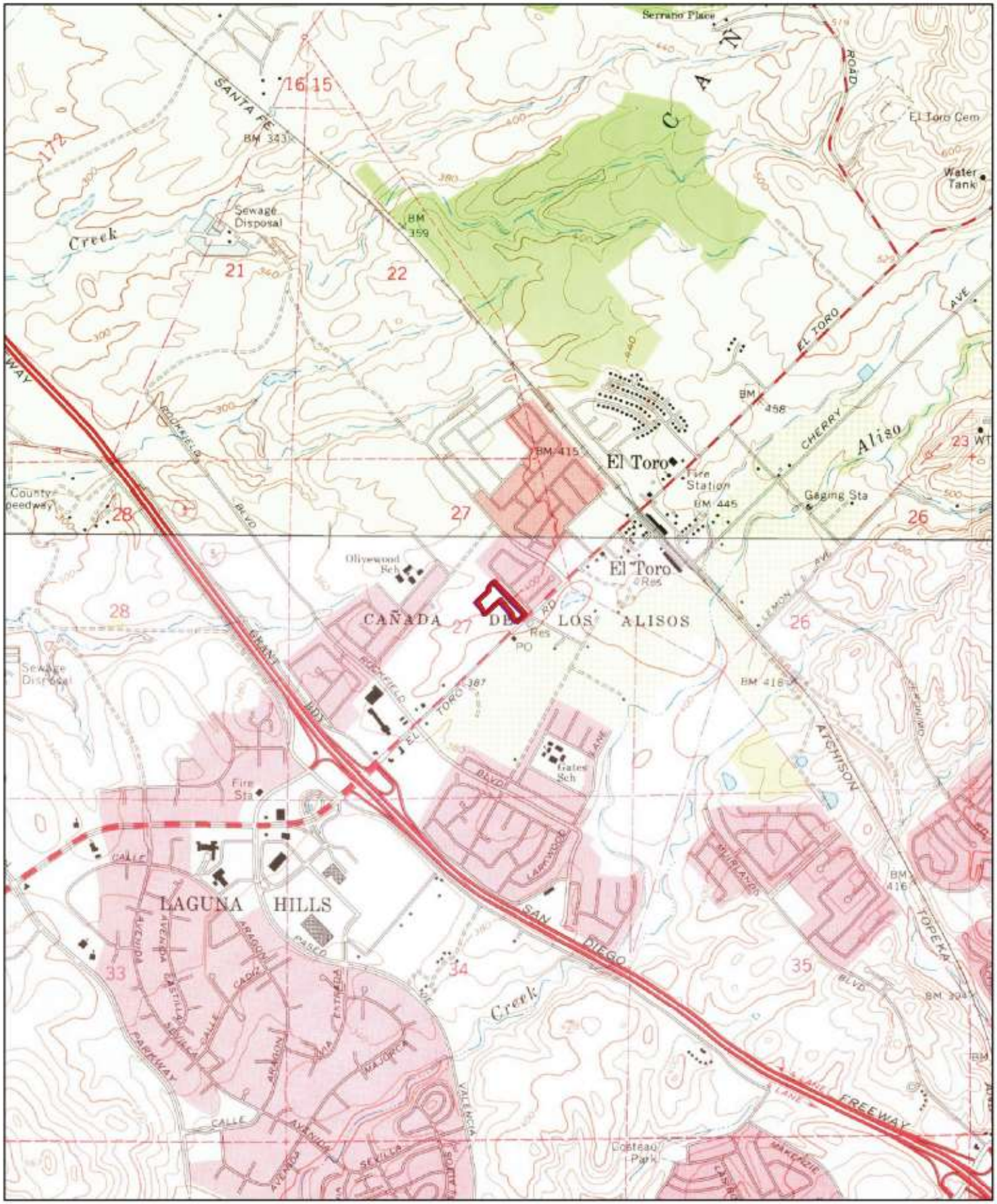
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1968

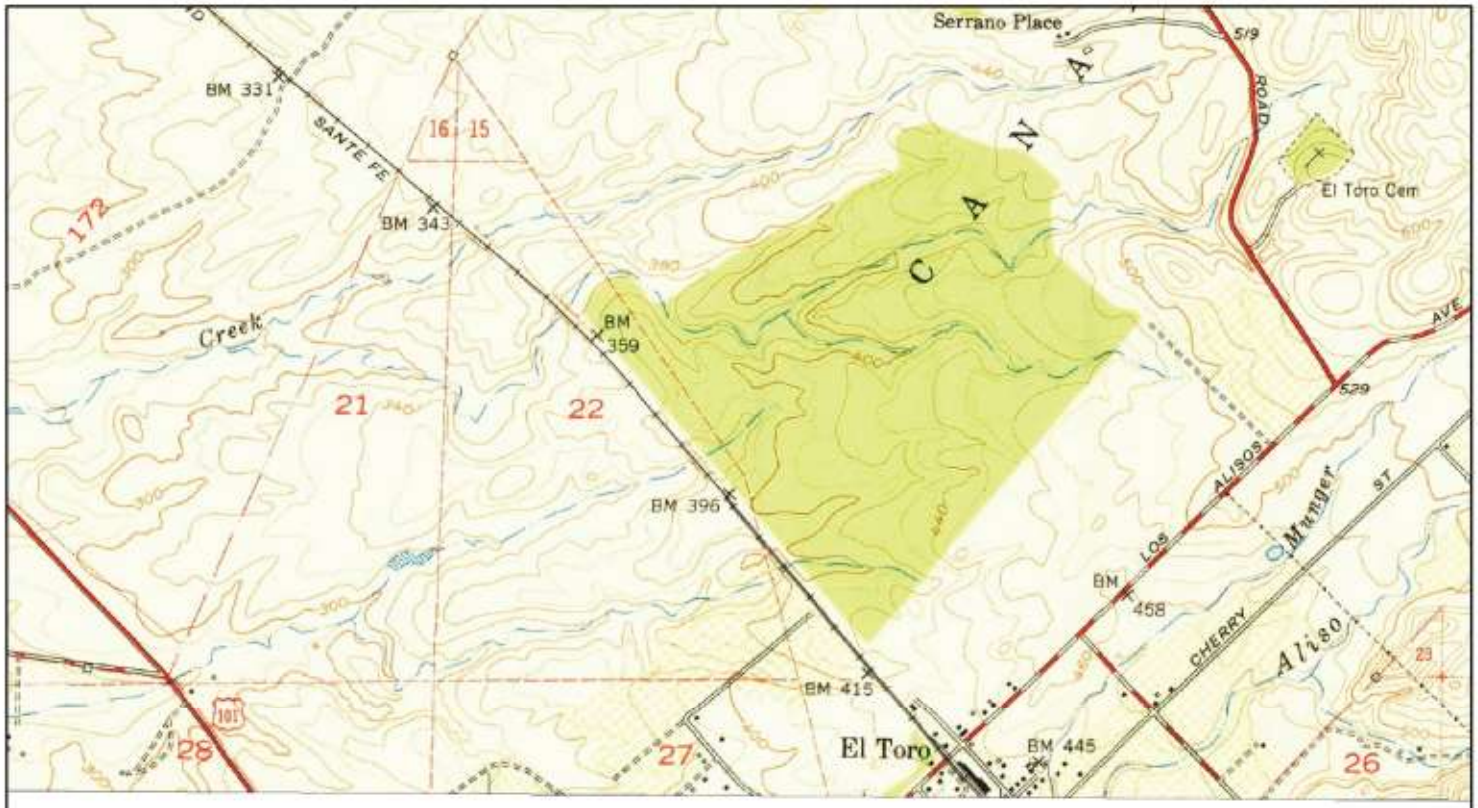
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1950

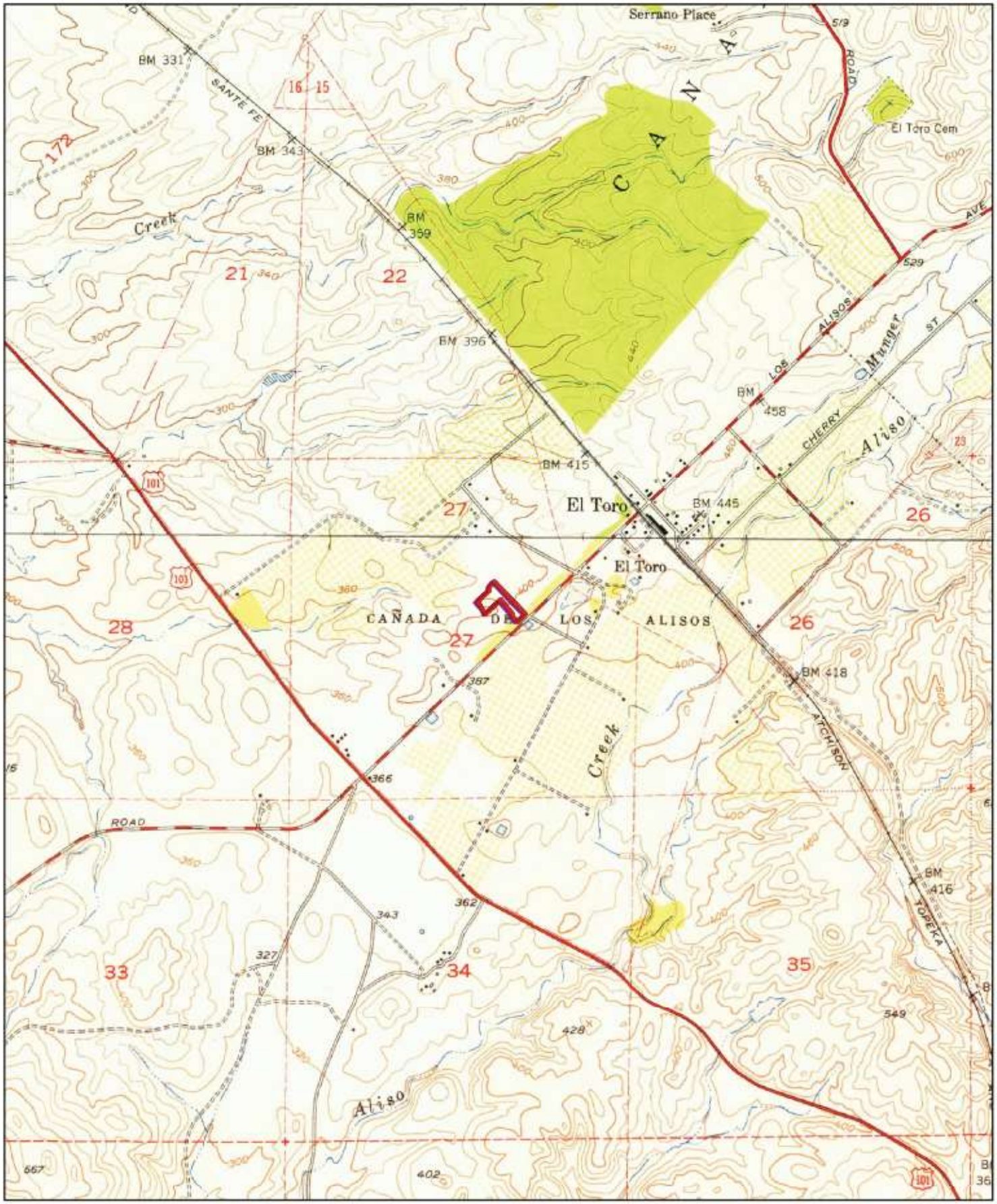
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1949

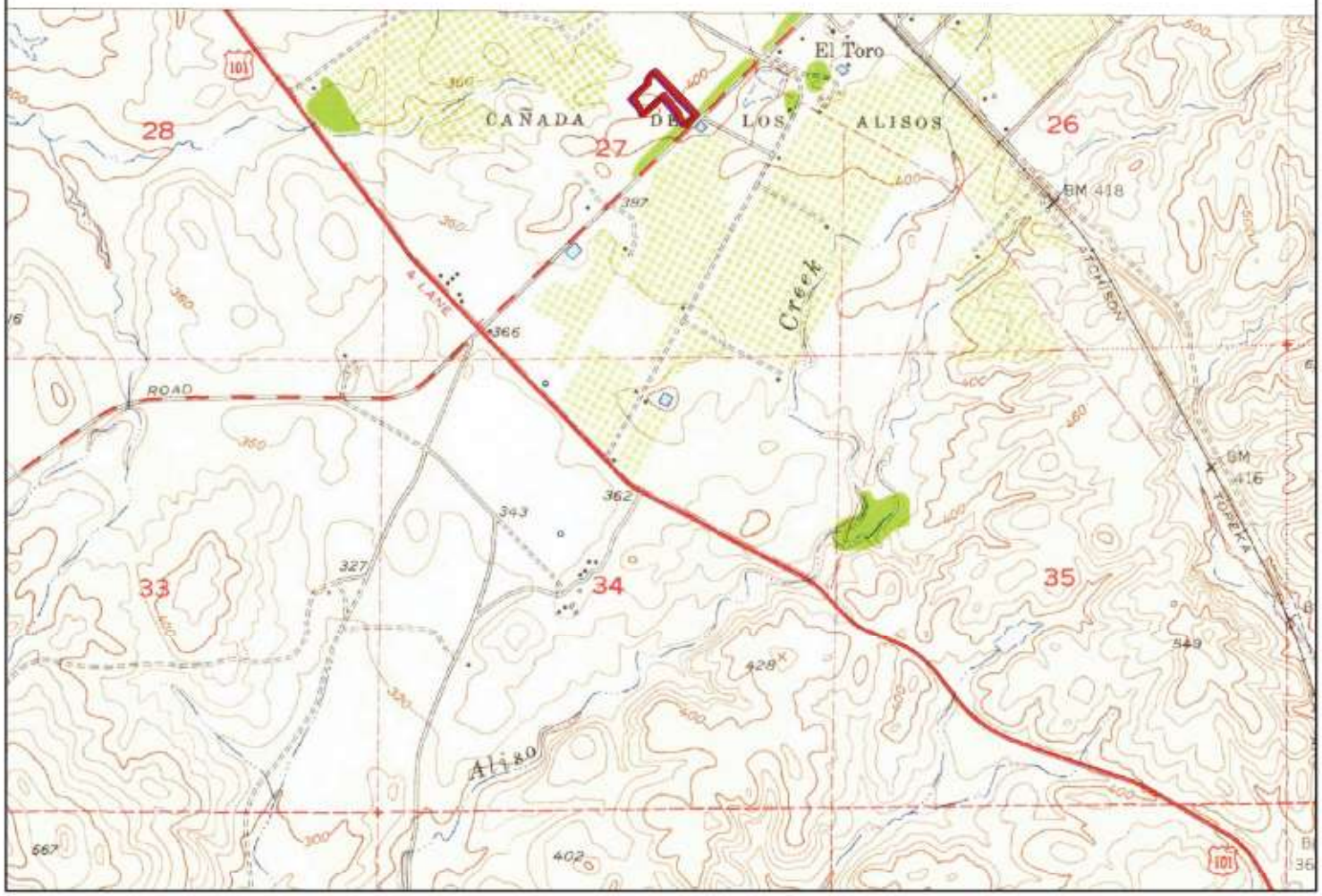
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA; San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1948

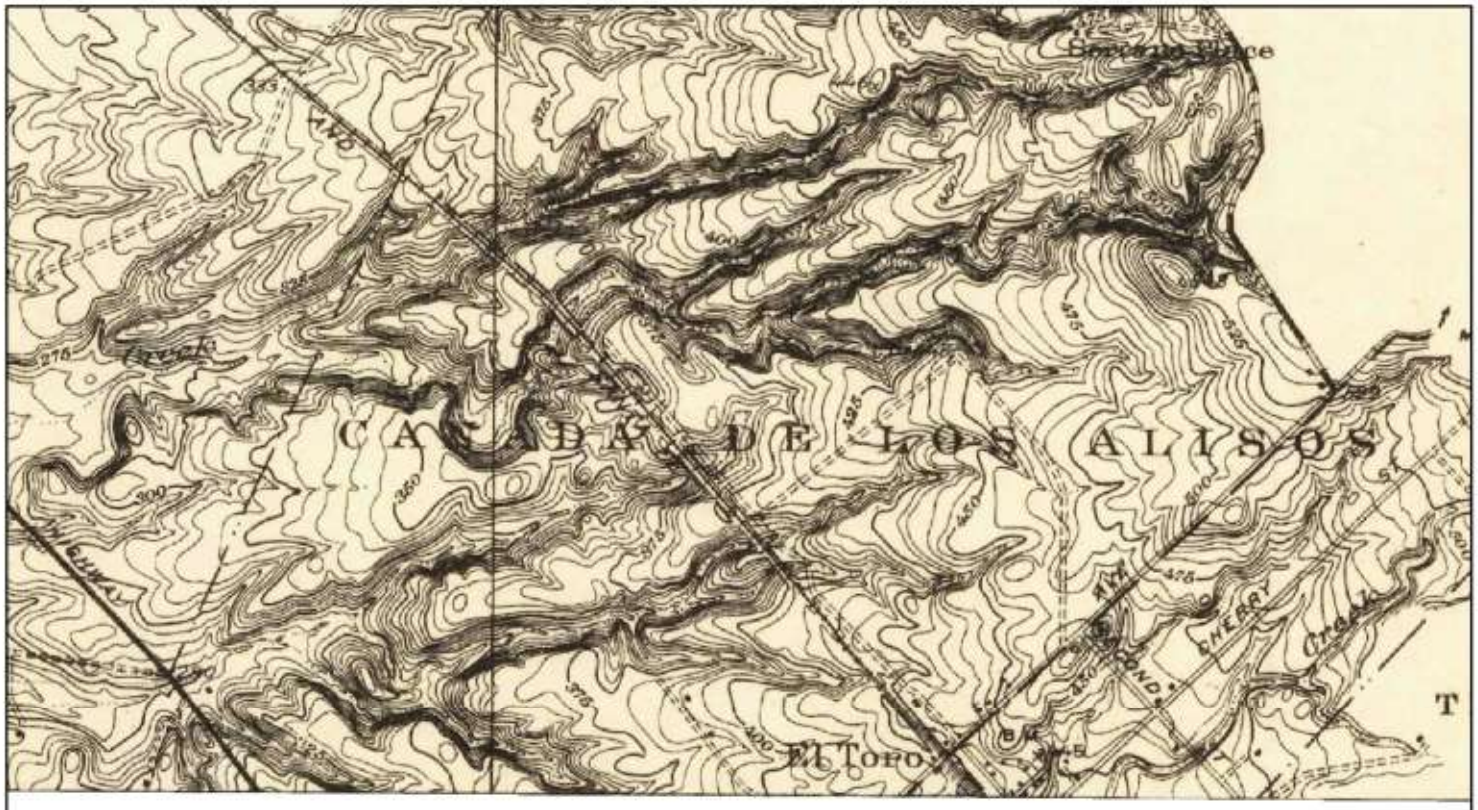
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): San Juan Capistrano,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1935

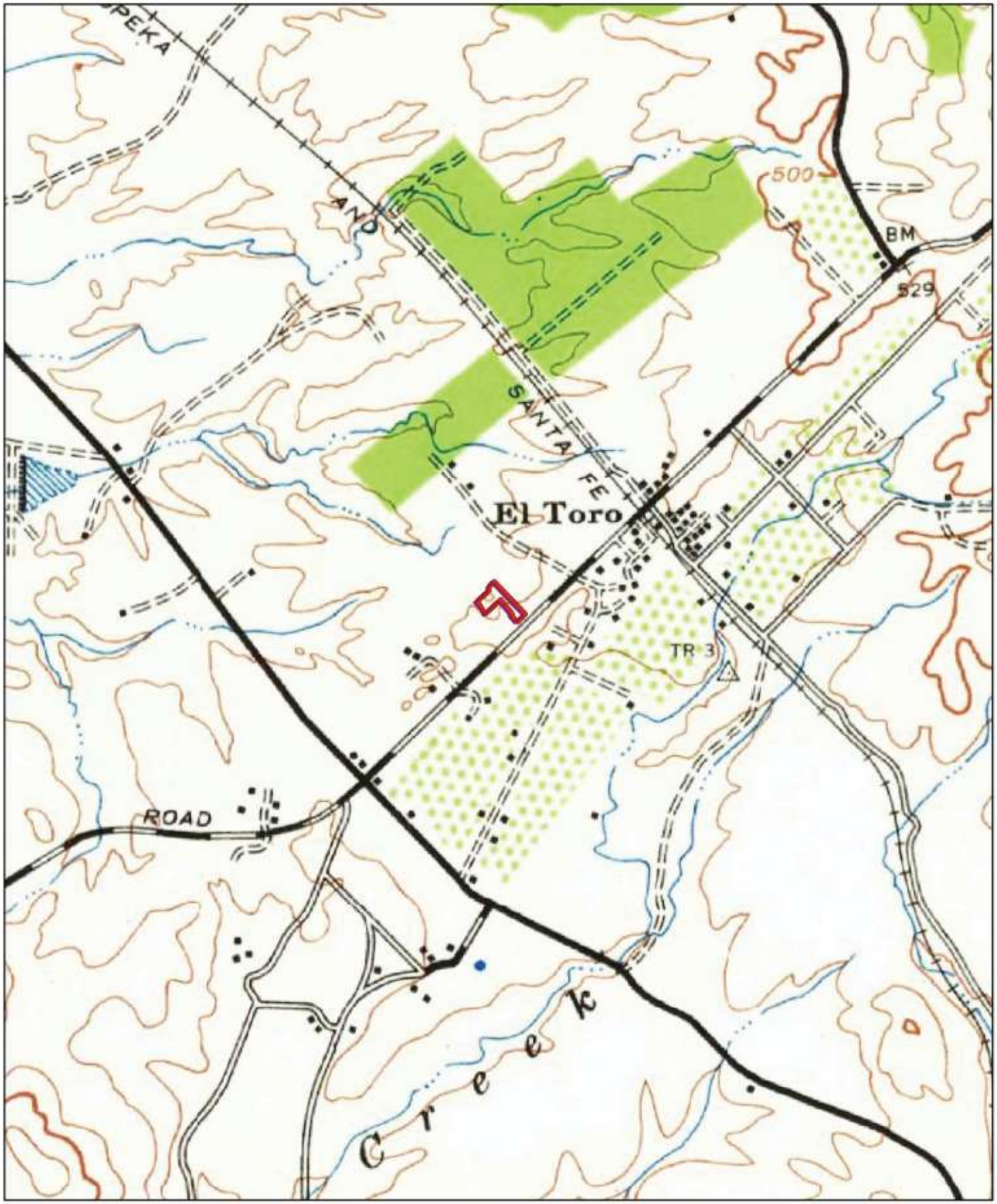
0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): El Toro,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1942

0 0.2 0.4 0.8 Miles

Order No. 20190618288

Quadrangle(s): Santiago Peak,CA

Source: USGS 15 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL RISK INFORMATION SERVICES

HISTORICAL AERIALS

Project Property:	*National CORE/El Toro Road*
	23591 El Toro Road
	Lake Forest, CA 92630
Project No:	*19-42-162-01*
Requested By:	*Converse Consultants*
Order No:	*20190618288*
Date Completed:	*June 19, 2019*

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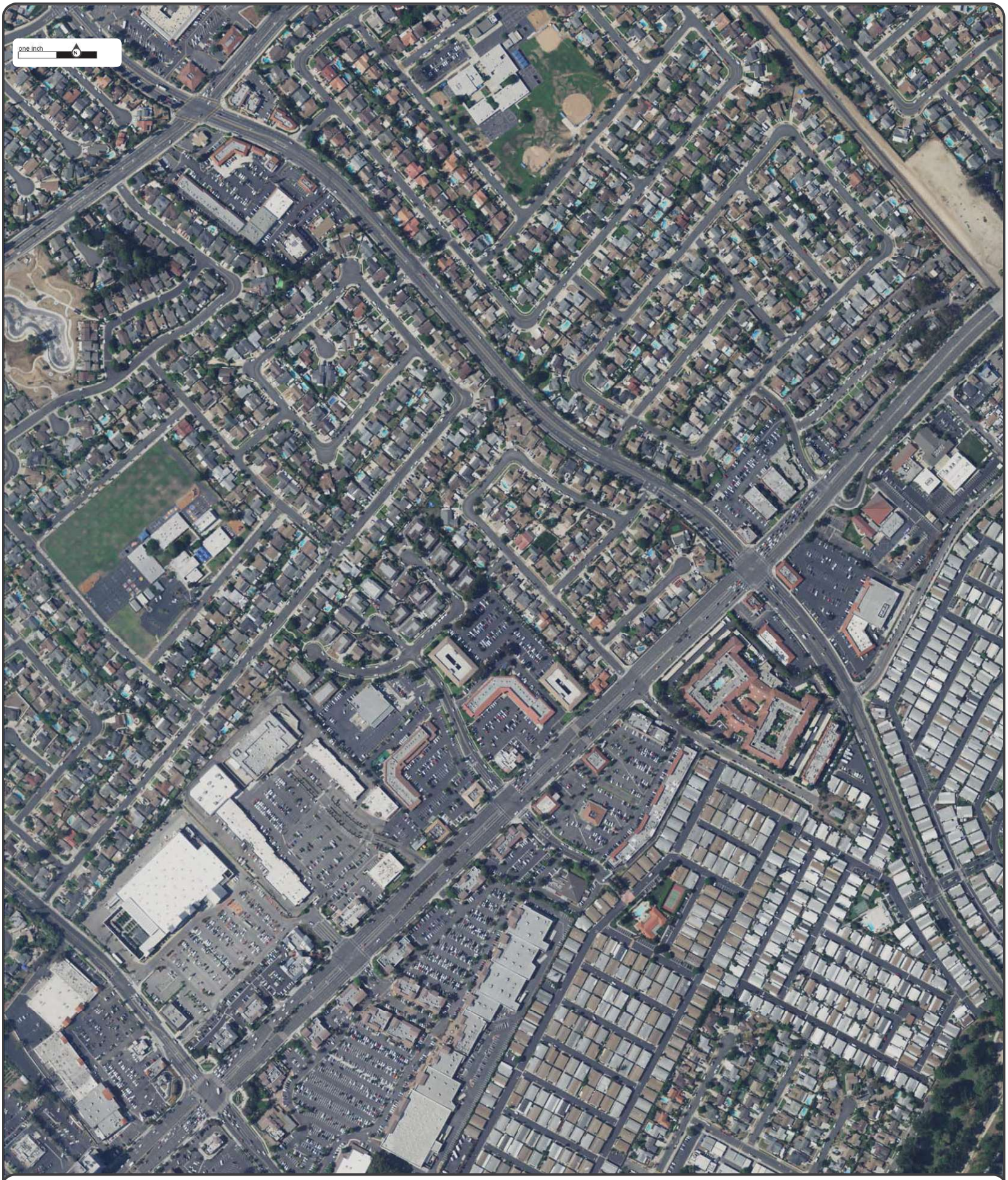
Search Results Summary

Year	Source	Scale	Comment
2018	**NAIP** - National Agriculture Information Program	1"=500'	
2016	**NAIP** - National Agriculture Information Program	1"=500'	
2014	**NAIP** - National Agriculture Information Program	1"=500'	
2012	**NAIP** - National Agriculture Information Program	1"=500'	
2010	**NAIP** - National Agriculture Information Program	1"=500'	
2009	**NAIP** - National Agriculture Information Program	1"=500'	
2005	**NAIP** - National Agriculture Information Program	1"=500'	
2002	**USGS** - US Geological Survey	1"=500'	
1994	**USGS** - US Geological Survey	1"=500'	
1988	**NHAP** - National High Altitude Photography	1"=500'	
1981	**USGS** - US Geological Survey	1"=500'	
1972	**USGS** - US Geological Survey	1"=500'	
1967	**USGS** - US Geological Survey	1"=500'	
1963	**USGS** - US Geological Survey	1"=500'	
1958	**FAIRCHILD** - Private Company	1"=500'	
1952	**ASCS** - Agriculture and Soil Conservation Service	1"=500'	
1946	**ASCS** - Agriculture and Soil Conservation Service	1"=500'	
1939	**FAIRCHILD** - Private Company	1"=500'	
1931	**FAIRCHILD** - Private Company	1"=500'	*BEST COPY AVAILABLE*



Order No: 20190618288

Year: **2018**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ENVIRONMENTAL RISK INFORMATION SERVICES

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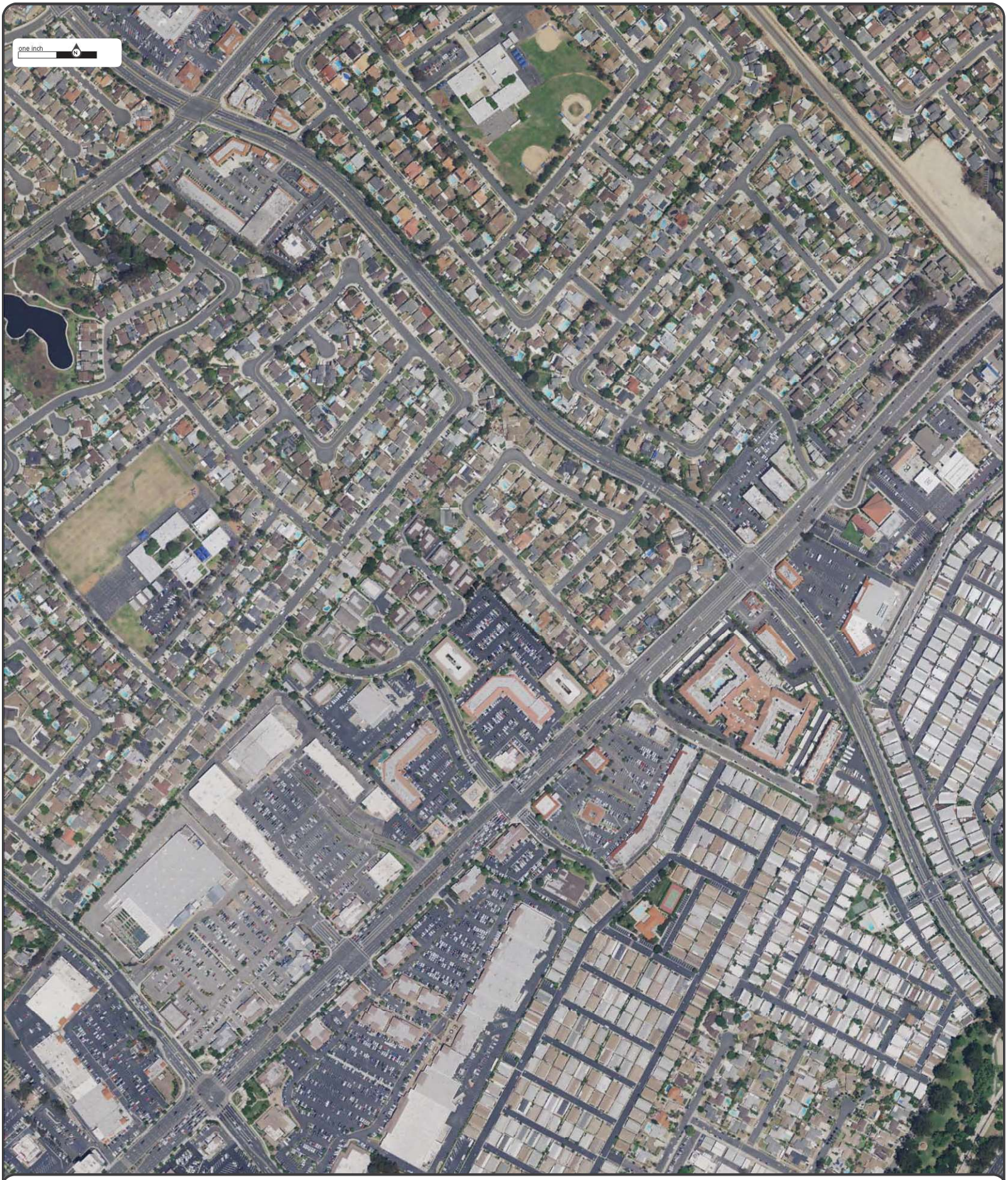


Order No: 20190618288

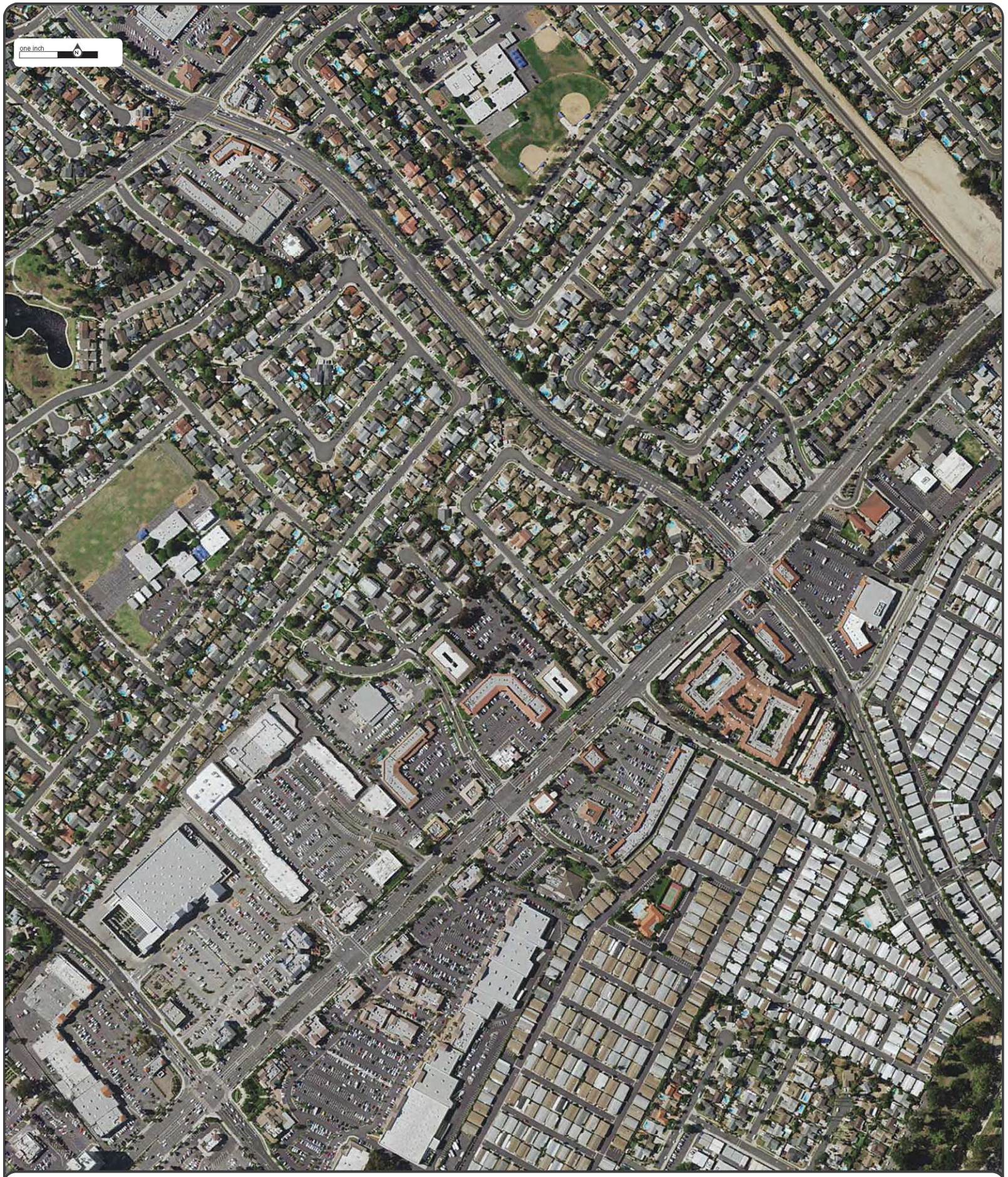
Year: **2016**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190618288

Year: **2014**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **2012**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **2010**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **2009**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

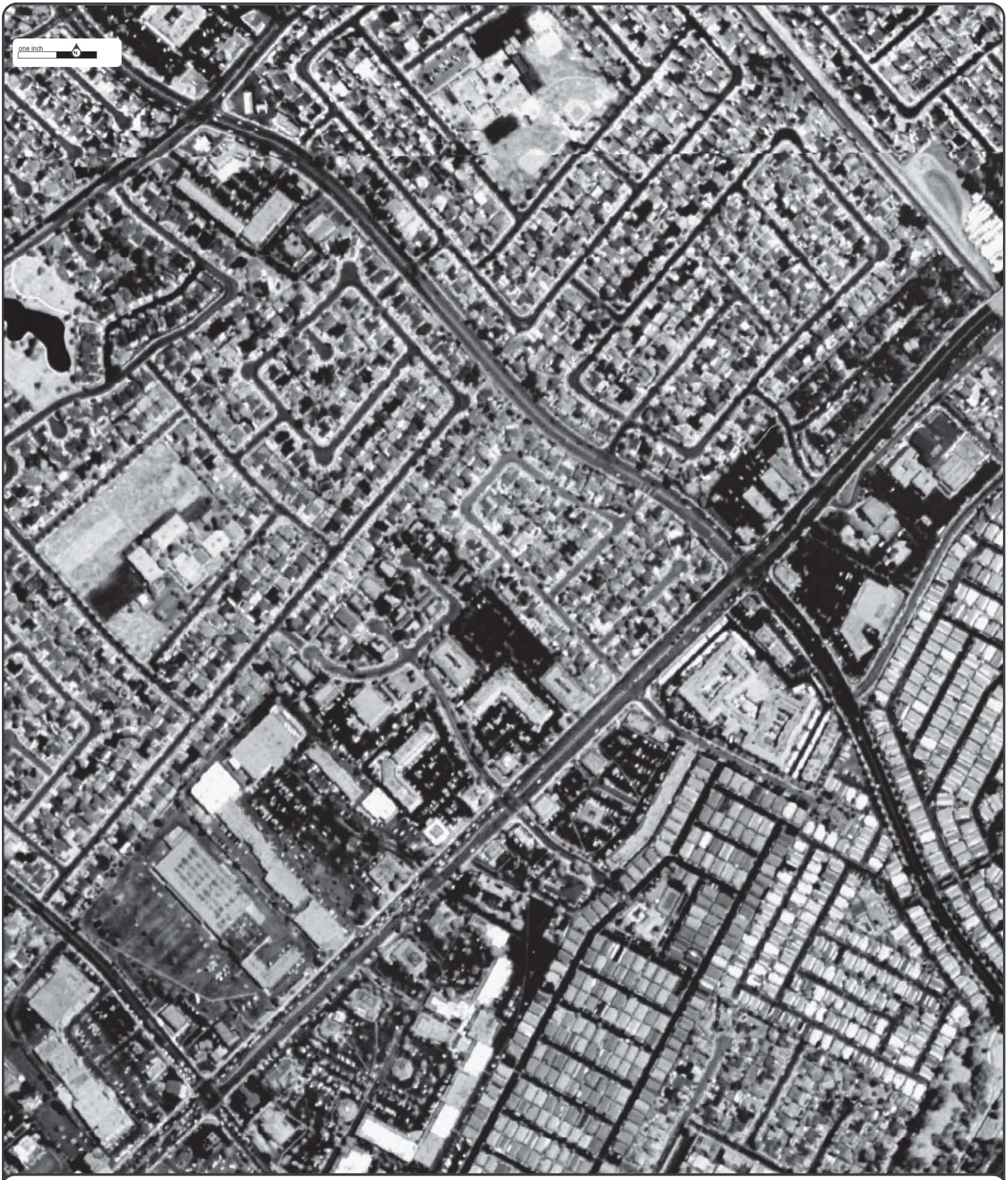
Year: **2005**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190618288

Year: **2002**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1994**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1988**
Source: **NHAP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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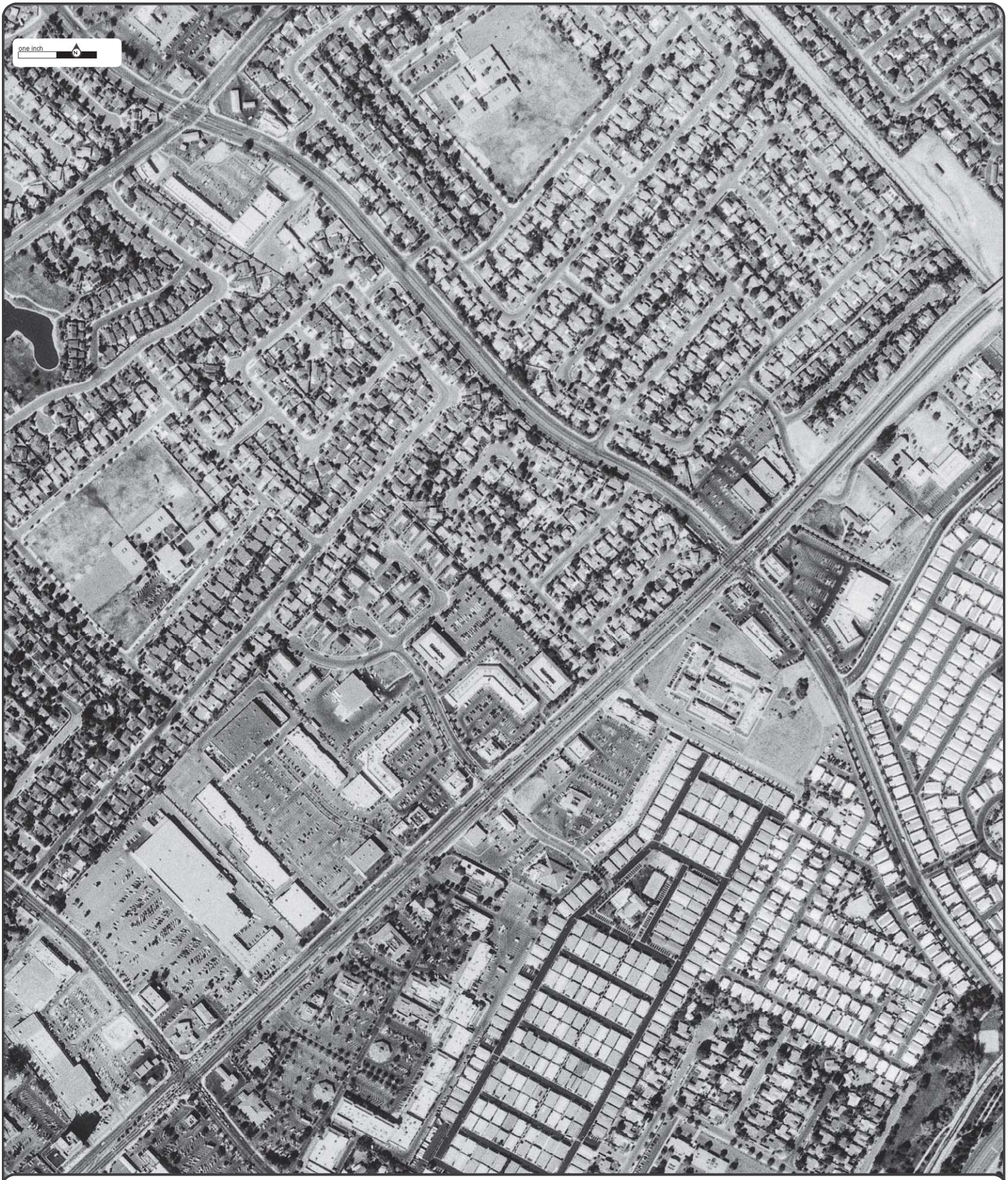

Order No: 20190618288

Year: **1981**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1972**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1967**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1963**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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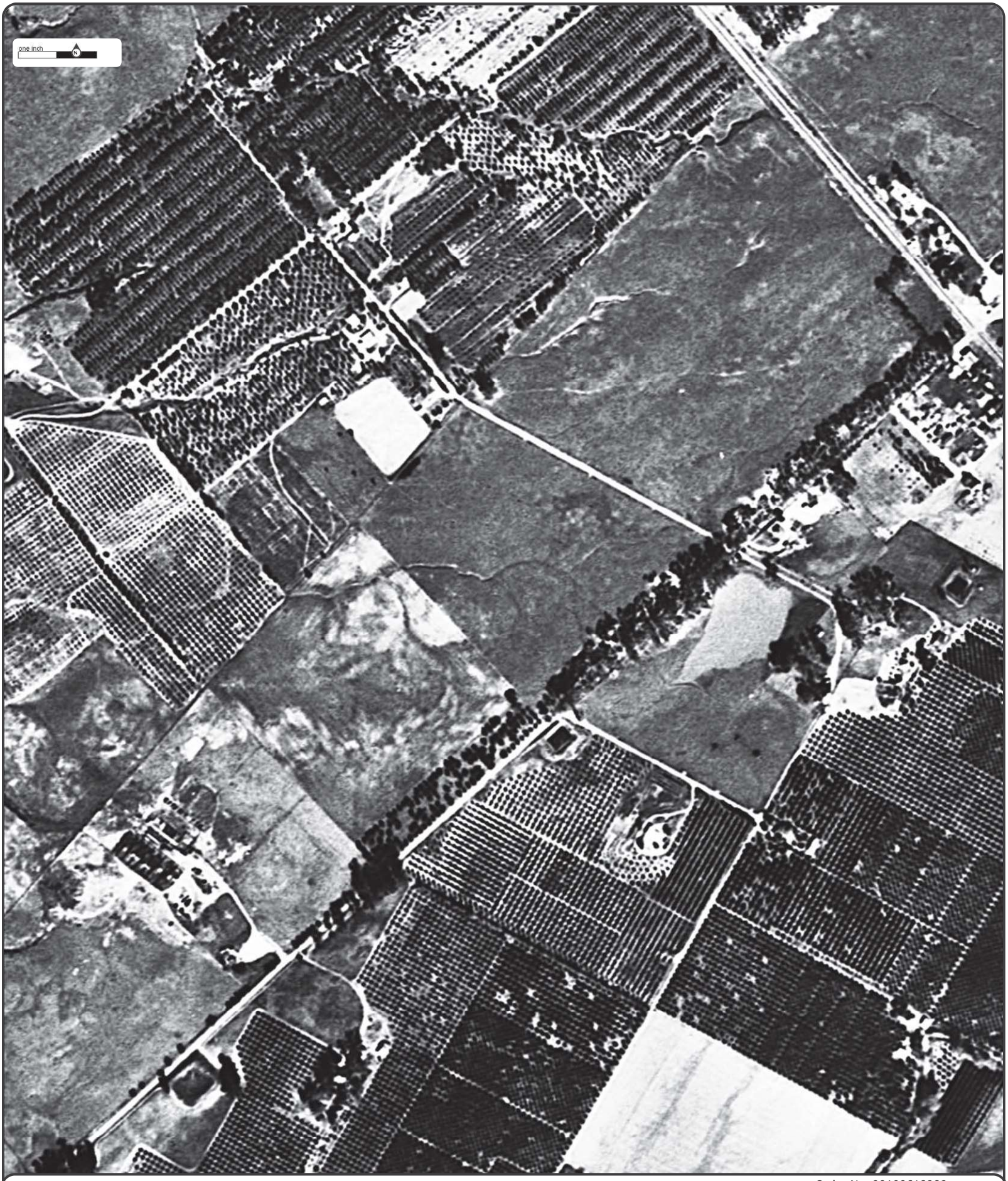

Order No: 20190618288

Year: **1958**
Source: **FAIRCHILD**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1952**
Source: **ASCS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1946**
Source: **ASCS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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Order No: 20190618288

Year: **1939**
Source: **FAIRCHILD**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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Order No: 20190618288

Year: **1931**
Source: **FAIRCHILD**
Scale: **1" to 500'**
Comments: *BEST COPY AVAILABLE*

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

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ENVIRONMENTAL RISK INFORMATION SERVICES

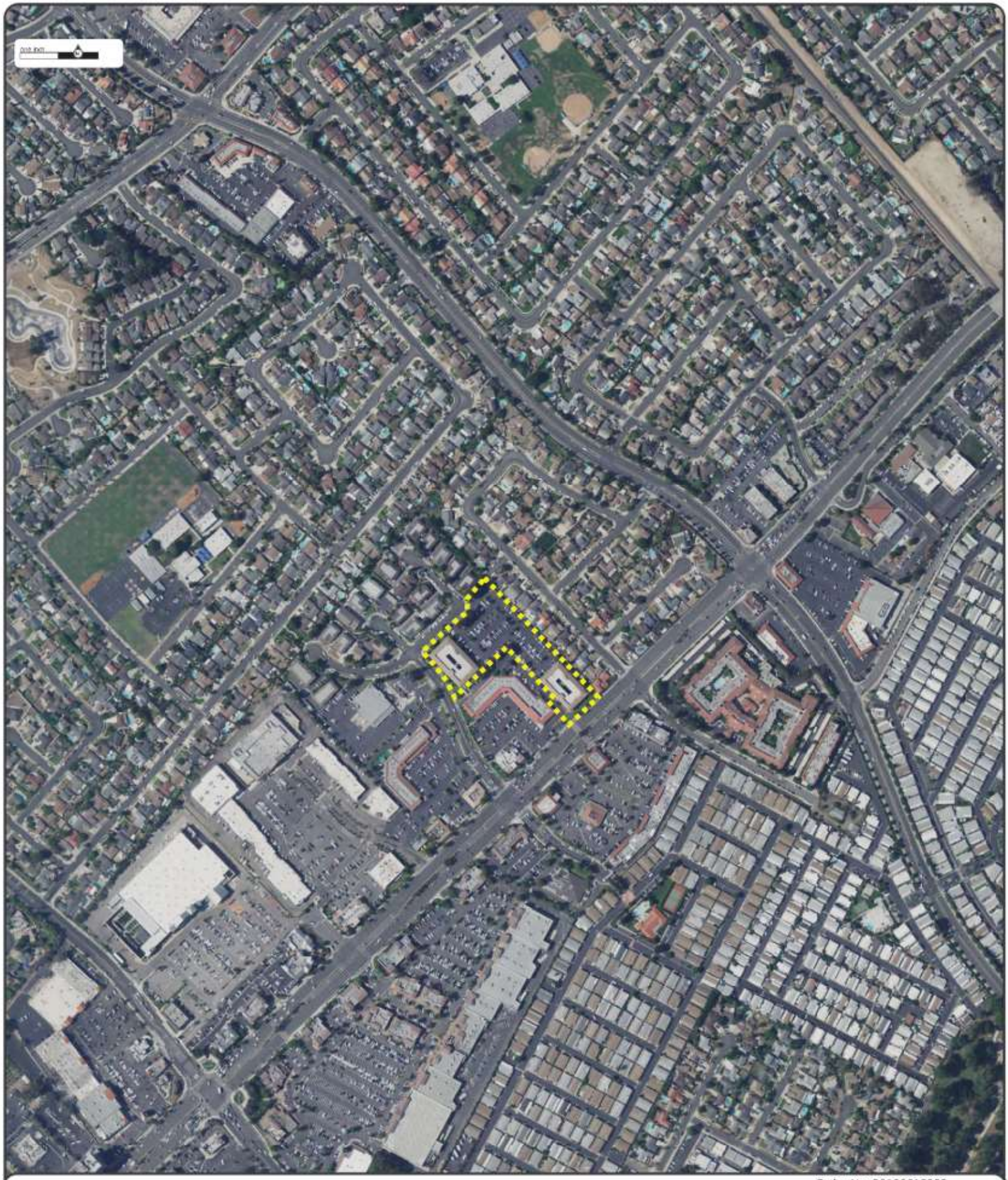
HISTORICAL AERIALS

Project Property:	*National CORE/El Toro Road*
	23591 El Toro Road
	Lake Forest, CA 92630
Project No:	*19-42-162-01*
Requested By:	*Converse Consultants*
Order No:	*20190618288*
Date Completed:	*June 19, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Year	Source	Scale	Comment
2018	**NAIP** - National Agriculture Information Program	1"=500'	
2016	**NAIP** - National Agriculture Information Program	1"=500'	
2014	**NAIP** - National Agriculture Information Program	1"=500'	
2012	**NAIP** - National Agriculture Information Program	1"=500'	
2010	**NAIP** - National Agriculture Information Program	1"=500'	
2009	**NAIP** - National Agriculture Information Program	1"=500'	
2005	**NAIP** - National Agriculture Information Program	1"=500'	
2002	**USGS** - US Geological Survey	1"=500'	
1994	**USGS** - US Geological Survey	1"=500'	
1988	**NHAP** - National High Altitude Photography	1"=500'	
1981	**USGS** - US Geological Survey	1"=500'	
1972	**USGS** - US Geological Survey	1"=500'	
1967	**USGS** - US Geological Survey	1"=500'	
1963	**USGS** - US Geological Survey	1"=500'	
1958	**FAIRCHILD** - Private Company	1"=500'	
1952	**ASCS** - Agriculture and Soil Conservation Service	1"=500'	
1946	**ASCS** - Agriculture and Soil Conservation Service	1"=500'	
1939	**FAIRCHILD** - Private Company	1"=500'	
1931	**FAIRCHILD** - Private Company	1"=500'	*BEST COPY AVAILABLE*



Order No: 20190618288

Year: 2018
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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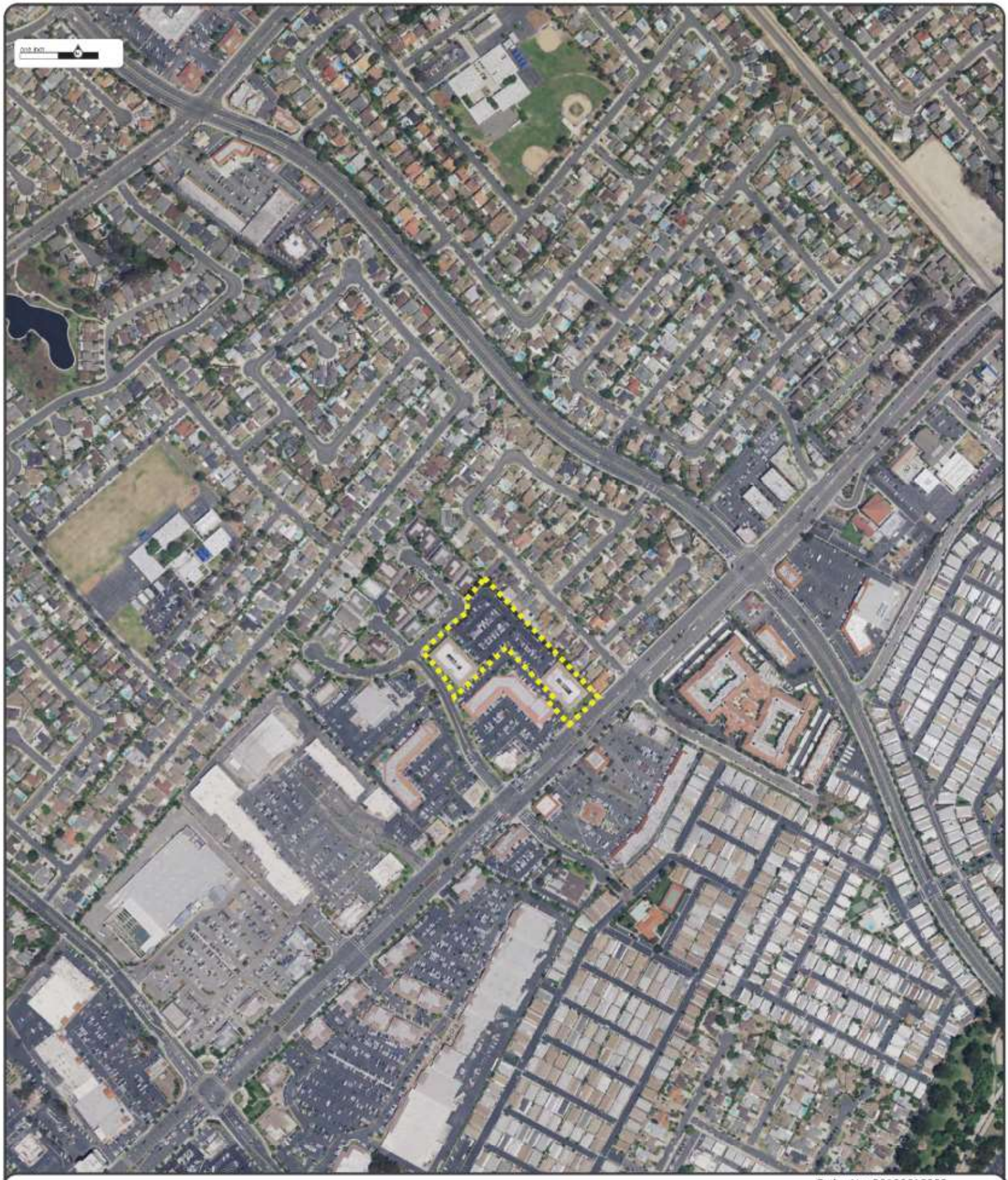

Order No: 20190618288

Year: **2016**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

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ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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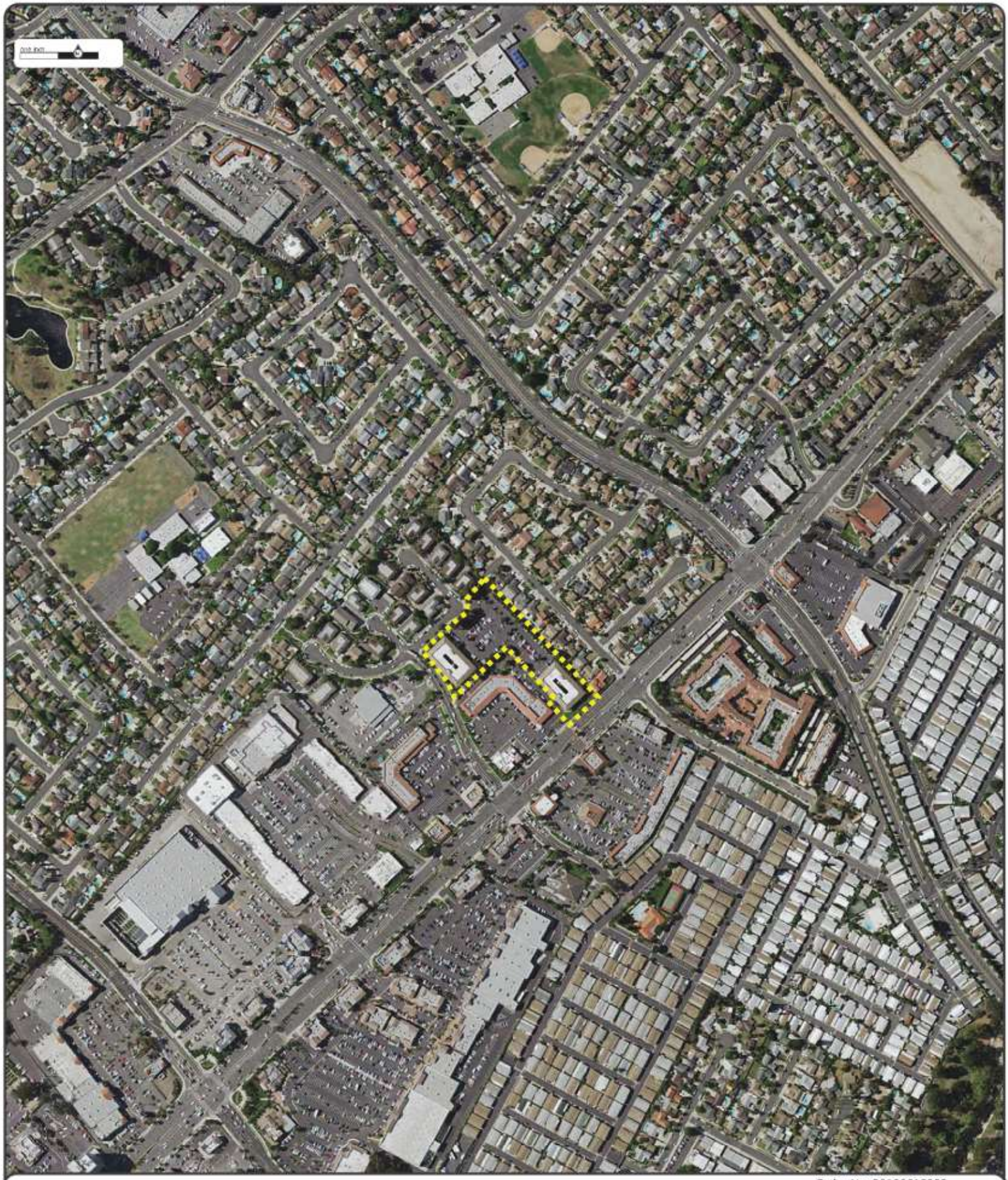

Order No: 20190618288

Year: 2014
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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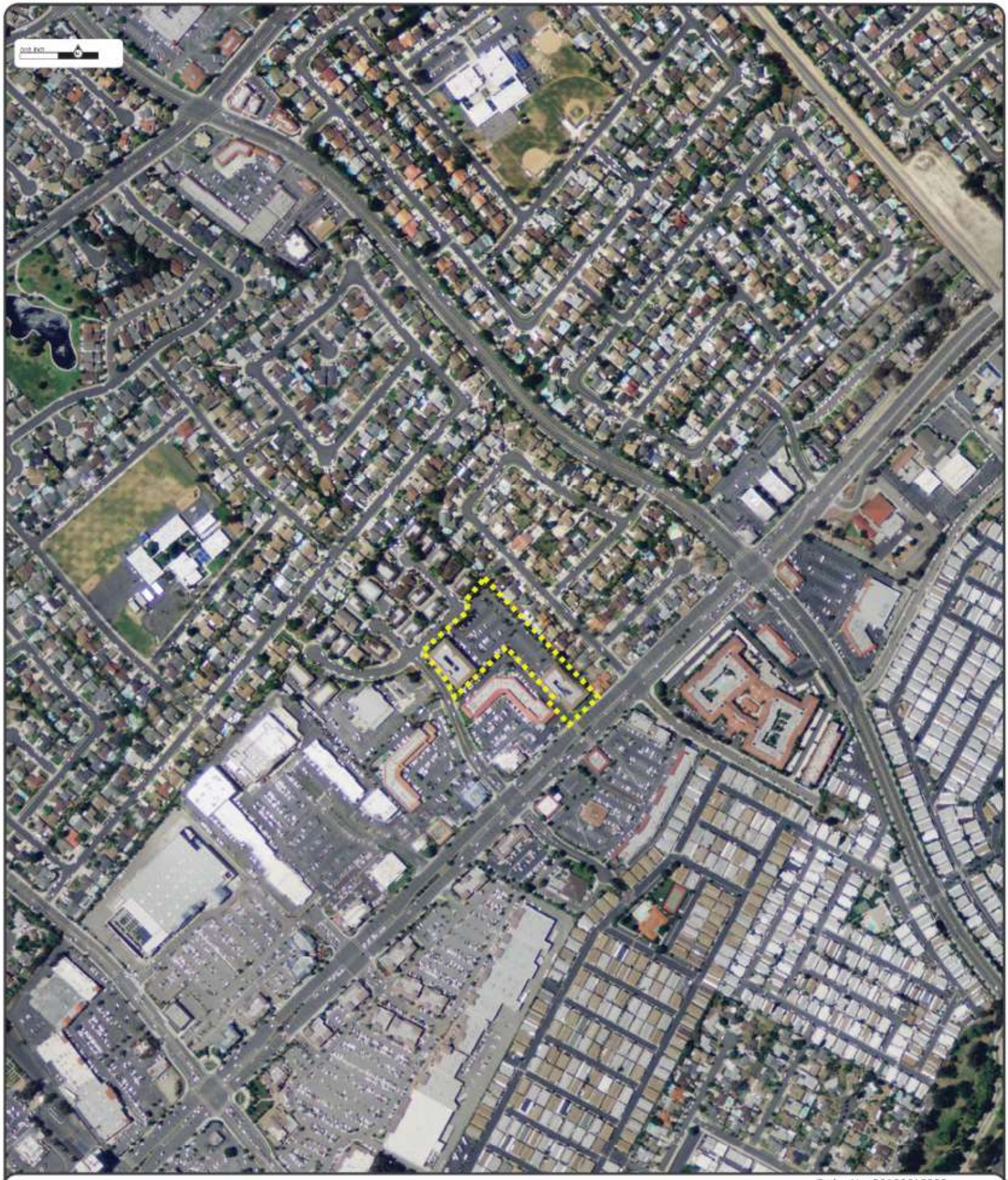

Order No: 20190618288

Year: **2012**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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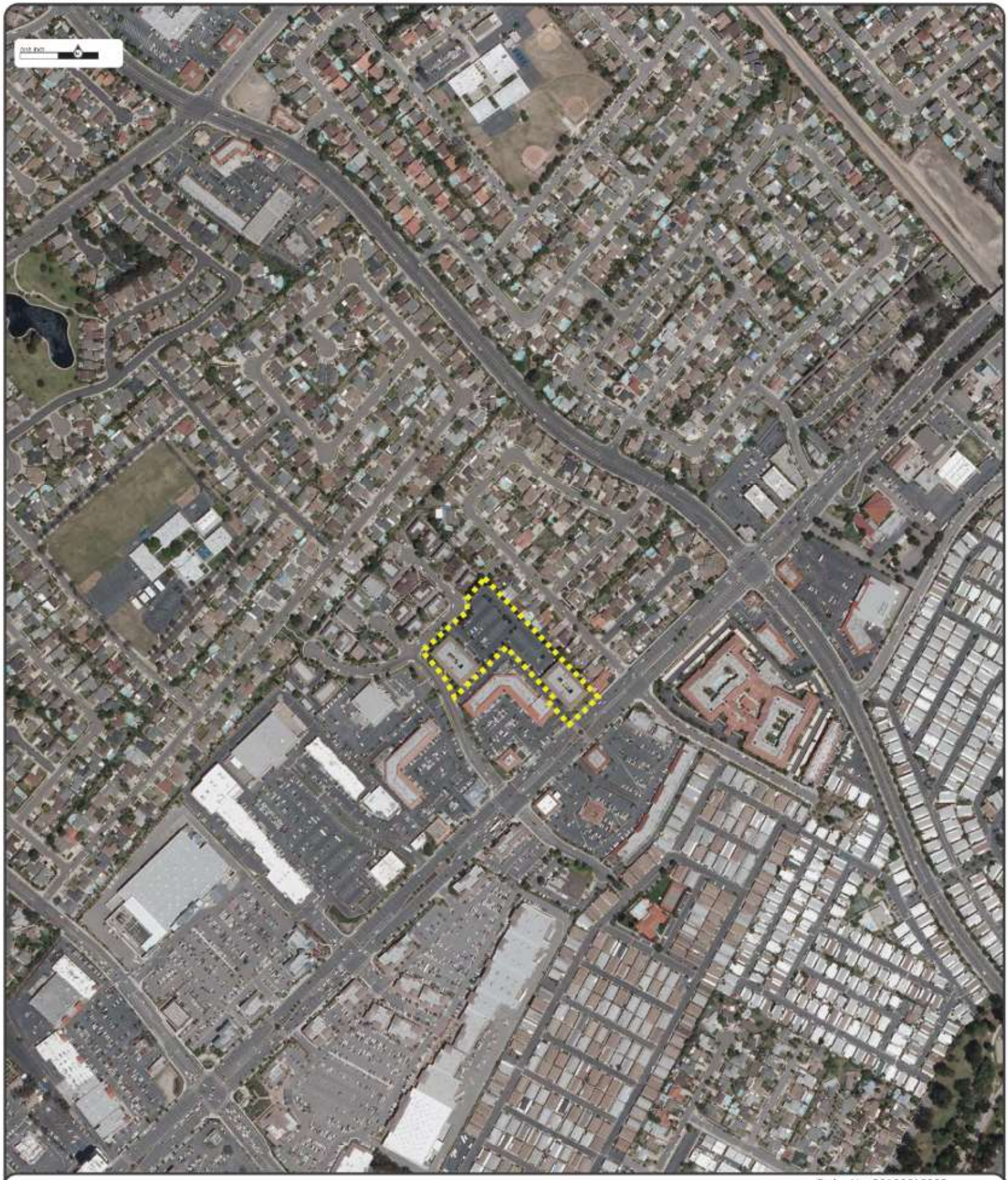

Order No: 20190618288

Year: **2010**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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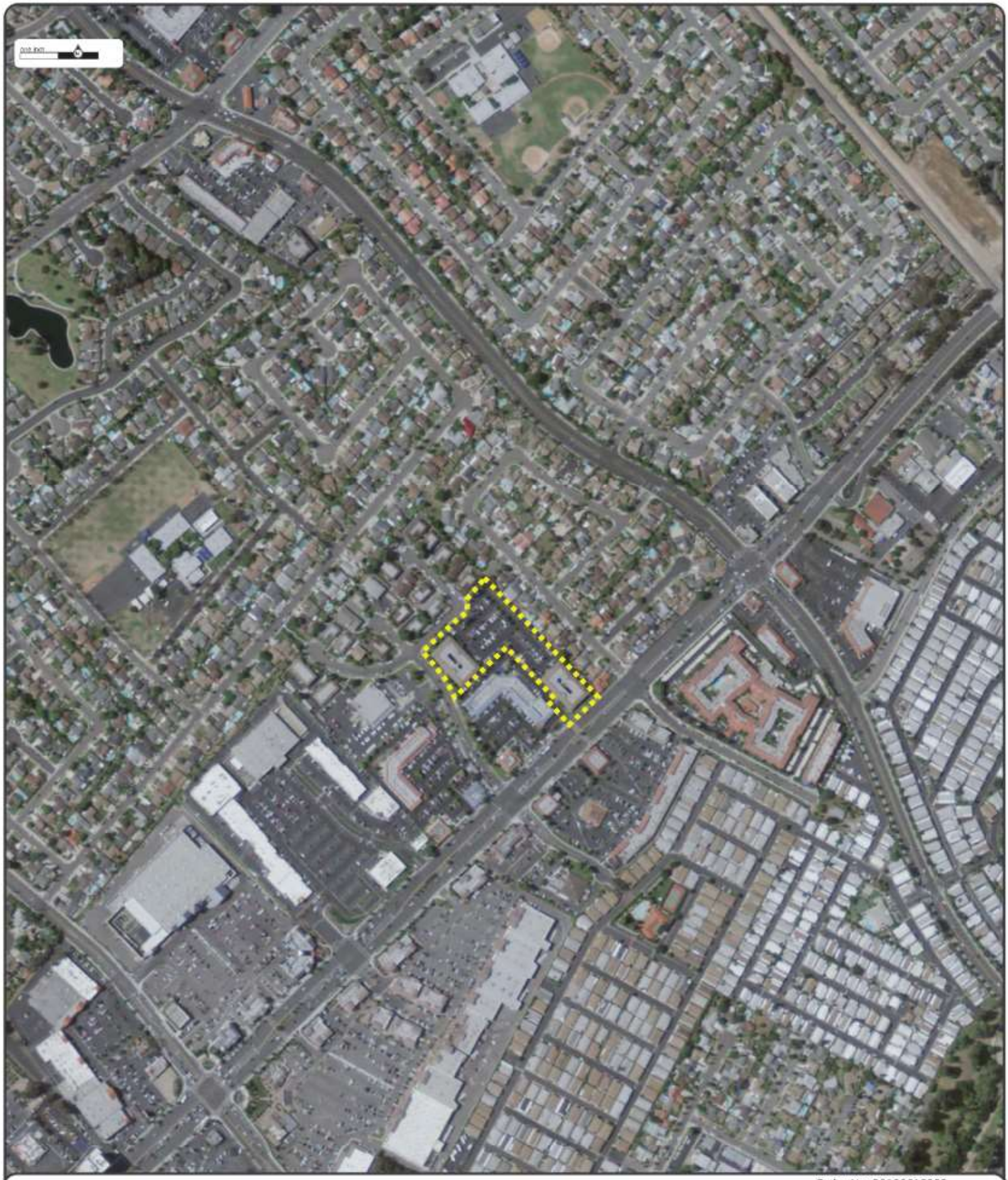


Order No: 20190618288

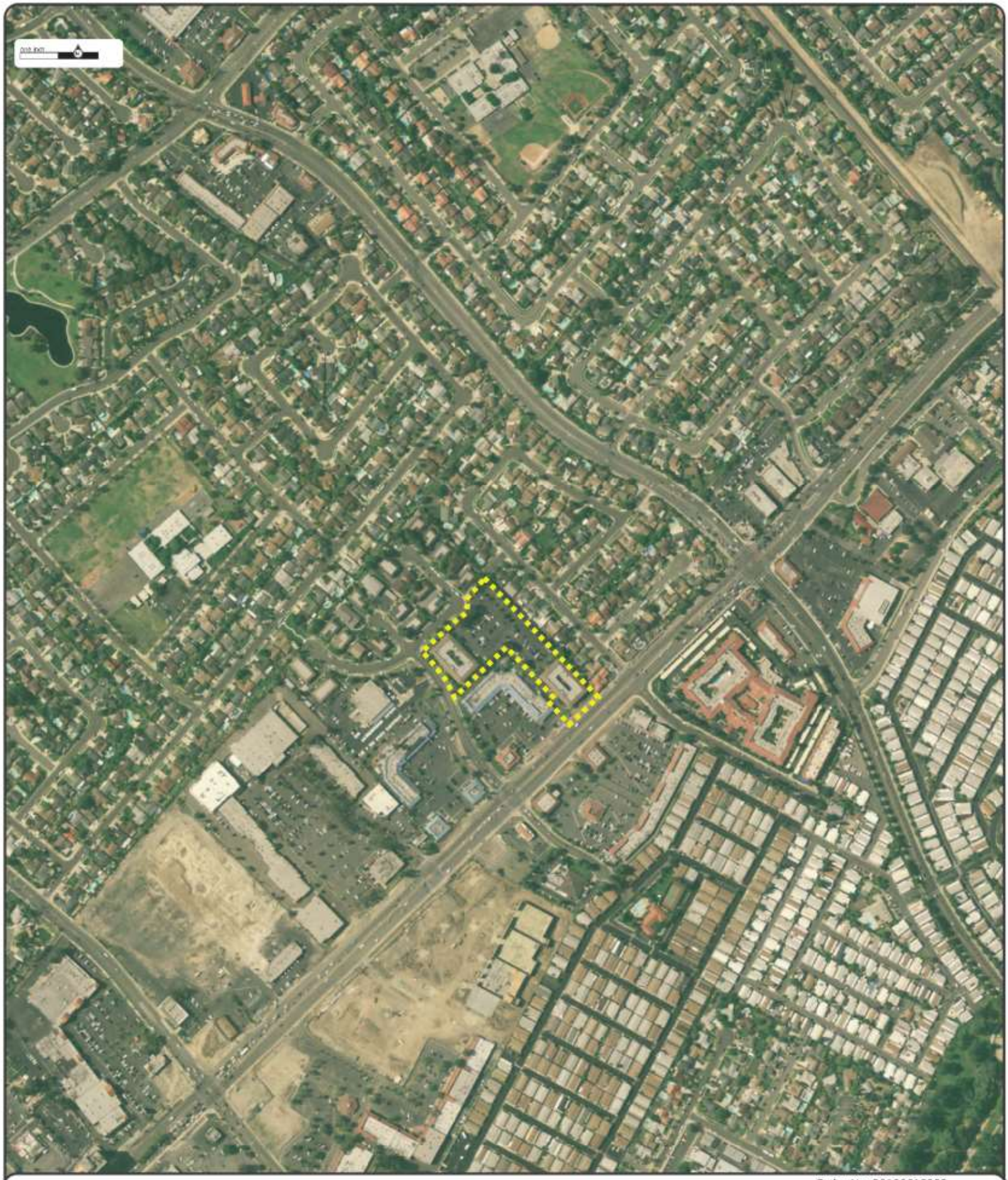
Year: 2009
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190618288

Year: 2005
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: 2002
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: 1994
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

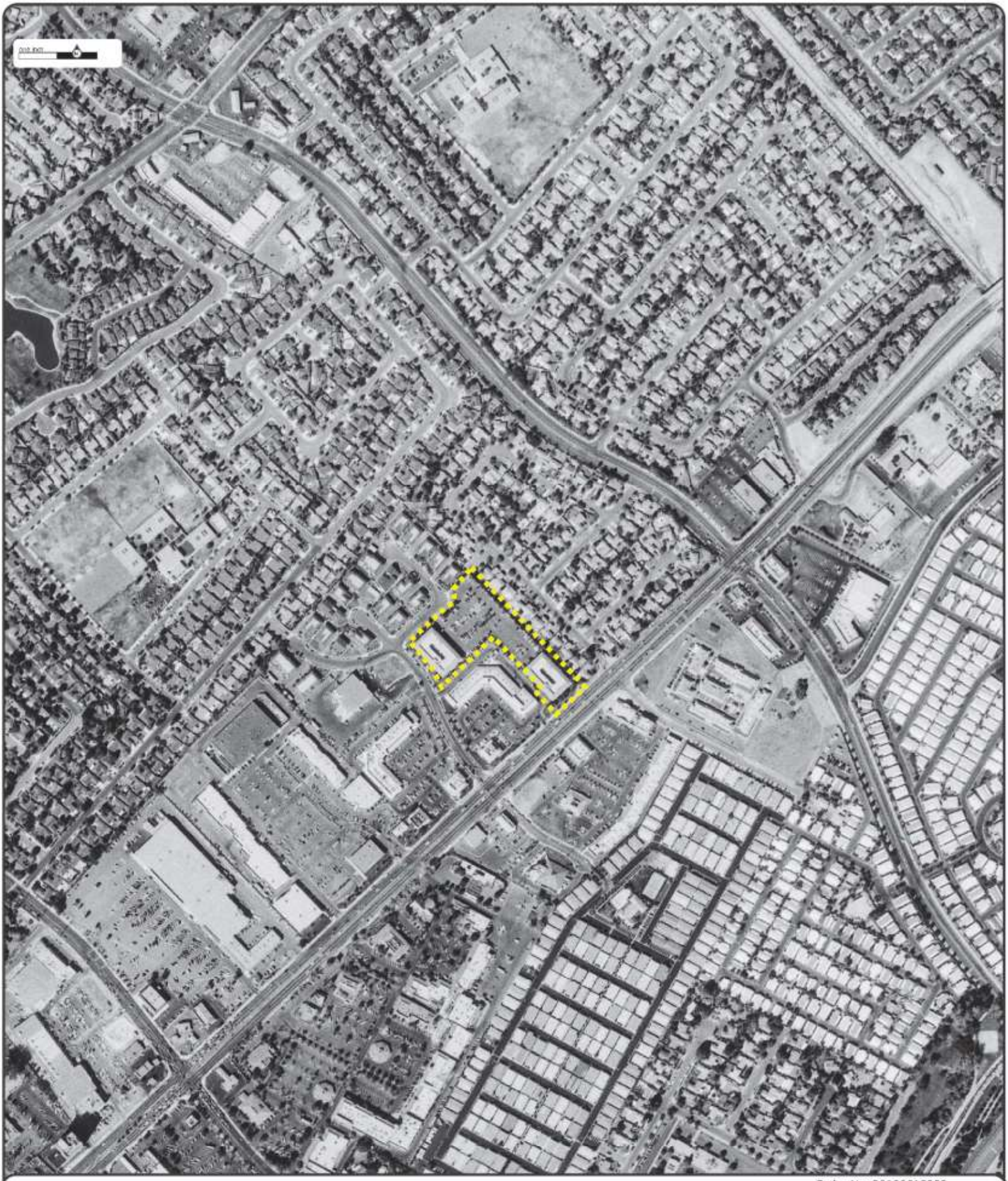
Year: 1988
Source: NHAP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190618288

Year: 1981
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1972**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1967**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: **1963**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: 1958
Source: FAIRCHILD
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: 1952
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

Year: 1946
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190618288

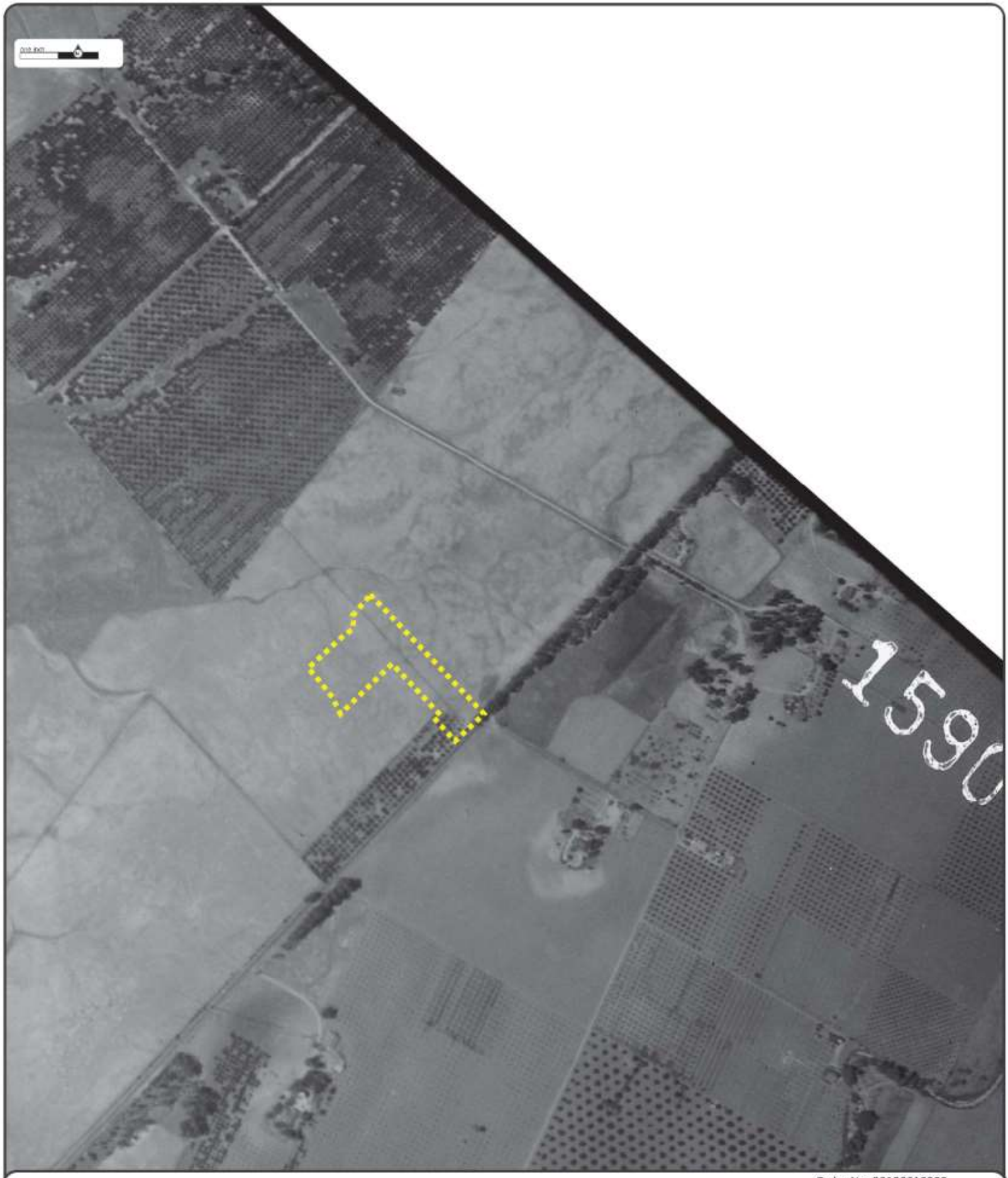
Year: 1939
Source: FAIRCHILD
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190618288

Year:	**1931**
Source:	**FAIRCHILD**
Scale:	**1" to 500'**
Comments:	*BEST COPY AVAILABLE*

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*National CORE/El Toro Road*
	23591 El Toro Road
	Lake Forest, CA 92630
Project No:	*19-42-162-01*
Requested By:	*Converse Consultants*
Order No:	*20190618288*
Date Completed:	*June 24, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

June 24, 2019
RE: CITY DIRECTORY RESEARCH
National CORE/El Toro Road
23591 El Toro Road Lake Forest, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
23500-23600 of El Toro Road
24551-24602 of Raymond Way

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2005	DIGITAL BUSINESS DIRECTORY	
2000	HAINES	
1994	HAINES	
1989	HAINES	
1981	HAINES	
1974	HAINES	
1970	STREET ADDRESS DIRECTORY	
1964	STREET ADDRESS DIRECTORY	
1959	STREET ADDRESS DIRECTORY	
1955	STREET ADDRESS DIRECTORY	
1951	STREET ADDRESS DIRECTORY	

166 total records. *Part 1 of 4*

23501 **SIZZLER**...*FOODS-CARRY OUT*
23501 **SIZZLER**...*RESTAURANTS*
23501 **SIZZLER**...*CAFES*
23505 **MINATO SUSHI**...*RESTAURANTS*
23507 **OMAR'S EXOTIC BIRDS**...*PET SERVICE*
23507 **OMAR'S EXOTIC BIRDS**...*ECOMMERCE*
23507 **OMAR'S EXOTIC BIRDS**...*BIRDS*
23507 **OMAR'S EXOTIC BIRDS**...*DOG TRAININ*
23512 **BIG SHOTS BILLIARD BAR GRILL**...*R*
23515 **DENNY'S**...*RESTAURANTS*
23522 **ABACUS APPLIANCE SVC CORP**...*APPLI*
23522 **ABACUS APPLIANCE SVC CORP**...*APPLI*
23522 **AFFORDABLE CARE GIVERS**...*HOME HEA*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*M*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*M*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*E*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*S*
23522 **HARKINS CHIROPRACTIC**...*MASSAGE TH*
23522 **HARKINS CHIROPRACTIC**...*SPORTS MED*
23522 **HARKINS CHIROPRACTIC**...*CHIROPRACT*
23522 **OVER THE TOP MARKETING CORP**...*INT*
23532 **A A TOBACCO BARN PIPE SHOP**...*SMOK*
23532 **A A TOBACCO BARN PIPE SHOP**...*FEDE*
23532 **BEL AGE NAILS & SPA**...*MANICURING<*
23532 **BEL AGE NAILS & SPA**...*BEAUTY SALO*
23532 **BERUBE, KELLY**...*BEAUTY SALONS*
23532 **CAFE MATINEE**...*RESTAURANTS*
23532 **E MONEY EXPRESS INC**...*CHECK CASHI*
23532 **EL TORO METRO GRGE DOOR REPAIR**...
23532 **EUROPEAN TAILORS**...*TAILORS*
23532 **EUROPEAN TAILORS**...*ALTERATIONS-CL*
23532 **JEFFREY MICHAEL'S SALON & SPLS**...
23532 **JEFFREY MICHAEL'S SALON & SPLS**...
23532 **L G INSURANCE**...*INSURANCE*
23532 **LA COCINA DE RICARDO**...*FOODSCARRY*
23532 **LA COCINA DE RICARDO**...*RESTAURANT*
23532 **MERCADO EL REY LAKE FOREST**...*FOOD*
23532 **MOLINO DE ORO**...*RETAIL BAKERIES*
23532 **NINA'S INDIAN GROCERIES**...*GROCERS*
23532 **ON-SITE SPECIALISTS**...*DRAPERY & C*
23532 **ORANGETREE PLAZA BARBERS**...*BARBER*
23532 **RAHIMPOUR KOUROSH P C**...*RESUME SE*
23532 **RAHIMPOUR, KOUROSH DDS**...*DENTISTS*
23532 **RUSH BAR GRILL**...*RESTAURANTS*
23532 **SALON CENTRIC**...*BEAUTY SALONS-EQU*
23532 **SALON CENTRIC**...*BEAUTY SALONS-EQU*
23532 **SPARKLEAN LAUNDRY**...*LAUNDRIES*
23532 **SPARKLEAN LAUNDRY**...*CLEANERS*
23542 **NINA'S INDIAN GROCERY**...*GROCERS-R*
23546 **KWIKEY'S LOCK & KEY**...*LOCKS & LOC*
23552 **ASIA BUFFET**...*RESTAURANTS*
23552 **ASIA BUFFET**...*FOODSCARRY OUT*
23562 **CITIBANK**...*BANKS*

2018 EL TORO ROAD
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 4

23562 **CITIBANK**...*Diagnostic Imaging Centers<*
23562 **CITIBANK**...*Real Estate Loans*
23572 **CUPPA JUICE**...*Juices-retail*
23572 **JALAEI, MORGAN DDS**...*Dentists<*
23572 **JENNY CRAIG WEIGHT LOSS CTR**...*Weight C*
23572 **JERSEY MIKE'S SUBS**...*Sandwiches*
23572 **PANDA EXPRESS**...*Restaurants*
23572 **PANDA EXPRESS**...*Cafes*
23572 **PANDA EXPRESS**...*Foods-carry Out*
23572 **WAHOO'S FISH TACO**...*Foodscarry Out*
23572 **WAHOO'S FISH TACO**...*Restaurants*
23591 **A STAR SVC**...*Appliances-household-majo*
23591 **ACTFORENSIC.COM INC**...*Forensic Consult*
23591 **ALL STAR LOANS & REALTY**...*Real Estate<*
23591 **ALL STAR LOANS & REALTY**...*Loans*
23591 **ALLSTATE FINANCIAL SVC**...*Independent F*
23591 **AMERICAN OIL PRODUCTS INC**...*Oilslubric*
23591 **AMERICAN OIL PRODUCTS INC**...*Lubricants*
23591 **AMERICAN OIL PRODUCTS INC**...*Petroleum*
23591 **AMERICAN OIL PRODUCTS INC**...*Petroleum*
23591 **ASCENT NETWORK**...*Data Communications S*
23591 **BEVNET.COM INC**...*Nonclassified Establi*
23591 **BONDY, GAYLE**...*Counselors-licensed Pro*
23591 **BRAD PALMER-ALLSTATE AGENT**...*Insurance*
23591 **BRANSON, MARTHA L A CPA**...*Accountants<*
23591 **BRIGHTSTAR CARE**...*Health Services-exte*
23591 **BRIGHTSTAR CARE**...*Schools*
23591 **BROTEMARKLE, FRODA GALE**...*Marriage & F*
23591 **BUILDING FAMILIES INC**...*Social Service*
23591 **CARE FIRST HOME CARE**...*Home Health Ser*
23591 **CARE FIRST HOME CARE**...*Health Care Alt*
23591 **CARELINE HOME CARE SVC**...*Home Health S*
23591 **CASH FOR GOLD-LAKEFOREST**...*Gold Silver*
23591 **CASH FOR GOLD-LAKEFOREST**...*Pawnbrokers*
23591 **CENTER FOR CREATIVE TRNSTNS**...*Nonclass*
23591 **DALY-SWARTZ PUBLIC RELATIONS**...*Public*
23591 **DATA WORKS AGENCY**...*Data Processing Se*
23591 **DEDICATED RETAIL SVC**...*Merchandising S*
23591 **DEDICATED RETAIL SVC**...*Business Servic*
23591 **DEDICATED RETAIL SVC**...*Business Manage*
23591 **DIVERSIFIED INTERNATIONAL LLC**...*Sports*
23591 **EMERGENCY LAKE FOREST GRGE DRS**...*Doors*
23591 **FARMERS INSURANCE**...*Insurance<*
23591 **FINANCE FOR AMERICANS CORP**...*Financing*
23591 **GOLF GUYS MARKETING MEDIA**...*Marketing*
23591 **GOLF GUYS MARKETING & MEDIA**...*Marketin*
23591 **GUARDIAN INSTALLATION INC**...*Installati*
23591 **I LIKE VINYL**...*Vinyl-dealers*
23591 **I LIKE VINYL**...*Vinyl-dealers*
23591 **IDEAL ACCOUNTING TAX SVC**...*Accounting*
23591 **IQUBZ**...*Computer Software*
23591 **ISC TECHNOLOGY INC**...*Computer Software*

Part 3 of 4

23591 **JENNIFER DISTINCTIVE LANDSCP**...*Landsca*
23591 **KMR PROPERTY MGMT**...*Real Estate Manage*
23591 **LA FAMILY CHIROPRACTIC**...*Nonclassified*
23591 **MGREEN FINANCIAL**...*Nonclassified Estab*
23591 **MISKULIN, DWAIN AGT**...*Insurance*
23591 **NADKARNI, PRAVIN**...*Document Preparatio*
23591 **OCAAC**...*Nonclassified Establishments*
23591 **P L PERRIN ASSOC**...*Nonclassified Esta*
23591 **PATH TO HEALING**...*Nonclassified Establ*
23591 **PERMANENT HOME PRODUCTS INC**...*Home Dem*
23591 **PLEXUS FINANCIAL GROUP INC**...*Financial*
23591 **PNR TRANSPORT**...*Trucking*
23591 **QOLITE INC**...*Nonclassified Establishme*
23591 **RENEWABLE ENERGY INC**...*Energy Manageme*
23591 **SABETI INSURANCE**...*Insurance*
23591 **SEA-SHELL MOBILE HOMES**...*Mobile Homes-*
23591 **SIGNODE PACKAGING SYSTEMS**...*Packaging*
23591 **SIGNODE PACKAGING SYSTEMS**...*Federal Go*
23591 **SOCAL COUNSELING SVC**...*Other Individua*
23591 **SOLIMAN, AMANI M DDS**...*Dentists*
23591 **STRAIGHT ENTERPRISES INC**...*Health Care*
23591 **STRAIGHT ENTERPRISES INC**...*Home Health*
23591 **STYLE TYPESETTING GRAPHICS**...*Typesett*
23591 **TH2 TECHNOLOGIES**...*Computerssystem Des*
23591 **TH2 TECHNOLOGIES**...*Custom Computer Pro*
23591 **TITLE LOANS ORANGE COUNTY**...*Title Comp*
23591 **TOXIC SOLUTIONS**...*Environmental & Ecol*
23591 **WELLS, MELINDA OD**...*Contact Lenses-opt*
23591 **WELLS, MELINDA OD**...*Optometrists Od*
23591 **WESTERN HORIZON HOSPICE**...*Hospices*
23591 **WESTERN HORIZON HOSPICE**...*Hospices*
23600 **AMERICA'S BEST**...*Optical Goods-retail<*
23600 **CASUAL MALE XL**...*Men's Clothing & Furn*
23600 **CASUAL MALE XL**...*Clothing & Accessorie*
23600 **COMPUTER TUTOR TECH**...*Computers-servic*
23600 **DORN ELECTRIC**...*Electric Contractors*
23600 **DYNA-LUX ELECTRIC**...*Electric Contracto*
23600 **EXPERT COPY SVC**...*Copying Machines-ser*
23600 **FINEST NAILS**...*Manicuring*
23600 **FINEST NAILS**...*Beauty Salons*
23600 **FINEST NAILS**...*Health Spas*
23600 **FLEA STUFF**...*Flea Markets*
23600 **GLOBAL CREDITORS NETWORK**...*Billing Ser*
23600 **GLOBAL CREDITORS NETWORK**...*Collection*
23600 **GREEN WORLD MASSAGE**...*Other Personal C*
23600 **HERO BAIL BONDS**...*Bonds-bail*
23600 **HR ONLY**...*Employment Agencies & Opport*
23600 **JET GARAGE DOORS & GATES**...*Doors-garag*
23600 **K KALKA HEATING PLUMBING AIR**...*Plumbi*
23600 **OC SPA REPAIR**...*Furnacesheating (whls)*
23600 **OC SPA REPAIR**...*Service Bureaus*
23600 **OC SPA REPAIR**...*Heating Contractors*

2018 EL TORO ROAD
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 4 of 4

23600 **OC SPA REPAIR**...*Plumbing Contractors*
23600 **OC SPA REPAIR**...*Water Heaters-repairin*
23600 **ORANGE COUNTY SPECIAL EVENTS**...*Events-*
23600 **PAMELA PEAK PRODUCTIONS**...*Unclassified*
23600 **R & S SOIL PRODUCTS**...*Truckingdump*
23600 **R & S SOIL PRODUCTS**...*Topsoil<*
23600 **TABER INSURANCE**...*Insurance*
23600 **WESTERN UNION**...*Money Transfer Service*
23600 **WESTERN UNION**...*Money Order Service*

103 total records. *Part 1 of 2*

24551 **ABACUS APPLIANCE SVC**...*APPLIANCES*
24551 **ASSISTING BETTER LIFE EXPRNCS**...*R*
24551 **ASSISTING BETTER LIFE EXPRNCS**...*H*
24551 **BETTER HEALTH & WELLNESS**...*EXERCI*
24551 **BRADFORD FINANCIAL CORP**...*FINANCI*
24551 **DARCY GREENE M A LMFT**...*NONCLASSI*
24551 **DEBT SETTLE SUPPORT**...*CREDIT & DE*
24551 **EASTLAND, ALYSSA M**...*OFFICES-PHYS*
24551 **EXECU-PHONE INC**...*FEDERAL GOVERNM*
24551 **EXECU-PHONE INC**...*TELECOMMUNICATI*
24551 **EXECU-PHONE INC**...*TELEPHONE EQUIP*
24551 **EXECU-PHONE INC**...*COMPUTERSNETWOR*
24551 **EXTEND A HAND INC**...*CONSTRUCTION*
24551 **EXTEND A HAND INC**...*SOCIAL SERVIC*
24551 **EXTEND A HAND INC**...*FEDERAL GOVER*
24551 **GARDNER, AARON**...*APPRAISERS*
24551 **GARDNER, AARON**...*REAL ESTATE APPR*
24551 **GOLF GUYS MARKETING MEDIA**...*MARK*
24551 **LAKE CENTER CHIROPRACTIC**...*CHIROP*
24551 **MAGENTA COMPUTER**...*INTERNET SVCS-*
24551 **MITCHELL OWENS & ASSOC**...*REAL EST*
24551 **MOBILITY PHYSICAL THERAPY**...*EXERC*
24551 **MOBILITY PHYSICAL THERAPY**...*PHYSI*
24551 **NEUBAUER, SCOTT DC**...*CHIROPRACTOR*
24551 **O C FAMILY DIVORCE MEDIATION**...*DI*
24551 **OHIO NATIONAL LIFE INS-REGL**...*INS*
24551 **OMEGA MAGNUS**...*COMPUTER CONSULTAN*
24551 **ORANGE COUNTY PSYCHOLOGICAL**...*PSY*
24551 **PINNACLE GROUP**...*INSURANCE*
24551 **PREMIER APPRAISAL MANAGEMENT**...*RE*
24551 **SLICE UTILITIES**...*UTILITY CONTRAC*
24551 **STATEWIDE LABOR CORP**...*EMPLOYMENT*
24551 **STUDIO THREE SIXTY**...*MARKETING PR*
24551 **TAX SETTLEMENT CTR**...*TAX RETURN P*
24551 **THOMSON-PROMETRIC**...*NONCLASSIFIED*
24551 **UTILITY SPECIALISTS**...*ENGINEERS-C*
24551 **WORLD EYE CAM**...*CONTACT LENSES*
24551 **WORLD EYE CAM**...*OPTOMETRISTS OD*
24551 **WORLD EYE CAM**...*BURGLAR ALARM SYS*
24551 **WORLD EYE CAM**...*SECURITY SYSTEMS<*
24551 **ZACHARIAH, SUSAN MD**...*PHYSICIANS*
24551 **ZACHARIAH, SUSAN MD**...*MEDICAL & S*
24552 **KLEIN ELECTRIC**...*ELECTRIC CONTRAC*
24552 **MAXEEMIZE**...*INTERNET SERVICE*
24552 **MISSION ACCOMPLISHED INVESTIGA**...
24552 **TEKRANGE**...*COMPUTER & EQUIPMENT D*
24552 **US POST OFFICE**...*POST OFFICES*
24552 **US POST OFFICE**...*STATE GOVERNMENT*
24601 **ALISO BAKERY**...*BAKERS-RETAIL*
24601 **BELL TOWER FLORIST & GIFTS**...*CAND*
24601 **BELL TOWER FLORIST & GIFTS**...*FLOR*
24601 **BELL TOWER FLORIST & GIFTS**...*FLOR*
24601 **BELL TOWER FLORIST & GIFTS**...*WEDD*

2018 RAYMOND WAY
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

24601 **CASH MY CHECK**...*Loans*
24601 **CASH MY CHECK**...*Check Cashing Service<*
24601 **HAIR CLIPS**...*Beauty Salons*
24601 **IMPRESSIONS BEAUTY SUPL & SLN**...*Beauty*
24601 **MANILA FOOD MART**...*Restaurants*
24601 **MICHALSKI, IRMA**...*Data Processing Serv*
24601 **MICHALSKI, IRMA**...*Information Bureaus<*
24601 **MINT SPA**...*Health Spas*
24601 **MONTESSORI CHILDREN'S SCH HSE**...*Child*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Montess*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Schools*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Tutorin*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Schools*
24601 **O'REILLY AUTO PARTS**...*Batteriesstorage*
24601 **O'REILLY AUTO PARTS**...*Automobile Repai*
24601 **O'REILLY AUTO PARTS**...*Automobile Parts*
24601 **O'REILLY AUTO PARTS**...*Batteries-storag*
24601 **PAYLESS CARPET & FLOORS**...*Carpet & Rug*
24601 **RN HAIR & NAILS SALON**...*Health Spas*
24601 **RN HAIR & NAILS SALON**...*Beauty Salons<*
24601 **RN HAIR & NAILS SALON**...*Manicuring*
24601 **SHAGGY 2 CHIC PET SPA**...*Pet Washing &*
24601 **SONI'S BROW & BEAUTY**...*Beauty Salons*
24601 **TACOS ENSENADA**...*Caterers*
24601 **TACOS ENSENADA**...*Ice*
24601 **TACOS ENSENADA**...*Foodscarry Out*
24601 **TACOS ENSENADA**...*Restaurants*
24602 **ACE A MONTESSORI PRESCHOOL**...*Schools-n*
24602 **ATWOB CALM**...*Food Supplements<*
24602 **BABY NUTRITIONAL CTR**...*Health & Diet F*
24602 **CHOPSTICKS PHO RESTAURANT**...*Restaurant*
24602 **CROWN GOWNS**...*Bridal Shops*
24602 **CROWN GOWNS**...*Nonclassified Establishm*
24602 **EL PROGRESO ARTICULOS PARA EL**...*Restau*
24602 **GHOST WOLF TATTOO**...*Tattooing<*
24602 **HIERRO'S MARKET**...*Grocers-retail*
24602 **HOMELAND INSURANCE & AUTO SVC**...*Insura*
24602 **JIM'S SHOE REPAIR**...*Shoe & Boot Repair*
24602 **JUDITHS MONEY EXPRESS INC**...*Financial*
24602 **LATINO'S BEAUTY SALON**...*Beauty Salons<*
24602 **M S P WIRELESS I**...*Cellular Telephones*
24602 **NARKHEDE, PANKAJ DDS**...*Dentists*
24602 **PAL'S VACUUM SEWING CTR**...*Vacuum Clean*
24602 **PAL'S VACUUM SEWING CTR**...*Sewing Machi*
24602 **Q Z DAY SPA**...*Spas-beauty & Day*
24602 **RAMIREZ, JESUS DDS**...*Dental Hygienists*
24602 **RAMIREZ, JESUS DDS**...*Dentists<*
24602 **RAMIREZ, MAYRA**...*Restaurant Management*
24602 **STATINERY POINT INC**...*Nonclassified Es*
24602 **UP IN SMOKE**...*Smoke Shops & Supplies*

174 total records. *Part 1 of 4*

23501 **SIZZLER**...*FULL-SERVICE RESTAURANT*
23501 **SIZZLER**...*FOODS-CARRY OUT*
23505 **EL TORO GARAGE DOOR REPAIR SVC**...
23505 **MINATO SUSHI**...*FULL-SERVICE RESTA*
23507 **OMAR'S EXOTIC BIRDS**...*BIRDS*
23507 **OMAR'S EXOTIC BIRDS**...*PET CARE, E*
23507 **OMAR'S EXOTIC BIRDS**...*PET SUPPLIE*
23512 **BIG SHOTS BILLIARD BAR GRILL**...*F*
23512 **BIG SHOTS BILLIARD BAR & GRILL**...
23512 **BIG SHOTS BILLIARD BAR & GRILL**...
23515 **DENNY'S**...*FOODS-CARRY OUT*
23515 **DENNY'S**...*FULL-SERVICE RESTAURANT*
23522 **ABACUS APPLIANCE SVC CORP**...*APPLI*
23522 **ABACUS APPLIANCE SVC CORP**...*APPLI*
23522 **AFFORDABLE CARE GIVERS**...*HOME HEA*
23522 **BRADFORD FINANCIAL CORP**...*FINANCI*
23522 **BRADFORD REAL ESTATE FINANCE**...*OF*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*S*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*M*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*W*
23532 **A A TOBACCO BARN PIPE SHOP**...*CIGA*
23532 **A A TOBACCO BARN PIPE SHOP**...*TOBA*
23532 **A A TOBACCO BARN PIPE SHOP**...*FEDE*
23532 **A A TOBACCO BARN PIPE SHOP**...*E-CO*
23532 **ATM**...*COMMERCIAL BANKING<*
23532 **BEL AGE NAILS SPA**...*BEAUTY SALON*
23532 **BEL AGE NAILS & SPA**...*MANICURING<*
23532 **BOBBY D'S BAR GRILL**...*DRINKING P*
23532 **BOBBY D'S BAR & GRILL**...*RESTAURAN*
23532 **BRITTANY DURLACH HAIR STYLIST**...*B*
23532 **CAFE MATINEE**...*FULL-SERVICE RESTA*
23532 **CALLAHAN, KATIE**...*BEAUTY SALONS*
23532 **E MONEY EXPRESS INC**...*FINANCIAL T*
23532 **EL TORO METRO GRGE DOOR REPAIR**...
23532 **EUROPEAN TAILORS**...*OTHER CLOTHING*
23532 **GONZALEZ-LOPEZ INC**...*AUTOMOBILE D*
23532 **HAIR BY JAMIE CANNON**...*BEAUTY SAL*
23532 **HAIR MECHANICS**...*WEDDING SUPPLIES*
23532 **JEFFREY MICHAEL'S SALON SPLS**...*B*
23532 **LA COCINA DE RICARDO**...*FULL-SERVI*
23532 **MERCADO EL REY LAKE FOREST**...*SUPE*
23532 **MICHAEL MAX SALON**...*BEAUTY SALONS*
23532 **MOLINO DE ORO**...*NONCLASSIFIED EST*
23532 **MR DRAIN PLUMBING**...*PLUMBING & HV*
23532 **NINA'S INDIAN GROCERIES**...*SUPERMA*
23532 **ON-SITE SPECIALISTS**...*DRAPERY & C*
23532 **ON-SITE SPECIALISTS**...*VENETIAN BL*
23532 **ON-SITE SPECIALISTS**...*ALL OTHER S*
23532 **ON-SITE SPECIALISTS**...*DRAPERIES &*
23532 **ORANGE TREE CLEANERS**...*DRYCLEANIN*
23532 **ORANGETREE PLAZA BARBERS**...*BARBER*
23532 **SALON CENTRIC**...*WHOLESALE TRADE A*
23532 **SALON CENTRIC**...*COSMETICS & PERFU*

2014 EL TORO ROAD
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 4

23532 **SALON CENTRIC**...*Beauty Salons-equipmen*
23532 **SPARKLEAN LAUNDRY**...*Drycleaning & Laun*
23532 **SPARKLEAN LAUNDRY**...*Laundries-self Ser*
23532 **SPARKLEAN LAUNDRY**...*Cleaners*
23532 **THAI, JEANETTE DDS**...*Offices Of Dentis*
23542 **NINA'S INDIAN GROCERY**...*Shopping Servi*
23542 **NINA'S INDIAN GROCERY**...*Supermarkets &*
23546 **KWIKEY'S LOCK KEY**...*Locksmiths*
23552 **ASIA BUFFET**...*Full-service Restaurants*
23562 **CITIBANK**...*Commercial Banking<*
23562 **CITIBANK**...*Automated Teller Machines*
23562 **CITIBANK ATM**...*Commercial Banking*
23572 **GOLDEN SPOON**...*All Other Specialty Foo*
23572 **GOLDEN SPOON**...*Ice Cream Parlors*
23572 **GOLDEN SPOON**...*Restaurants*
23572 **JALAEI, MORGAN DDS**...*Offices Of Dentis*
23572 **JENNY CRAIG WEIGHT LOSS CTR**...*Diet & W*
23572 **MORGAN DENTAL**...*Offices Of Dentists*
23572 **PANDA EXPRESS**...*Full-service Restauran*
23572 **PANDA EXPRESS**...*Foods-carry Out*
23572 **WAHOO'S FISH TACO**...*Full-service Resta*
23591 **A STAR SVC**...*Appliance Repair & Mainte*
23591 **ALISO ALISO TAX ACCOUNTING**...*Tax Prep*
23591 **ALL STAR LOANS REALTY**...*Offices Of Re*
23591 **ALL STAR LOANS & REALTY**...*Loans*
23591 **AMANI, SOLIMAN DDS**...*Offices Of Dentis*
23591 **AMERICAN OIL PRODUCTS INC**...*Gas Compan*
23591 **AMERICAN OIL PRODUCTS INC**...*Petroleum*
23591 **AMERICAN OIL PRODUCTS INC**...*Lubricants*
23591 **AMSBIO**...*Process & Logistics Consultin*
23591 **BEHAVIOR CAPITAL INC**...*Misc Ambulatory*
23591 **BONDY, GAYLE**...*Other Individual & Fami*
23591 **BRAD PALMER-ALLSTATE AGENT**...*Insurance*
23591 **BRANSON, MARTHA L A CPA**...*Offices Of C*
23591 **BRIGHTSTAR CARE**...*Home Health Care Svc*
23591 **BRIGHTSTAR CARE**...*Home Health & Health*
23591 **BRIGHTSTAR CARE**...*Health Services-exte*
23591 **BUILDING FAMILIES INC**...*Other Individu*
23591 **CAREGIVERS R US**...*Misc Ambulatory Heal*
23591 **CARELINE HOME CARE SVC**...*Home Health C*
23591 **CASH FOR GOLD-LAKEFOREST**...*All Other N*
23591 **CASH FOR GOLD-LAKEFOREST**...*Gold Silver*
23591 **CVC REAL ESTATE GROUP**...*Offices Of Rea*
23591 **DEDICATED RETAIL SVC**...*All Other Suppo*
23591 **DIVERSIFIED INTERNATIONAL LLC**...*Other*
23591 **DREXELIUS, RICHARD J MD**...*Offices Of P*
23591 **EMERGENCY LAKE FOREST GRGE DRS**...*Other*
23591 **FARMERS INSURANCE**...*Insurance Agencies*
23591 **FINANCE FOR AMERICANS CORP**...*Consumer*
23591 **FINANCIAL ALTERNATIVE SLTNS**...*Real Est*
23591 **FINANCIAL ALTERNATIVE SLTNS**...*Credit &*
23591 **GALAXY CONTROL SYSTEMS**...*Nonclassified*

Part 3 of 4

23591 **GOLF GUYS MARKETING MEDIA**...*Marketing*
23591 **IFR**...*Investment Advice*
23591 **INDEPENDENT FINANCIAL SVC GRP**...*Real E*
23591 **IQUBZ**...*Federal Government Contractors*
23591 **IQUBZ**...*Computer Services*
23591 **IQUBZ**...*Computer & Software Stores*
23591 **ISBS GROUP**...*Other Heavy Construction<*
23591 **ISC TECHNOLOGY INC**...*Computer Services*
23591 **ISC TECHNOLOGY INC**...*Computer & Softwa*
23591 **ISC TECHNOLOGY INC**...*Computer Training*
23591 **KMR PROPERTY MGMT**...*Offices Of Real Es*
23591 **MARINA DENTAL**...*Offices Of Dentists*
23591 **MT ZONE**...*Records Tapes & Compact Disc*
23591 **MT ZONE**...*Other Sound Recording Indust*
23591 **NATIONAL DEFAULT SERVICING**...*Nonclassi*
23591 **ORANGE COUNTY ARC**...*Social Security Co*
23591 **ORANGE COUNTY ARC**...*Vocational Rehabil*
23591 **PAKAGE MORTGAGE**...*Real Estate Credit*
23591 **PATRICIA'S DOMESTIC AGENCY**...*Child Day*
23591 **PLEXUS FINANCIAL GROUP INC**...*Financial*
23591 **PLEXUS FINANCIAL GROUP INC**...*Investmen*
23591 **PREFERRED AIR SVC CO**...*Plumbing & Hvac*
23591 **QUALITY ESTATE PROPERTIES**...*Offices Of*
23591 **R DE LA PENA ASSOC**...*Offices Of Real*
23591 **S C JOHNSON & SON INC**...*Waste Disposal*
23591 **SABETI INSURANCE**...*Insurance Agencies*
23591 **SABETI INSURANCE SVC**...*Insurance-life*
23591 **SABETI INSURANCE SVC**...*Insurance-healt*
23591 **SEA-SHELL MOBILE HOMES**...*Manufactured,*
23591 **SOLIMAN, AMANI M DDS**...*Offices Of Dent*
23591 **SORENSEN, KERRY**...*Offices Of Lawyers*
23591 **STRAIGHT ENTERPRISES INC**...*Home Health*
23591 **TITLE LOANS ORANGE COUNTY**...*Title Abst*
23591 **TOTH, CAROLYN**...*Misc Ambulatory Health*
23591 **TRI CROWN LENDING**...*Loans*
23591 **TRI CROWN LENDING**...*Real Estate Credit*
23591 **WELLS, MELINDA OD**...*Contact Lenses-opt*
23591 **WELLS, MELINDA OD**...*Opticians<*
23591 **WELLS, MELINDA OD**...*Offices Of Optomet*
23600 **ACDC FINANCE**...*Investment Advice*
23600 **BULKY ITEMS COLLECTION**...*All Other Pro*
23600 **CASUAL MALE XL**...*Clothing & Accessorie*
23600 **CASUAL MALE XL**...*Men's Clothing Stores*
23600 **CASUAL MALE XL**...*Shoes-retail<*
23600 **COMPUTER TUTOR TECH**...*Computer & Offic*
23600 **COMPUTER TUTOR TECH**...*Tutoring*
23600 **CREATIVE RESOURCE SOLUTIONS**...*Nonclass*
23600 **DAVIES, WILLIAM E MD**...*Offices Of Phys*
23600 **DYNA-LUX ELECTRIC**...*Electrical Contrs<*
23600 **EL TORO MAIL BOXES**...*Mail Box-rentals<*
23600 **EL TORO MAIL BOXES**...*All Other Persona*
23600 **EXPERT COPY SVC**...*Copying Machines-ser*

2014 EL TORO ROAD
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 4 of 4

23600 **FINEST NAILS**...*Manicuring*
23600 **FINEST NAILS**...*Beauty Salons*
23600 **GLOBAL CREDITORS NETWORK**...*Collection*
23600 **HAIR CUTTERS**...*Beauty Salons*
23600 **HERO BAIL BONDS**...*Direct Property & Ca*
23600 **IMS MANAGEMENT SVC**...*Office Administra*
23600 **JAY RODGERS MOBILE NOTARY**...*All Other*
23600 **JET GARAGE DOORS GATES**...*Other Buildi*
23600 **LAKE FOREST ORANGE COAST**...*Building In*
23600 **LEGACY CONSTRUCTORS INC**...*New Single-f*
23600 **OC SPA REPAIR**...*Other Technical Consul*
23600 **OC SPA REPAIR**...*Hot Tubs & Spas-servic*
23600 **R & S SOIL PRODUCTS**...*Topsoil<*
23600 **TECHNOLOGY SUPPLY CHAIN**...*Hardware Sto*
23600 **VACCINATION SERVICES**...*All Other Profe*
23600 **WESTERN UNION**...*Money Order Service*
23600 **WESTERN UNION**...*Financial Transaction*

95 total records. *Part 1 of 2*

24551 **ACM CORP**...*VOLUNTARY HEALTH ORGAN*
24551 **ADVANCED CARE PHARMACY**...*PHARMACI*
24551 **BETTER HEALTH & WELLNESS**...*EXERCI*
24551 **DARCY GREENE M A LMFT**...*NONCLASSI*
24551 **DEBT SETTLE SUPPORT**...*OTHER PERSO*
24551 **EFFECTIVE REAL ESTATE SVC**...*OFFIC*
24551 **EXECU-PHONE INC**...*RADIO, TV & OTH*
24551 **EXECUTIVE ESCROW CO**...*TRUST, FIDU*
24551 **EXTEND A HAND INC**...*FEDERAL GOVER*
24551 **EXTEND A HAND INC**...*OTHER INDIVID*
24551 **FIL-AM INTL SVC**...*ALL OTHER PROFE*
24551 **GARDNER, AARON**...*APPRAISERS*
24551 **GARDNER, AARON**...*OFFICES OF REAL*
24551 **GREAT EXPECTATIONS**...*TRAVEL AGENC*
24551 **LAKE CENTER CHIROPRACTIC**...*OFFICE*
24551 **MAGENTA COMPUTER**...*COMPUTER SYSTE*
24551 **MITCHELL OWENS ASSOC**...*OFFICES O*
24551 **MOBILITY PHYSICAL THERAPY**...*OFFIC*
24551 **MOBILITY PHYSICAL THERAPY**...*PHYSI*
24551 **NEUBAUER, SCOTT DC**...*OFFICES OF C*
24551 **OMEGA MAGNUS**...*COMPUTER & OFFICE*
24551 **ORANGE COUNTY PSYCHOLOGICAL**...*OFF*
24551 **PACIFIC HOME HEALTH SVC**...*HOME HE*
24551 **PERMANENT HOME PRODUCTS INC**...*OTH*
24551 **PINNACLE GROUP**...*INSURANCE AGENCI*
24551 **PREMIER APPRAISAL MANAGEMENT**...*OF*
24551 **PREMIER APPRAISAL MANAGEMENT**...*RE*
24551 **STUDIO THREE SIXTY**...*MARKETING CO*
24551 **TAX SETTLEMENT CTR**...*TAX PREPARAT*
24551 **THOMSON-PROMETRIC**...*NONCLASSIFIED*
24551 **UTILITY SPECIALISTS**...*ENGINEERING*
24551 **WHITE HSE PROPERTY MGMT**...*OFFICES*
24551 **WORLD EYE CAM**...*FEDERAL GOVERNMEN*
24551 **WORLD EYE CAM**...*SECURITY CONTROL*
24551 **WORLD EYE CAM**...*SECURITY SYSTEMS*
24551 **WORLD EYE CAM**...*OPTOMETRISTS OD*
24551 **ZACHARIAH, SUSAN MD**...*OFFICES OF*
24552 **KLEIN ELECTRIC**...*ELECTRICAL CONTR*
24552 **US POST OFFICE**...*POSTAL SVC*
24601 **ALISO BAKERY**...*RETAIL BAKERIES*
24601 **ATM**...*COMMERCIAL BANKING<*
24601 **BELL TOWER FLORIST GIFTS**...*FLORI*
24601 **BELL TOWER FLORIST & GIFTS**...*FLOR*
24601 **BELL TOWER FLORIST & GIFTS**...*FEDE*
24601 **BELL TOWER FLORIST & GIFTS**...*GIFT*
24601 **CASH MY CHECK**...*FINANCIAL TRANSAC*
24601 **CASH MY CHECK**...*LOANS*
24601 **EFREN'S BAKERY**...*RETAIL BAKERIES<*
24601 **HAIR CLIPS**...*BEAUTY SALONS*
24601 **IMPRESSIONS BEAUTY SUPL SLN**...*BE*
24601 **MANILA FOOD MART**...*FOOD MARKETS*
24601 **MANILA FOOD MART**...*FULL-SERVICE R*
24601 **MINT SPA**...*FITNESS & RECREATIONAL*

2014 RAYMOND WAY
SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

24601 **MONTESSORI CHILDREN'S SCHOOL**...*Element*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Schools*
24601 **MONTESSORI CHILDREN'S SCHOOL**...*Child C*
24601 **O'REILLY AUTO PARTS**...*Automotive Parts*
24601 **O'REILLY AUTO PARTS**...*Automobile Parts*
24601 **O'REILLY AUTO PARTS**...*Batteries-storag*
24601 **O'REILLY AUTO PARTS**...*Engines-rebuildi*
24601 **PAYLESS CARPET FLOORS**...*Floor Coverin*
24601 **RN HAIR NAILS SALON**...*Beauty Salons*
24601 **RN HAIR & NAILS SALON**...*Manicuring*
24601 **RN HAIR & NAILS SALON**...*Barbers*
24601 **RN HAIR & NAILS SALON**...*Skin Treatment*
24601 **SHAGGY 2 CHIC PET SPA**...*Pet Care, Exce*
24601 **SHINE GROUP ENTERPRISES INC**...*Nurses &*
24601 **SHINE MEDICAL UNIFORM SUPLS**...*Home He*
24601 **SHINE MEDICAL UNIFORM & SUPLS**...*Unifor*
24601 **SONI'S BROW BEAUTY**...*Beauty Salons*
24601 **TACOS ENSENADA**...*Caterers*
24601 **TACOS ENSENADA**...*Full-service Restaura*
24601 **TEXAS BARBEQUE GRILL**...*Full-service R*
24602 **ACE A MONTESSORI PRESCHOOL**...*Child Day*
24602 **BABY NUTRITIONAL CTR**...*Food, Health, S*
24602 **EL PROGRESO ARTICULOS PARA EL**...*Full-s*
24602 **EL PROGRESO MEXICAN RESTAURANT**...*Full-*
24602 **EL PROGRESO MEXICAN RESTAURANT**...*House*
24602 **FIASTA SARBICAS**...*Financial Transactio*
24602 **GHOST WOLF TATTOO**...*All Other Personal*
24602 **HIERRO'S MARKET**...*Supermarkets & Other*
24602 **HOMELAND INSURANCE AUTO SVC**...*Insuran*
24602 **JIM'S SHOE REPAIR**...*Footwear & Leather*
24602 **LATINO'S BEAUTY SALON**...*Beauty Salons<*
24602 **PAL'S VACUUM SEWING CTR**...*Household Ap*
24602 **PAL'S VACUUM SEWING CTR**...*Vacuum Clean*
24602 **PAL'S VACUUM SEWING CTR**...*Sewing Machi*
24602 **PAL'S VACUUM SEWING CTR**...*Vacuum Clean*
24602 **PINEAPPLE HILL INC**...*Drinking Places,*
24602 **Q Z DAY SPA**...*Beauty Salons*
24602 **RAMIREZ, JESUS DDS**...*Dental Hygienists*
24602 **RAMIREZ, JESUS DDS**...*Offices Of Dentis*
24602 **TOP NAILWRAP**...*Beauty Salons*
24602 **UP IN SMOKE**...*Tobacco Stores*
24602 **VORA, ASHA D DDS**...*Offices Of Dentists*

88 total records. *Part 1 of 2*

23505 **MINATO SUSHI**...*FULL-SERVICE RESTA*
23507 **OMARS EXOTIC BIRDS**...*PET & PET SU*
23512 **BIG SHOTS BILLIARD BAR & GRILL**...
23522 **AFFORDABLE CARE GIVERS**...*HOME HEA*
23522 **EL TORO GOURMET MEATS SEAFOOD**...*M*
23522 **ENJOY TRAVEL**...*TRAVEL AGENCIES*
23522 **MOMMYWORKS INC**...*EMPLOYMENT PLACE*
23532 **BEL AGE NAILS & SPA**...*BEAUTY SALO*
23532 **BOBBY DS BAR & GRILL**...*DRINKING P*
23532 **BRITTANY DURLACH HAIR STYLIST**...*B*
23532 **CAFE MATINEE**...*FULL-SERVICE RESTA*
23532 **EL TORO INKHOUSE**...*PRINTING INK M*
23532 **HAIR BY JAMIE CANNON**...*BEAUTY SAL*
23532 **HAIR BY TRINITY**...*BEAUTY SALONS*
23532 **HAIR MECHANICS**...*STORE RETAILERS*
23532 **JEFFREY MICHAELS BEAUTY SPLS**...*CL*
23532 **JEFFREY MICHAELS SALON**...*BEAUTY S*
23532 **LINDSEY AT JEFFREY MICHAELS**...*BEA*
23532 **MALYS INC**...*COSMETIC & BEAUTY SUP*
23532 **MELINDA RICCI HAIRSTYLING**...*BEAUT*
23532 **MICHAEL MAX SALON**...*BEAUTY SALONS*
23532 **NINAS INDIAN GROCERIES**...*SUPERMAR*
23532 **ON-SITE SPECIALISTS**...*DRYCLEANING*
23532 **ORANGE TREE CHRISTIAN**...*CHILD DAY*
23532 **SPARKLEAN LAUNDRY**...*DRYCLEANING &*
23532 **TEEN DRIVING ACADEMY**...*AUTOMOBILE*
23532 **THAI, JEANETTE DDS**...*OFFICES OF D*
23552 **ASIA BUFFET**...*FULL-SERVICE RESTAU*
23562 **CITIBANK**...*COMMERCIAL BANKING*
23572 **PANDA EXPRESS**...*FULL-SERVICE REST*
23591 **ACM CORP**...*VOLUNTARY HEALTH ORGAN*
23591 **APPLIED INTERVENTIONS**...*OFFICES O*
23591 **BEACH CITIES COUNSELING**...*OTHER I*
23591 **BRANSON, MARTHA L A CPA**...*OFFICES*
23591 **BRIGHTSTAR HEALTHCARE**...*MISC AMBU*
23591 **CAL USA DEVELOPMENTS INC**...*PREFAB*
23591 **CARELINE HOME CARE SVC**...*HOME HEA*
23591 **CENTER FOR CREATIVE TRANSITION**...
23591 **CVC REAL ESTATE GROUP**...*OFFICES O*
23591 **DALY-SWARTZ PUBLIC RELATIONS**...*PU*
23591 **DEDICATED RETAIL SVC**...*ALL OTHER*
23591 **DIMENSION PRINTER REPAIR**...*COMPUT*
23591 **DOLPHIN BUSINESS CTR**...*OFFICES OF*
23591 **DREXELIUS, RICHARD J MD**...*OFFICES*
23591 **FARMERS INSURANCE GROUP**...*INSURAN*
23591 **GALAXY CONTROL SYSTEMS**...
23591 **GOLDENSTATE LENDING INC**...*REAL ES*
23591 **HANNA, JAN**...*OTHER INDIVIDUAL & F*
23591 **HEALING ODYSSEY**...*RESEARCH & DEVE*
23591 **INTERACT BUSINESS GROUP**...*PROCESS*
23591 **IQUBZ**...
23591 **ISBS GROUP**...*OTHER HEAVY CONSTRUC*
23591 **JOHNSON DIVERSEY INC**...*POLISH & O*

Part 2 of 2

23591 **KMR PROPERTY MGMT**...*Offices Of Real Es*
23591 **LEE DUBIN ART**...*Independent Artists, W*
23591 **MARINA DENTAL**...*Offices Of Dentists*
23591 **MT ZONE**...*Other Sound Recording Indust*
23591 **NATIONAL DEFAULT SERVICING**...<
23591 **NOBLES INSURANCE**...*Insurance Agencies*
23591 **ORANGE COUNTY ARC**...*Offices Of Lawyers*
23591 **PAKAGE MORTGAGE**...*Real Estate Credit*
23591 **PALMER LANDSCAPE INSTALLATION**...*Landsc*
23591 **PLEXUS FINANCIAL GROUP INC**...*Investmen*
23591 **PREFFERED AIR SVC CO**...*Plumbing & Hvac*
23591 **PRO SEARCH INTL**...*Employment Placement*
23591 **R DE LA PENA & ASSOC**...*Offices Of Lawy*
23591 **SEA-SHELL MOBILE HOMES**...*Manufactured,*
23591 **SHINE GROUP ENTERPRISES INC**...*Offices*
23591 **SIMI REAL ESTATE**...*Offices Of Real Est*
23591 **SIMPLY REALTY INC**...*Offices Of Real Es*
23591 **SOLIMAN, AMANI DDS**...*Offices Of Dentis*
23591 **SOLIMAN, ASHRAF DDS**...*Offices Of Denti*
23591 **SOUTHERN CALIFORNIA ADVANCED**...
23591 **SUN & MOON TUTORING**...*Exam Preparation*
23591 **TECHNICAL CAREER INSTITUTE**...*Offices O*
23591 **TOTH, CAROLYN**...*Misc Ambulatory Health*
23591 **WELLS OPTOMETRY**...*Offices Of Optometri*
23600 **CASUAL MALE XL**...*Men's Clothing Stores*
23600 **EL TORO MAIL BOXES**...*All Other Persona*
23600 **EXPERT COPY SVC**...*Office Equip Merchan*
23600 **FINEST NAILS**...*Nail Salons*
23600 **HAIR CUTTERS**...*Beauty Salons*
23600 **JAY RODGERS MOBILE NOTARY**...*All Other*
23600 **JJS TECHNOLOGIES**...*Commercial Machiner*
23600 **LEE REAL ESTATE CO**...*Offices Of Real E*
23600 **PEBBLE CREEK PONDS**...*Site Preparation*
23600 **RADMAN THE HANDYMAN**...*Residential Remo*
23600 **WESTERN UNION**...*Financial Transaction*

2010 RAYMOND WAY
SOURCE: DIGITAL BUSINESS DIRECTORY

24551 **ADVANTAGE PHYSICAL THERAPY**...*Offices O*
24551 **ALISO TAX**...*Tax Preparation Svcs*
24551 **BUTLER COMMUNICATIONS**...*Electrical Con*
24551 **CARE 4 LIFE COMPANION SVC**...*Home Healt*
24551 **CORE CHIROPRACTIC**...*Offices Of Chiropr*
24551 **DOVE CEILINGS NORTH**...*Drywall & Insula*
24551 **EXECU-PHONE INC**...*All Other Telecommun*
24551 **EXECUTIVE ESCROW CO**...*Trust, Fiduciary*
24551 **EXTEND A HAND INC**...*Other Individual &*
24551 **FREE RANGE TECHNOLOGIES INC**...*Computer*
24551 **GARDNER, AARON**...*Offices Of Real Estat*
24551 **INSIGHT COUNSELING**...*Offices Of Mental*
24551 **JOHNSON CHIROPRACTIC**...*Offices Of Chir*
24551 **MAGENTA COMPUTER**...*Computer & Software*
24551 **MITCHELL OWENS & ASSOC**...*Offices Of Re*
24551 **OYZON INSURANCE**...*Insurance Agencies &*
24551 **PENDUM INC**...*Investment Advice*
24551 **PORTUGAL, GILBERT M DC**...*Offices Of Ch*
24551 **R P MAGIC COURAGE**...*All Other Home Fur*
24551 **SMITH, JASON A**...*Offices Of Lawyers*
24551 **SOUTH COUNTY PSYCHO THERAPY**...*Offices*
24551 **TAX SETTLEMENT CTR**...*Tax Preparation S*
24551 **THOMSON-PROMETRIC**...
24551 **WORLD EYE CAM**...*Offices Of Optometrist*
24551 **Z ENGINEERING**...*Engineering Svcs*
24551 **ZACHARIAH, SUSAN MD**...*Offices Of Physi*
24552 **US POST OFFICE**...*Postal Svc*
24601 **BELL TOWER FLORIST & GIFTS**...*Florists<*
24601 **CASH MY CHECK**...*Financial Transaction*
24601 **CHECK IN CASH OUT**...*Financial Transact*
24601 **EFRENS BAKERY**...*Retail Bakeries*
24601 **HAIR CLIPS**...*Beauty Salons*
24601 **KRAGEN AUTO PARTS**...*Automotive Parts &*
24601 **MANILA FOOD MART**...*Full-service Restau*
24601 **MARKETA Y CARNICERIA LATINA**...*Meat Mar*
24601 **OMALLEYS FLORIST**...*Florists*
24601 **PALESS CARPET & FLOORING**...*Flooring Co*
24601 **PAYLESS CARPET & FLOORS**...*Floor Coveri*
24601 **TACOS ENSENADA**...*Full-service Restaura*
24601 **TEXAS BARBEQUE & GRILL**...*Full-service*
24601 **TIENDA LATINA**...
24602 **CHILDS KINGDOM PRESCHOOL**...*Child Day C*
24602 **CLEAR TECHNOLOGIES**...
24602 **DE LA CUESTA, REG**...*Offices Of Real Es*
24602 **DISTRIBUIDOR INDEPENDIENTE**...*Food, Hea*
24602 **EL PROGRESSO**...*All Other Home Furnishi*
24602 **FIESTA AUTO INSURANCE CTR**...*Insurance*
24602 **HIERRO MARKET**...*Supermarkets & Other G*
24602 **JIMS SHOE REPAIR**...*Footwear & Leather*
24602 **LATINOS BEAUTY SALON**...*Beauty Salons*
24602 **MIRAGE DAY SPA**...*Other Personal Care S*
24602 **NAILWRAP & HAIR**...*Beauty Salons*
24602 **NUNO FIESTA GRILL**...*Full-service Resta*
24602 **OCIC**...
24602 **PALS VACUUM SEWING CTR**...*Household App*
24602 **PRO CARE**...*Carpet & Upholstery Cleanin*
24602 **REAL WIRELESS**...*Wireless Telecomm Carr*
24602 **TOP NAILWRAP**...*Nail Salons*
24602 **VORA, ASHA D DDS**...*Offices Of Dentists*

2005 EL TORO ROAD
SOURCE: DIGITAL BUSINESS DIRECTORY

23505 **MINATO SUSHI**...*Steak And Barbecue Rest*
23507 **MATTRESS GALLERY**...
23512 **BIG SHOTS BILLIARD BAR & GRILL**...*Ridin*
23522 **4 M JEWELER**...*Time Piece Repair Servic*
23522 **AFFORDABLE CARE**...
23522 **EL TORO GOURMET MEATS SEAFOOD**...
23522 **VEHICLE REGISTRATION & TAX SVC**...
23532 **BARBARA CHARETTE MANICURING**...*Beauty S*
23532 **CAFE MATINEE**...*Steak And Barbecue Rest*
23532 **CALIFORNIA HAIRWEST**...
23532 **CHILD'S KINGDOM PRESCHOOL**...
23532 **COAST FAMILY CHIROPRACTIC CTR**...
23532 **D N TINKER JEWELERS**...
23532 **DIGITOGRAPH STUDIO**...
23532 **GLG FREIGHT**...
23532 **GUY'S & GAL'S SUN TANNING**...
23532 **HAIR MECHANICS**...
23532 **HIMES ROBERT J DC**...
23532 **JEFFREY MICHAEL SALON**...
23532 **LA COCINA DE RICARDO**...*Steak And Barbe*
23532 **NINA'S INDIAN GROCERIES**...
23532 **PRIME TIME STEAK & SPORTS**...*Steak And*
23532 **SHEETS TODD DC**...
23532 **TEEN DRIVING ACADEMY**...*Educational Ser*
23532 **VET CHARITIES OF ORANGE COUNTY**...
23532 **WHALING THOMAS ATTY**...
23535 **INK HOUSE**...
23542 **NICKEL NICKEL FIVE CENT GAMES**...
23552 **PUB**...*Bars And Lounges*
23582 **PANDA PANDA**...*Steak And Barbecue Resta*
23582 **QUIZNO'S CLASSIC SUBS**...*Steak And Barb*
23591 **BASURTO & ASSOC**...*Business Services, N*
23591 **BILLING MASTERS**...
23591 **BRUGGEMAN MARY A PHD**...
23591 **CALIFORNIA ENGLISH LANGUAGE**...*Colleges*
23591 **CENTER FOR CREATIVE**...*Physical Therapi*
23591 **DATA WORKS AGENCY**...*Computer Processin*
23591 **DEDICATED RETAIL SVC**...*Business Servic*
23591 **DOC 4 GOLF**...
23591 **DOLPHIN BUSINESS CTR**...*Property Operat*
23591 **DRACKETT PROFESSIONALS**...*Drycleaning P*
23591 **FARMERS INSURANCE GROUP**...
23591 **GARANDEL COMERCIAL MGMT INC**...
23591 **MARINA DENTAL**...*Specialized Dental Pra*
23591 **MONEYLINE LENDING**...
23591 **ORICHALCUM**...*Computer Software Develop*
23591 **PETRO BROTHERS CONSTRUCTION**...
23591 **R J MAGUIRE & CO**...
23591 **RADIANT HEALTH MASSAGE THERAPY**...
23591 **SEA-SHELL MOBILE HOMES**...
23591 **SHAH NAYANA MD**...*Internal Medicine Pra*
23591 **SOLIMAN AMANI DDS**...*Specialized Dental*
23591 **SOLIMAN ASHRAF DDS**...*Specialized Denta*
23591 **THOMAS M BOROIAN INSURANCE**...<
23591 **TOTAL SPORTS ART**...
23591 **WINGS OF A DOVE HEALING CTR**...

2005 RAYMOND WAY
SOURCE: DIGITAL BUSINESS DIRECTORY

24551 **BANTEK WEST INC**...
24551 **COMPUTER EDUCATION INSTITUTE**...
24551 **DOVE CEILINGS**...*Acoustical And Insulat*
24551 **ELIVE INC**...*Computer Software Develop<*
24551 **EXECUTIVE ESCROW CO**...
24551 **GARDNER AARON**...
24551 **IBC SPACE TRACK**...*Computer Peripheral*
24551 **INTERNET COMMUNICATIONS TECH**...
24551 **MITCHELL OWENS & ASSOC**...
24551 **PHONE DIRECTORIES INC**...*Periodicals, P*
24551 **PRIME YIELD**...*Security Brokers And Dea*
24551 **RATE QUOTE**...
24551 **SOUTH COUNTRY PSYCHOTHERAPY**...
24552 **US POST OFFICE**...
24601 **ABEL'S BAKERY**...
24601 **AL MADANI MARKET**...
24601 **BELL TOWER FLORIST**...
24601 **HONEY BAKED HAM CO**...*Pizza Restaurants*
24601 **KRAGEN AUTO PARTS**...
24601 **MANILA FOOD MART**...*Steak And Barbecue*
24601 **MC CULLOUGH MINISTRIES**...
24601 **PAYLESS CARPET & FLOORS**...
24601 **TACOS ENSENADA**...*Steak And Barbecue Re*
24602 **ASHA D VORA DDS**...*Specialized Dental P*
24602 **CIRCLE OF CHILDREN DEVELOPMENT**...
24602 **CRUZ VIDEO**...*Records, Audio Discs, And*
24602 **FINE JEWELRY**...
24602 **HIERRO MARKET**...
24602 **HIERRO'S TAQUERIA**...*Steak And Barbecue*
24602 **IGLESIA NUEVA OBRA EN CRISTO**...
24602 **JANN'S CARING HANDS**...
24602 **JIM'S SHOE REPAIR**...
24602 **MEDICINE SHOPPE PHARMACY**...
24602 **NAILWRAP & HAIR**...
24602 **PAL'S VACUUM SEWING CTR**...*Miscellaneou*
24602 **PRO CARE**...
24602 **PSYCHIC READINGS**...
24602 **THAI CAFE**...*Steak And Barbecue Restaur*
24602 **TIPS COMMUNITY DIRECTOR**...
24602 **TOP NAILWRAP**...*Beauty Schools<*
24602 **VORA ASHA DDS**...*Specialized Dental Pra*

2000 EL TORO ROAD
SOURCE: HAINES

20562 **XXXX 00**
22546 **KWIKEY ' S LOCK & KEY 949 - 770 - 7456 9**
23532 **TINKER ' S ON 949 - 462 - 3955 JEWELERS**
23532 **TOBACCO BARN PPE 949 - 830 - 7110 SH**
23532 **VIDEOTRON 949 - 458 - 3877 0**
23532 **WHALING THOMAS M 949 - 472 - 1010 + 9 AT**...
23532 **WORTH CORP 949 - 951 - 9564**
23542 **NICKEL NICKEL FIVE 949 - 897 - 1020 + 9 CE**...
23552 **DENNY ' S RESTAURANT 949 - 583 - 1484**
23552 **PUB THE 949 - 206 - 0744 + 9**
23572 **WENDYS 949 - 830 - 0205**
23580 **XXXX**
23582 **PANDA PANDA 949 - 588 - 3280 + 9**
23591 **A STEP BEYOND 949 - 951 - 9230**
23591 **AMER COAUTION FATHERS & CHILD 949 - 8**...
23591 **ANGELO RETAIL MERCHANDISING CO 949 -**...
23591 **ASSOCTO ELECTROLOGY 949 - 586 - 6181**
23591 **BOROIAN THOMAS M INS AGENCY 949 - 859**...
23591 **BUILDING**
23591 **CALVARY COMMUNITY CHURCH 949 - 768 -** ...
23591 **CORNELIUS R SCOTT ATTY AT LAW 949 - 38**...
23591 **CORPORATE BENEFIT PLANNERS INC 949 -** ...
23591 **CROCKER TIM HOME OFFICE 949 - 855 - 604**...
23591 **DATACUBE IMAGING 949 - 855 - 6585 1**
23591 **ENGEL MONICA RGSTRD ELCTRL GST 949 -**...
23591 **EXCEL APPLIANCES 949 - 807 - 5410**
23591 **FARMERS INS 949 - 855 - 05757**
23591 **GALAXY CONTROL SYSTEMS 949 - 380 - 0858**
23591 **GORDON MELODY MA CCH 949 - 770 - 2430** ...
23591 **GRUENBECK THOMAS ATTY 949 - 380 - 7101 +**
23591 **JOHNSON JAMES D ATTY 949 - 380 - 7791**
23591 **MAGUIRE R J & CO 949 - 768 - 3839**
23591 **MAGUIRE ROBT JEA 949 - 768 - 3839**
23591 **MARTIN PEGGY FLORES 949 - 586 - 6181**
23591 **MERCHANT TODD ATTY AT LAW 949 - 380 -** ...
23591 **MONEYLINE LENDING COMPANY INC 949 - 5**...
23591 **NOBLES SHAWN N 949 - 959 - 99237**
23591 **PETRO BROTHERS CONSTRUCTION 949 - 7**...
23591 **RADIANT HEALTH MASSAGE THERAPY 949** ...
23591 **REYNOLDS DIANE 949 - 829 - 0359 + 9**
23591 **SEA SHELL MOBILE HM 949 - 607 - 1212**
23591 **SOUTHRN CA CREDITOR 949 - 455 - 1273**
23591 **STAFFON G W DOS 949 - 770 - 5266**
23591 **STEDMAN MEDICAL 949 - 897 - 9083 + 9**
23591 **T & K DEVELOPMENT 949 - 45 - 12997**
23591 **THE TAX COMPANY 949 - 206 - 1612 + 9**
23591 **WESTVIEW VOCATIONAL SERVICES 949 - 9**...
23600 **XXXX**
27601 **EL POLLO LOCO 949 - 458 - 99996**

2000 RAYMOND WAY
SOURCE: HAINES

24601 AMADAN MARET
24601 BELL TOWER FLORSTOFTS
24601 BUILDING
24601 CAMERA CARE
24601 CAMERA KARE
24601 CHILDREN ' S SCHOOLHOUSE
24601 CONSIGNMENT PLUS
24601 CROWN ONE HOUR CLEANERS
24601 HONEYBAKED HAM CO
24601 KRAGEN AUTO PARTS
24601 NEW IMAGE HAIR SALN
24601 O'MALLEY'S FLORIST
24601 SUPERCUTS
24601 TACOS ENSENADA
24602 ASHA VORA DOS
24602 BUILDING M
24602 CATHOLIC GIFT SHOP
24602 CHILDREN'S DISCOVERY CENTER
24602 DAVAL CONSULTANTS H9 - 454 - 1781 +
24602 DISCOUNT SPOATS NUTRITION
24602 FINE JEWELRY
24602 FRAME N LENS EYEGLS
24602 KATL MORTGAGE FUND
24602 KILTER TERMITE CONTROL
24602 LIU FRANK C DDS
24602 MEDICINE SHOPPE 049 - 630 - 8500
24602 MINUTEMAN PRESS
24602 NAJL WRAP & HAIR
24602 NERRO MARKET
24602 NODGEPOOGE BOOKS FOR CHILDREN
24602 PAL'S
24602 PROCARE
24602 PSYCHIC READINGS
24602 SION EXPRESSION
24602 STERLING ESTATE SALES
24602 STERLING STREET MALL
24602 TMM PALACE CUISINE
24602 TOP NAIL WRAP
24602 UNIQUELY YOU
24602 YORA ASHA DDS
24672 ORG COLBRY BRANCH 949 - 855 - 8173
24881 BUILDING
24951 ADVANCED ATM
24951 ANCHOR PUBLICATIONS NA
24951 CAPITOL MODULAR INC
24951 CARONEA MAON N
24951 COMPUTER EDUCATION INSTITUTE
24951 COMPUTER EDUCATION INSTITUTE -
24951 EXECUTIVE ESCRON COMPANY
24951 FIRST BENEFIT INSURANCE
24951 MERITAGE CONSTRUCTION
24951 NORTH AMERICAN FINANCIAL ADVSA 1
24951 OWEN MITCHELLL & ASSOC
24951 PRIME VIELD
24951 RATE QUOTE
24951 URBANTECH CORPORATION
24951 URBANTEON CORPORATON
24972 ORG CO LBRY TOO 949 - 855 - 3729 +

1994 EL TORO ROAD
SOURCE: HAINES

88 total records. *Part 1 of 2*
23501 SIZZLER RESTAURANTS 768 - 7340
23505 BOOMIS TERIYAKI BWL 472 - 4547 + 4
23507 SILK PLANTS WRHS 457 - 9060 2
23512 BIG SHOTS BILLRD BR 830 - 2255 + 4
23515 BAKERS SQUARE REST 770 - 8131 0
23522 EL TORO MEATS FISH 855 - 0215 2
23532 A A TOBACCO BARN 830 - 7110 + 4
23532 ALGAE ALS AQUARIUM 458 - 9724 7
23532 BECKER SURF & SPORT 458 - 5984 9
23532 BUILDING
23532 CA HAIRWEST 472 - 0168 + 4
23532 CHARETTE BARBARA 768 - 06693
23532 CHRISTIAN WONTESSRI 951 - 8837 - 4
23532 COAST FMLY CHRPRCTC 380 - 7800 6
23532 DIMITRIS RESTAURANT 768 - 2918 + 4
23532 DOUMANI J BTY SALON 586 - 84507
23532 DOUMANI WENS ORTRS 581 - 0790 0
23532 EGGHEAD DISC SFTWRE 581 - 08629
23532 ERICS FINE JEWELRY 770 - 2796
23532 ESTRADA MIKE D 380 - 48852
23532 EUROPEAN TAILORS 855 - 4215
23532 GUYSA GALS TANNING 583 - 0373 8
23532 HAIR DESIGN CAROL 830 - 79000
23532 HAIR NETWORK ETC 380 - 8110 9
23532 JACQUES DOUMANI BTY 586 - 84507
23532 LAKEFOREST CUPTA CT 837 - 4284 + 4
23532 LUTHRN THRIFT SHP 3 768 - 0405 51
23532 MEL FOSTERS HAIR 581 - 0790 + 4
23532 MENES GREEK FOOD 830 - 3228 61
23532 MONTSSRI INNOVTN 951 - 8837 + 4
23532 OAMI JAPANESE REST 770 - 6147
23532 ORANGE TREE CLNRS 951 - 4900
23532 ORANGETREE PLZ BRBR 770 - 2386
23532 PROJECT FLASHLIGHT 588 - 7898 + 4
23532 RAMOS A PRO ACNTNCY 837 - 8220
23532 RAMOS GEORGE O 837 - 8220
23532 REPUBLIC BOSNIA CTR 707 - 1115 + 4
23532 SCHLINGMAN J W OC 380 - 78007
23532 TOBACCO BARN PPE SH 8J0 - 7110 + 4
23532 VIDEOTRON 458 - 3877 01
23532 VT COMPUTER 472 - 5642 2
23542 C & R CLOTHIERS 951 - 8333
23546 COAST TO COAST LOCK 770 - 7456 + 4
23552 DENNYS RESTAURANT 583 - 1464 9
23562 CA FED BK 586 - 0900 + 4
23572 WENDYS HAMBURGERS 830 - 02057
23580 XXXX
23582 XXXX
23591 A A A CONTROLLA TAX 768 - 7397
23591 A A SOOLBCK BKKPG 768 - 7397
23591 A A TEEN DRYG ACOMY 768 - 6666 3
23591 ACACIA TRAVEL 770 - 8628 2
23591 ALEXIS CORP 587 - 0098 3

Part 2 of 2

23591 ASSOCTO ELECTROLOGY 586 - 6181
23591 BEAUTIFUL PERSON 454 - 2856 3
23591 BROWN NANCY R TAXES 768 - 2044 0
23591 BUILDING
23591 CONTROLLER TAX SERV 768 - 7397
23591 CONVERSE COMMNCTNS 8J0 - 65723
23591 ENGEL MONICA ELCTLG 586 - 6181 7
23591 EXECUTIVE CELLULAR 830 - 6572 + 4
23591 G T C 454 - 0233 3
23591 GLASS DIVISON 380 - 1713 1
23591 HYPNOTHERAPY CENTER 770 - 2430 2
23591 KELLER PUBLISHING 855 - 0808 3
23591 KIM RICHARD J POS 770 - 9955
23591 KIM SOO BAIK DDS 770 - 1537
23591 KIM SOO BAIK DDS 770 - 9355
23591 KRISH CHARI EA 380 - 4328
23591 MARTIN PEGGY FLORES 586 - 6181
23591 MILTOPE CORP 859 - 9492
23591 NU ATUM INC 859 - 0709
23591 ORIENTAL MDCL CLNC837 - 9425
23591 PARHAM STEVE DC 586 - 2138 3
23591 PLAZA JARDIN SUITES 586 - 2400 5
23591 PROFSNL ECONOMIC SV 768 - 73978
23591 SADDLBCK VLY BKKPG 768 - 7397
23591 SEA SHELL MOBILE HM 637 - 1212 3
23591 SHAH NAYANA MD 583 - 0975 3
23591 SOFT SENCE COMPUTNG 768 - 1113 0
23591 SOUTHRN CA CREDITOR 455 - 1223 3
23591 STAFFON G W ODS 770 - 5286
23591 SUNDOWN PAINTING 458 - 6836 + 4
23591 VORA SHOBHNA MD 583 - 0975 + 41
23591 WE DELIVER 855 - 6004 + 413
23591 WORCESTER CONTROLS 859 - 6960
23600 XXXX
23601 EL POLLO LOCO 459 - 37

24551 ADANS MRKTG ASC INC 581 - 0220 3
24551 ALLIANCE WTRE AMERS 501 - 0317 3
24551 AMER DATA RESOURCES 588 - 0314 3 |
24551 ANGELO RETAL WOSE 768 - 6298 OL
24551 ARMSTRONG INSURANCE 380 - 1333 0
24551 BOROLAN TWINS AG 059 - 9958 0
24551 BROWN BILL FRUR INS 951 - 0186 3
24551 BUILDING UIU 707 - 324
24551 CHAMPION CREDIT 454 - 07073
24551 CORNELIUS RS ATTY 380 - 7791 3
24551 EXECUTIVE ESCROW CO 586 - 5070
24551 FARMERS INS 455 - 0575 0
24551 GAHN HOLLY DR 859 - 96963
24551 GAST RICHAROLASCT $ 472 - 11309
24551 JOHNSON JAMES ATTY 380 - 7791 3
24551 L00 PAUL ASSOCIATES 380 - 3987 0
24551 MAGUIRE ROBERT JEA 788 - 309
24551 MAGURER JACO 764 - 3039
24551 MISKE I FARVENS INS 454 - 0044 3
24551 NOBLES SHAWN N
24551 NORTH ANER SOFTWARE 457 - 99374 0
24551 SIL VERBERG M EA CF 456 - 00554
24551 WORNING STAR CHRSTN 70 - 41093
24552 US POSTAL SERVICE 27 - 1220
24601 AL MADAN VARKET 107 - 5403 + 4
24601 BEL TOWER FLORIST 768 - 6789
24601 BUILDING
24601 CAMERA CARE $ $ 1 - 1100
24601 CAMERA CARE 951 - 4100
24601 CIDS KINGDON PRESC 380 - 02527
24601 CONSIGNMENT PLUS $ 81 - 3183
24601 CROWN ONE HR CLNAS 355 - 3148
24601 EL TORO TAILOR NC 951 - 0919
24601 HONEY BAKED HAN CO 07 - 1622
24601 NEW MAGE HAIR SALN 859 - 7580
24601 OS VANS SPRTING GOOD 770 - 2759
24601 SUPERCUTS 586 - 5110
24601 TACOS SAN MARCOS 183 - 0028 3
24602 BELL TOWER BROA SHP 899 - 46802
24602 BUILDING
24602 CATHOUC GET SHOP 770 - 9825
24602 ENTENMANNS BAKERY 170 - 2004
24602 FALES STEVEN 150 - 403 - 4
24602 FRANE N LENS FYTAS 1
24602 FRANK C DOS 770 - 0966
24602 KUSH FOOO1GFTS 454 - 3955 7
24602 MEDICINE SHOPPE 30 - 45008
24602 MINUTEVAN PRESS 786 - OS
24602 PSYQUC READINGS 472 - 08089
24602 QILDROXS OSCVRY CT 380 - 7110 9
24602 ROUND TABLE PZZA 380 - 37626
24602 THAI PALACE CUISINE 899 - 98891
24602 TOP NAILS 991 - 10140
24602 UNOVE Y YOU 854 - 1733 8
24602 UNQUE HAIRUNALS 472 - 00 - 4
24602 VOOR WAR DOS 770 - 20994

98 total records. *Part 1 of 2*

23501 BAKERS SQUARE 770 - 3131 1
23501 SZER RESTAURANTS 7 7340
23505 XXXX
23507 ADLER SHOES
23512 CA YOUTH SHOWS
23512 EL TORO MEATS
23512 EL TORO MEATS
23512 RODS FLOWER HOUSE
23515 XXXX
23522 PROOFSNL RESUME & WRTG
23522 TIPS TO TRAVEL
23532 ALGAE ALS AQUARIUN
23532 BECKER SURF & SPORT
23532 BUILDING
23532 C A HAIRWEST
23532 COAST FMLY CJRPRCTC
23532 CONCA DORO
23532 DOUMANI J BTY SALON
23532 EGGNEAD DISC SFTWRE
23532 ERICS FINE JEWELRY
23532 EUROPEAN TAILONS
23532 GUYS&GRLS TANNING
23532 HAIR NETWORK ETC
23532 INNOVATION MNTSSRI
23532 JACOUSES DOUMANI BTY
23532 LUTHRN SOCIAL SERV
23532 LUTHRN THRIFT SH
23532 MEAGANS TICKETS
23532 MENES GREEK FOOD
23532 MONTESSRI INNOVATN
23532 NAVY RECRUITING STA
23532 OAIN JAPANESE REST
23532 ORANGE THREE CLEANRS
23532 ORANGE TREE PLZ BRBR
23532 PREFERRED TICKETS
23532 RAMOS A PRO ACNTNCY
23532 RAMOS GEORGE O
23532 REEL VIDEO
23532 SCHLNGMAN J W DC
23532 TICKETS PREFFERED
23532 US AF RECRTNG CNDR
23532 US ARMY RERTNG OFC
23532 US NAVY MRN RCRTNG
23532 US NAVY RCRTNG STA
23532 VANBUSKIRK SHIRLEY
23542 BONDED ALARM CO
23542 C & R CLOTHERS
23546 XXXX
23552 DENNY'S RESTAURANT
23562 COAST SVFS &LDAN ASN
23572 WENDY'S HAMBURGERS
23580 XXXX
23582 TWO WML TRUST AUTH

Part 2 of 2

23591 ACACIA CT CHRPRCTC
23591 AGLE LARRY CPA
23591 ASSOCTD ELECTROLOGY
23591 BENEFIELD ELANE
23591 BOND REALTY
23591 BRISENO LANDSCAPE
23591 BROWN NANCY R TAXES
23591 BUILDING
23591 C W S WFO SERVICES
23591 CONTROLLER FWCL SVS
23591 CRITIKON
23591 CRITIKON LA
23591 DEKARVER & AGLE CPAS
23591 DEKARVER MARTIN CPA
23591 ENGEL MONICA ELCTLG 586 - 6181 1
23591 EXTEL CORPORATION 855 - 0230 + 9
23591 FAMILY DENTAL CARE 770 - 5266 6
23591 FENTON FRED C 837 - 7750 8
23591 FORD MARKETING CORP 770 - 2165 3
23591 GYORKOS BKKPNG & TAX 637 - 7750
23591 GYORKOS JOHN W 807 - 7750
23591 GYORKOSEFENTON LAW 837 - 7750
23591 INTERACTIVE CUPTR 770 - 53324
23591 JAMIS ON PBLC ACCTNG 768 - 7397 + 9
23591 KAREN K SAL CIDO 768 - 9283 6
23591 KIM RICHARD J DDS 770 - 9355
23591 KIM SOO BAIK DDS 770 - 9355
23591 KOLSON INVESTMENT 837 - 0443 8
23591 LINK TEL CONUNCTNS 931 - 60627
23591 NELES INC 859 - 2046 + 9
23591 OH DR GREGORY 855 - 8000 7
23591 PAC CST TRUST DEEDS 768 - 1460
23591 PAC SCNTFC CO MOTOR 859 - 45258
23591 PERSONAL CARE HLTH 859 - 5881 6
23591 PLAZA JARDIN SUITES 586 - 2400 5
23591 PROFSNL ECONOMIC SY 768 - 7397 8
23591 SADDLBCX VLY BKKPG 768 - 7397
23591 SOFT CUPTR CONSLTNG 768 - 7397
23591 SOFT SENSE COMPUTNG 855 - 9475 + 9
23591 TREIBER H KEITH DOS770 - 5266 3
23591 VARTIN P ELCTRL GST 586 - 6181 4
23591 VISTA FINANCIAL GRP 380 - 9839 + 9
23591 WORCESTER CONTROLS 859 - 69694
23600 XXXX
23601 EL POLLO LOCO

75 total records. *Part 1 of 2*

24062 BUILDINGS
24551 ANKER PAC RL EST 770 - 40708
24551 ANKER PAC RL EST 770 - 8073
24551 BACK PAIN CNTR THE 581 - 77117
24551 BOLER THOMAS M 586 61 7
24551 BUILDING UCUN 583 - 7380 + 9
24551 CA AUCTION SERVICES 355 - 43409
24551 CITGO PETROLEUN 31 - 4044 6
24551 COMMAND SECURITY CO 81 - 9444
24551 ELECTRONC MONITORING 380 - 4115
24551 EXECUTIVE ESCROW CO $ 06 - 5070
24551 FARBEST CORP ISS - 3381 6
24551 FORD EQUIPMENT LSNG 456 - 10017
24551 FORD WOTOR GLSS D 180 - 1713 -
24551 GAST RICHAROLASCTS 412 - 11309
24551 GENL NUTRITION OXTA 450 - 27008
24551 LANNON DENNIS E OC S91 - 7711 8
24551 MISSION WORTGAGE 031 - 15059
24551 MONSANTO AGA PROO 770 - 2544 5
24551 OH NATL LIFE INS 855 - 9021
24551 PARKER HANK E DC
24551 PROGASY MOSNG
24551 SOUTHPOINTR FNCL SV
24551 SYLVAN LEARNING CTR
24551 UNIVRSL MORTGAGE
24552 US POSTAL SERVICE 7 - 12201
24601 BELL TOWER RORIST 780 - 5783
24601 BULDING
24601 CAMERA CARE
24601 CAMERA CARE
24601 CASTAWAY CONSIGNMENT 051 31 - - 3486 3100
24601 CORSIDENT PLUS 91 - 3488
24601 CROM ONE HOURS 8553144
24601 DONNA
24601 EL TORO TALOR INC 951 770 - - 0019 5215 0 4
24601 HONEYBAKED HAM CO
24601 KIDS KINGDON INC
24601 NEW IMAGE HAIR SALN
24601 OSHMANS SPRTNG GOOD
24601 SPECTRUM BUSNS CTRS
24601 SUPERCUTS
24601 TAMS STATIONERS 10 505110 - 0062
24601 VINTAGE THRIFT SHOP
24601 WALLPAPER WORLD
24602 A A TOBACCO BARN
24602 ACACIA TRAVEL
24602 ADVENTURES IN VIDEO
24602 APPLIED DATAMETRICS
24602 BELLSONICS INC
24602 CATHOLIC GIFT SHOP
24602 CHILDRENS DSCVRY CT
24602 COMPUNET BUSNS CNTR
24602 FRAME N LENS EYEGLS

Part 2 of 2

24602 FRAME N LENS OPTCL
24602 GOLDEN LION
24602 HELP U SELL MISSION
24602 IVANOVICS E M DOS
24602 KASH FOOD & GIFTS
24602 KENS WIDE SHOES
24602 LIU FRANK C DOS
24602 MAGUIRE R JACO
24602 MEDICINE SHOPPE
24602 MINUTEMAN PRESS
24602 MUTUAL LENDING SERV
24602 PETERSON SHERWOOD
24602 PYSCNIC READINGS
24602 ROUND TABLE PIZZA
24602 SADOLACK CHILDRNS CT
24602 STANDRD COMPUTER
24602 STARDUST MOTORS
24602 STEWART CL VDE &ASCTS
24602 TOBACCO BARN PPE SM
24602 TOKTO MASSAGE
24602 TOP NAILS
24602 WALRATH S M CPA

75 total records. *Part 1 of 2*

23501 SAMBOS
23501 SIZZLER FAMILY STEAK
23505 TANGULTRU ELT 000 - 00000
23507 VERAL SAVINGSIU 170 - 20
23512 TORO FIS MCT 155 - 0215 + 1
23515 XXXX
23532 BONTESSORNNOVT 051 - 2007 11
23532 BUILDING
23532 CCC
23532 CONCA DORO
23532 DO NJEVCUT 70 - 71 . 1
23532 INNOVATION WONT 051 - 1971
23532 ITS AS W OO 7 - 4801 0
23532 MSC NOFU CO 770 - 41011
23532 NATURAL MEASURES T10 - 12 - 11
23532 ORANGETOP 770 - 2005 + 1
23532 PARC MOL SER 051 - 8771 0
23532 QEDRO DEPOT 081 - 24 0
23532 QILDRENS MATTUNG 70 - 4801 O
23532 SMALL WORLD HAIR 768 - 8901 0
23532 SWEET KIDS 863 - 1180 + 1
23532 TACKLE SHOP THE 951 - 8674 + 1
23532 THE TACKLE SHOP 051 - 3874 + 1
23532 TOUCH OF EUROPE INC 051 - 5864 + 1
23532 TSUKASA RESTAURANT 051 - 9830 + 1
23532 TSUKASA RESTAURANT 170 - 8147 + 1
23532 UTTY LOVELY GIFTS A55 - 0156 1
23532 WAZEE WATAT DACN 01 - 0300 + 1
23532 WOWA NC 155 - 013 1
23532 ZUYERS GUY ELT 951 - 2801 + 11
23542 C & R CLOTHIERS ELT 031 - 8333 0
23552 ELMERS RESTAURANT 951 - 5744 + 1
23562 COAST FOR SVASELN 770 - 8006 0
23572 GOLDEN BUN THE 800 - 9111 0
23572 JOI AXE
23580 XXXX
23582 XXXX
23591 ALL MORTGAGE SERV 586 - 6111 0
23591 BLUE CARPET MBL MMS 170 - 4300
23591 BRANSON ESCHOW CO 191 - 8100 9 |
23591 BUILDING
23591 CITICORP SERVICES 789 - 5153 + 1
23591 DENNG KARTIN 951 - 8213 01
23591 DEXUARVER MARTIN L 951 - 8082 + 1
23591 DON ROBERTO 596 - 92000
23591 DORNEY GENE E 051 - 799 0 1
23591 ENCORE PERSONNEL 770 - 5321 + 11
23591 EQUITABLE UFE AGCY 770 - 8211 9
23591 FLORES PEGGY REGTR 586 - 8181 + 1
23591 FOREWOST MCKESSON 030 - 6750 0
23591 HABIB ALIASSOCIATES 855 - 1233 + 1
23591 HABIB ALLASSOCIATES 8 . 55 - 1063 + 1 |
23591 INSTITUTE CRV GRWTH855 - 4332 + 1

Part 2 of 2

23591 IRVINE VIEJO INS 7 70 - 4438 0
23591 KIM SOO BAIK DOS 770 - 8055 9
23591 KRATER GERALD M DOS 770 - 5266 0
23591 M D ENTERPRISES 951 - 6213 0
23591 MIEWALD ROSE REOST 586 - 6181 + 1
23591 MILLER W M ASSOC 770 - 1140 + 1
23591 MORGAN FNCLINS SV 770 - 6581 0
23591 MUCKS LANDING INC 051 - 8820 + 1 |
23591 NORTON CO PLSTC SYN 788 - 0073 + 1
23591 ORANGE DEVELOPMENT 581 - 88900
23591 REAL ESTATE SRVC 855 - 0365 + 1
23591 RECREATIONL CNCPTS 855 - 0063 + 1
23591 RECREATIONL FUNDNG 951 - 8831 + 1 |
23591 RONDOU & ASSOCIATES 770 ¿ 7164 0
23591 SADDLEBACK SEC SERY 770 - 1091 - 1
23591 SALES BUILDERS 788 - 8042 + 1
23591 SEARCH GROUP THE 951 - 0111 + 1
23591 SHEAR LAWRENCE W MD 951 - 7637 01
23591 WESTERN CMMRCL CNTR 768 - 1148 0 |
23591 YOAK PLUMBING 588 - 8213 + 11
23600 ALPHYS RSTRNTS ELT 768 - 9758 7
23601 TOM SAWYERS CHICKEN 951 - 6816 + 1

1981 RAYMOND WAY
SOURCE: HAINES

24551 ARCHITECTURAL CONCR 837 - 3634 9
24551 ASHWORTH MARK S 770 - 7012 + 1
24551 BROWN LEE 770 - 7012 + 1
24551 BUILDING
24551 CARRIAGE COMPANY 770 - 8787 + 1
24551 CERTIFIED LEASING 770 - 8787 + 1
24551 CONTEMPO PERSNNL SV 770 - 2732 0
24551 EXECTV ESCROW CO 586 - 5070 9
24551 EXECU CORP 586 - 5071 + 1
24551 FINANCIAL ADVISORY 051 - 1426 0
24551 G E C CFNCL SERV 581 - 69009
24551 GOLD COAST LEASING 770 - 8787 9
24551 HOMEMAKERS FINCE SY 591 - 6900 9
24551 IMPACT FINANCIAL 586 - 2090 + 1
24551 KING TONY T MD 770 - 8468 9
24551 LEGAL EXECUTIVE SV 586 - 88300
24551 LEWIS JAMES P 951 - 1426 0
24551 MARSHALL & YEASTING 951 - 5752 + 1
24551 PAM INC 951 - 5751 + 1
24551 PATENT ANNUITY MNGM 951 - 5751 + 1
24551 SMITH MARK ALAW 770 - 7012 + 1
24551 WESTERN APPRAISERS 581 - 69909
24551 YEAGER JAMES J 837 - 36340
24552 US POSTAL SERVICE 837 - 1220 + 1
24601 BELL TOWER FLORIST 768 - 6788 9
24601 BUILDING
24601 CINMAR CORP 770 - 3174 + 1
24601 CLOTHES TIME 768 - 77759
24601 COMPUTERLAND 770 - 0131 + 1
24601 EL TORO TAILOR SHOP 951 - 0919 0
24601 GOLDENWEST RLTSA ASC 770 - 2778 + 1
24601 HONEY BAKED HAM INC 837 - 3822 8
24601 HUGHES WALLPPR WRLD 768 - 5344 0
24601 L & G SPORTING GOODS 770 - 27590
24601 SUPERCUTS 586 - 5110 + 1
24601 TYPEWRITER CITY 770 - 5528 9
24601 VITAMIN VILLAGE 581 - 5051 0
24601 WOODCELLAR THE 770 - 4444 9
24602 A & A TOBACCO BARN 830 - 7110 + 1
24602 AETNA FINANCE CO 770 - 0933 8
24602 ANAHEIM SAVINGSELN 951 - 0181 0
24602 AUNT HAZELS NTRL FD 581 - 5051 0
24602 AVCO FINCL SERVICES 770 - 2544 9
24602 BELL TWR TRVL 770 - 8628 9
24602 BELVAS 951 - 1166 0
24602 BONDS MICROWAVE CTR 830 - 8030 0
24602 BUILDING
24602 CALIF HOME SELLERS 770 - 9700 0
24602 GOLDEN LION 770 - 2626 + 1
24602 LIU FRANK CODS 770 - 0966 8
24602 MARC & CO 830 - 4247 9
24602 MINUTE MAN PRESS 768 - 6305
24602 PANJOS PIZZA 770 - 52139
24602 SHIRT CANNERY 768 - 41029
24602 SMITH SMITH KEN 770 - 7131 0
24602 SOFA BED STORE 051 - 5505 + 1
24602 STATE FRM INS ELT 770 - 7131 0
24602 TOBACCO BARN PIPE 830 - 7110 - 1
24602 TRANSAMERICA FINNCL 581 - 2700 + 1
24602 TRAVEL NETWORKS OFC 770 - 8628 0
24602 VENUS DE MILO LADIE 768 - 4675 9
24602 WEIGHT REDUCTN CLNC 051 - 83450

1974 EL TORO ROAD
SOURCE: HAINES

23461 XXXX
23571 G & S TRANSMISSN CNTR830 - 1806 2
23580 XXXX
23582 US POSTAL SERVICE 837 - 1220 2
23602 EL TORO CAR WASH 837 - 0600 3

1974 RAYMOND WAY
SOURCE: HAINES

STREET NOT LISTED

1970 EL TORO ROAD
SOURCE: STREET ADDRESS DIRECTORY

NO LISTINGS IN RANGE

1970 RAYMOND WAY

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1964 EL TORO ROAD

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1964 RAYMOND WAY

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1959 EL TORO ROAD

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1959 RAYMOND WAY

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1955 EL TORO ROAD

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1955 RAYMOND WAY

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

1951 EL TORO ROAD

SOURCE: STREET ADDRESS DIRECTORY

STREET NOT LISTED

--- END REPORT ---

STREET NOT LISTED

Appendix E - Regulatory Database Report

Appendix E

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ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*National CORE/El Toro Road* *23591 El Toro Road* *Lake Forest CA 92630*
Project No:	*19-42-162-01*
Report Type:	*Database Report*
Order No:	*20190618288*
Requested by:	*Converse Consultants*
Date Completed:	*June 20, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Table of Contents....2
Executive Summary....3
Executive Summary: Report Summary....4
Executive Summary: Site Report Summary - Project Property....8
Executive Summary: Site Report Summary - Surrounding Properties....9
Executive Summary: Summary by Data Source....17
Map....28
Aerial....31
Topographic Map....32
Detail Report....33
Unplottable Summary....287
Unplottable Report....288
Appendix: Database Descriptions....358
Definitions....370

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Executive Summary

Property Information:

Project Property:	*National CORE/El Toro Road* *23591 El Toro Road Lake Forest CA 92630*
Project No:	*19-42-162-01*

Coordinates:

Latitude:	*33.622264*
Longitude:	*-117.701205*
UTM Northing:	*3,720,494.99*
UTM Easting:	*434,959.42*
UTM Zone:	*UTM Zone 11S*

Elevation:	*400 FT*

Order Information:

Order No:	*20190618288*
Date Requested:	*June 18, 2019*
Requested by:	*Converse Consultants*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*PSR*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	1	-	-	1
RCRA SQG	Y	.25	0	1	3	-	-	4
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	7	7	-	-	14
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	1	0	0	2	3
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	1	12	-	13
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	1	-	-	1
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	1	-	-	1
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	1	-	1
VCP	Y	.5	0	1	0	0	-	1
CLEANUP SITES	Y	.5	0	2	0	2	-	4
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	1	-	-	1
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
UST CLEANUP	Y	.5	0	0	0	0	-	0
ANAHEIM AST	Y	.25	0	0	0	-	-	0
ANAHEIM UST	Y	.25	0	0	0	-	-	0
ORANGE AST	Y	.25	0	0	0	-	-	0
ORANGE LOP	Y	.5	0	0	1	11	-	12
UST ORANGE CNTY	Y	.25	0	0	0	-	-	0

Additional Environmental Records

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	1	-	-	1
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	7	6	-	-	13
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	1	1
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	5	3	-	-	-	8
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	5	-	-	-	5
DELISTED HAZ	Y	.5	0	0	0	1	-	1
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	5	1	-	-	6

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
CDL	Y	.125	0	1	-	-	-	1
Tribal	***No Tribal additional environmental record sources available for this State.***							
County								
ORANGE ICP	Y	.25	0	2	1	-	-	3
ORANGE HW	Y	.125	0	1	-	-	-	1
Total:			5	36	25	27	3	96

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	HAZNET	DR STEVE PARHAM	23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	-	0.00 / 0.00	5	33
1	HAZNET	TEKRANGE	23591 EL TORO RD STE 178 LAKE FOREST CA 92630	-	0.00 / 0.00	5	33
1	HAZNET	LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	-	0.00 / 0.00	5	33
1	HAZNET	AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130 LAKE FOREST CA 92630	-	0.00 / 0.00	5	34
1	HAZNET	ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	-	0.00 / 0.00	5	34

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
2	HAZNET	CHOICE HEALTH CENTERS	24551 Raymond Way Lake Forest CA 926304400	SW	0.00 / 16.67	-4	35
2	HAZNET	CHOICE HEALTH CENTER	24551 RAYMOND WAY LAKE FOREST CA 926300000	SW	0.00 / 16.67	-4	35
3	HAZNET	UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY LAKE FOREST CA 926309978	SSW	0.01 / 38.06	-2	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD LAKE FOREST CA 926300000	ESE	0.02 / 105.65	5	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO BLVD EL TORO CA 926300000	ESE	0.02 / 105.65	5	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD #3 EL TORO CA 926300000	ESE	0.02 / 105.65	5	37
4	EMISSIONS	ORANGE TREE CLEANERS	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	5	37
4	EMISSIONS	ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	5	37
4	ORANGE ICP	ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD LAKE FOREST CA 92630-	ESE	0.02 / 105.65	5	38
4	RCRA NON GEN	SALONCENTRIC INC 6034	23532 EL TORO RD STE 6 LAKE FOREST CA 92630 ***EPA Handler ID:*** CAL000394401	ESE	0.02 / 105.65	5	38
4	RCRA SQG	ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3 LAKE FOREST CA 92630 ***EPA Handler ID:*** CAP000272310	ESE	0.02 / 105.65	5	39
5	CERS HAZ	BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD LAKE FOREST CA 92630	ESE	0.02 / 115.99	6	40

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
6	CERS HAZ	O'Reilly Auto Parts #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	2	43
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY UNIT 15 EL TORO CA 926300000	S	0.03 / 161.26	2	46
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	2	46
6	DRYCLEANERS	MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	2	46
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY EL TORO CA 926300000	S	0.03 / 161.26	2	47
6	EMISSIONS	CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	2	47
6	EMISSIONS	CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	2	48
6	CLEANUP SITES	FORMER CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92603 ***Site Facility Type | Status:*** CLEANUP PROGRAM SITE | OPEN - ACTIVE	S	0.03 / 161.26	2	48
6	ORANGE HW	OREILLY AUTO PARTS #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	2	58
6	ORANGE ICP	CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92630-	S	0.03 / 161.26	2	58
6	RCRA NON GEN	O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY LAKE FOREST CA 92630 ***EPA Handler ID:*** CAL000392709	S	0.03 / 161.26	2	58
7	CERS HAZ	Sizzler Restaurant #409	23501 EL TORO RD LAKE FOREST CA 92630	SE	0.03 / 169.40	0	59

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
7	EMISSIONS	SIZZLER-MORGAN MANAGEMENT	23501 EL TORO RD EL TORO CA 92630	SE	0.03 / 169.40	0	62
8	ENVIROSTOR	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	0	63
			***Estor/EPA ID	Cleanup Status:*** 60001482	REFER: LOCAL AGENCY AS OF 2/27/2013		
8	VCP	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	0	64
			***Estor/EPA ID	Cleanup Status:*** 60001482	REFER: LOCAL AGENCY AS OF 2/27/2013		
9	CLEANUP SITES	THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD LAKE FOREST CA	ESE	0.09 / 453.98	0	65
			***Site Facility Type	Status:*** CLEANUP PROGRAM SITE	OPEN - ACTIVE		
10	CERS HAZ	Panda Express #1586	23572 EL TORO RD STE A LAKE FOREST CA 92630	S	0.09 / 480.73	-5	83
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH RD LAKE FOREST CA 92630-4405 ***EPA Handler ID:*** CAC002990349	NNW	0.10 / 535.58	-11	86
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID:*** CAC002992197	NNW	0.10 / 535.58	-11	87
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630-4405 ***EPA Handler ID:*** CAC003000143	NNW	0.10 / 535.58	-11	88
12	RCRA NON GEN	LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID:*** CAC002979427	NW	0.10 / 536.04	-13	89
12	RCRA NON GEN	LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID:*** CAC003000310	NW	0.10 / 536.04	-13	90
13	CERS HAZ	FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD LAKE FOREST CA 92630	E	0.10 / 539.52	7	91
14	CDL		23242 CAVANAUGH STREET LAKE FOREST CA 92630	N	0.12 / 659.72	-9	95

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
15	RCRA NON GEN	STEVE DALAT	23236 CAVANAUGH RD LAKE FOREST CA 92630-4405 ***EPA Handler ID:*** CAC002968612	N	0.13 / 700.95	-9	95
16	DELISTED TNK	BEACON BAY AUTO WASH	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	-7	96
16	HHSS	EL TORO AUTO WASH	23602 EL TORD ROAD ROCKFIELD EL TORO CA 92630	S	0.15 / 811.69	-7	96
16	HIST TANK	EL TORO AUTO WASH	23602 EL TORO ROAD EL TORO CA	S	0.15 / 811.69	-7	96
16	ORANGE LOP	BEACON BAY AUTO WASH #06	23602 EL TORO RD LAKE FOREST CA 92630 ***Record ID | Case Closed Date | Type of Closure:*** RO0001881 | |	S	0.15 / 811.69	-7	97
16	LUST	BEACON BAY AUTO WASH #06	23602 EL TORO LAKE FOREST CA 92630 ***Global ID | Status | Status Date:*** T0605902112 | OPEN - REMEDIATION | 2003-12-18 00:00:00	S	0.15 / 811.69	-7	97
16	RCRA NON GEN	MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291	23602 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID:*** CAL000313984	S	0.15 / 811.69	-7	110
16	RCRA NON GEN	PETSMART #1291	23602 EL TORO RD LAKE FOREST CA 92630 ***EPA Handler ID:*** CAL000400880	S	0.15 / 811.69	-7	111
17	RCRA NON GEN	ULTA BEAUTY 467	23608 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID:*** CAL000388889	S	0.17 / 895.66	-7	112
18	RCRA NON GEN	GARY & SHELLIE SHAUL	24471 REDLEN ST LAKE FOREST CA 92630 ***EPA Handler ID:*** CAC002977553	NW	0.18 / 941.60	-20	113
19	RCRA NON GEN	HOMEGOODS 0366	23614 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID:*** CAL000401807	S	0.19 / 986.85	-9	115
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	7	116
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	7	116

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 926300000	ENE	0.19 / 999.86	7	116
20	EMISSIONS	SPIC 'N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	7	116
20	FED DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630	ENE	0.19 / 999.86	7	117
20	ORANGE ICP	SPIC N SPAN CLEANERS & LAUNDRY	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	7	117
20	RCRA SQG	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630 ***EPA Handler ID:*** CAD983588708	ENE	0.19 / 999.86	7	117
21	RCRA NON GEN	AARON BROTHERS #0308	23622 EL TORO RD STE A LAKE FOREST CA 92630-4786 ***EPA Handler ID:*** CAL000407538	SSW	0.20 / 1,037.65	-10	118
22	RCRA LQG	CVS PHARMACY # 9541	23330 EL TORO ROAD LAKE FOREST CA 92630 ***EPA Handler ID:*** CAR000236927	ENE	0.21 / 1,133.85	8	119
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD STE H1 LAGUNA HILLS CA 92630	SSW	0.24 / 1,276.42	-12	123
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 926300000	SSW	0.24 / 1,276.42	-12	124
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD STE H1 EL TORO CA 926304748	SSW	0.24 / 1,276.42	-12	124
23	RCRA SQG	XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 92630 ***EPA Handler ID:*** CAD983581729	SSW	0.24 / 1,276.42	-12	124
24	RCRA SQG	ACC BEST 1 HOUR PHOTO	23615 EL TORO RD #S EL TORO CA 92630 ***EPA Handler ID:*** CAD982503849	SSW	0.25 / 1,298.98	-12	125
25	LUST	UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	N	0.28 / 1,453.33	-17	126

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			Global ID | Status | Status Date: T0605901205 | COMPLETED - CASE CLOSED | 1994-06-21 00:00:00				
26	CLEANUP SITES	THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS	23684 EL TORO ROAD LAKE FOREST CA 92630	SSW	0.29 / 1,507.98	-11	129
			Site Facility Type | Status: CLEANUP PROGRAM SITE | OPEN - SITE ASSESSMENT				
27	LUST	TEXACO	23751 EL TORO LAKE FOREST CA 92630	SSW	0.31 / 1,613.98	-11	153
			Global ID | Status | Status Date: T0605900581 | COMPLETED - CASE CLOSED | 1991-05-06 00:00:00				
28	LUST	SHELL OIL	23751 EL TORO LAKE FOREST CA 92630	SSW	0.35 / 1,831.42	-11	155
			Global ID | Status | Status Date: T0605986985 | COMPLETED - CASE CLOSED | 2013-01-10 00:00:00				
29	ORANGE LOP	SHELL OIL	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	-12	166
			Record ID | Case Closed Date | Type of Closure: RO0003195 | 5/17/2013 | Closure certification issued				
29	ORANGE LOP	TEXACO	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	-12	166
			Record ID | Case Closed Date | Type of Closure: RO0001124 | 5/6/1991 | Closure certification issued				
30	ORANGE LOP	ARCO #3013	23742 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	-12	167
			Record ID | Case Closed Date | Type of Closure: RO0002116 | |				
30	LUST	ARCO #3013	23742 EL TORO LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	-12	167
			Global ID | Status | Status Date: T0605901431 | OPEN - SITE ASSESSMENT | 2014-10-27 00:00:00				
31	LUST	KENITA ENTERPRISES	24961 WHISLER DR LAKE FOREST CA 92630	ENE	0.39 / 2,064.04	24	186
			Global ID | Status | Status Date: T0605902476 | COMPLETED - CASE CLOSED | 1989-05-19 00:00:00				
32	ORANGE LOP	MOBIL #18-378	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	187
			Record ID | Case Closed Date | Type of Closure: RO0000891 | |				
32	ORANGE LOP	MOBIL OIL	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	187
			Record ID | Case Closed Date | Type of Closure: RO0002874 | 9/2/1986 | Closure certification issued				
32	LUST	MOBIL OIL	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	188
			Global ID | Status | Status Date: T0605900211 | COMPLETED - CASE CLOSED | 1986-09-02 00:00:00				
32	LUST	MOBIL #18-378	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	189
			Global ID | Status | Status Date: T0605902221 | OPEN - SITE ASSESSMENT | 2009-03-10 00:00:00				
33	ORANGE LOP	UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	NNW	0.42 / 2,239.75	-31	211

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			Record ID* | *Case Closed Date* | *Type of Closure: RO0002900 | 6/21/1994 | Closure certification issued				
34	LUST	CHEVRON #9-0884	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,262.68	-29	211
			Global ID* | *Status* | *Status Date: T0605979060 | COMPLETED - CASE CLOSED | 2015-01-15 00:00:00				
35	LUST	CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,284.90	-28	224
			Global ID* | *Status* | *Status Date: T0605902054 | COMPLETED - CASE CLOSED | 1998-06-03 00:00:00				
36	ORANGE LOP	CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	-31	226
			Record ID* | *Case Closed Date* | *Type of Closure: RO0001283 | 6/3/1998 | Closure certification issued				
36	ORANGE LOP	CHEVRON #9-0884	22942 RIDGE ROUTE DR LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	-31	227
			Record ID* | *Case Closed Date* | *Type of Closure: RO0003116 | 1/15/2015 | Closure certification issued				
37	DELISTED HAZ	7-Eleven 33626	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227
37	ORANGE LOP	SHELL OIL	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227
			Record ID* | *Case Closed Date* | *Type of Closure: RO0001822 | 9/29/2005 | Closure certification issued				
37	LUST	SHELL OIL	23842 EL TORO LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227
			Global ID* | *Status* | *Status Date: T0605902278 | COMPLETED - CASE CLOSED | 2005-09-29 00:00:00				
38	DEED	THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	-26	230
38	CLEANUP SITES	THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	-26	230
			Site Facility Type* | *Status: CLEANUP PROGRAM SITE | OPEN - REMEDIATION				
39	ORANGE LOP	EXXON	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266
			Record ID* | *Case Closed Date* | *Type of Closure: RO0002476 | 8/19/2004 | Closure certification issued				
39	ORANGE LOP	USA PETROLEUM #825	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266
			Record ID* | *Case Closed Date* | *Type of Closure: RO0003205 | 12/14/2005 | Closure certification issued				
39	LUST	EXXON	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266
			Global ID* | *Status* | *Status Date: T0605900965 | COMPLETED - CASE CLOSED | 2004-09-20 00:00:00				
39	LUST	USA PETROLEUM #825	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	278

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			Global ID | Status | Status Date: T0605936712 | COMPLETED - CASE CLOSED | 2005-12-14 00:00:00				
40	ENVIROSTOR	LAKE FOREST TOWN CENTER / DRY CLEANER	22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	NNW	0.92 / 4,856.83	-58	281
			Estor/EPA ID | Cleanup Status: 60002373 | ACTIVE AS OF 6/14/2016				
41	ENVIROSTOR	SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	51	285
			Estor/EPA ID | Cleanup Status: 70000058 | NO ACTION REQUIRED AS OF 11/1/2005				
41	SCH	SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	51	285
			Estor/EPA ID | Cleanup Status: 70000058 | NO ACTION REQUIRED AS OF 11/1/2005				

Executive Summary: Summary by Data Source

Standard

Federal

RCRA LQG - RCRA Generator List

A search of the RCRA LQG database, dated Mar 4, 2019 has found that there are 1 RCRA LQG site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CVS PHARMACY # 9541	23330 EL TORO ROAD LAKE FOREST CA 92630 ***EPA Handler ID**: CAR000236927*	ENE	0.21 / 1,133.85	22

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Mar 4, 2019 has found that there are 4 RCRA SQG site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3 LAKE FOREST CA 92630 ***EPA Handler ID**: CAP000272310*	ESE	0.02 / 105.65	4
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630 ***EPA Handler ID**: CAD983588708*	ENE	0.19 / 999.86	20

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 92630 ***EPA Handler ID**: CAD983581729*	SSW	0.24 / 1,276.42	23
ACC BEST 1 HOUR PHOTO	23615 EL TORO RD #S EL TORO CA 92630 ***EPA Handler ID**: CAD982503849*	SSW	0.25 / 1,298.98	24

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Mar 4, 2019 has found that there are 14 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SALONCENTRIC INC 6034	23532 EL TORO RD STE 6 LAKE FOREST CA 92630 ***EPA Handler ID**: CAL000394401*	ESE	0.02 / 105.65	4

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY LAKE FOREST CA 92630 ***EPA Handler ID**: CAL000392709*	S	0.03 / 161.26	6

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630-4405 ***EPA Handler ID**: CAC003000143*	NNW	0.10 / 535.58	11
JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID**: CAC002992197*	NNW	0.10 / 535.58	11
JACQUELINE HUTCHINGS	23292 CAVANAUGH RD LAKE FOREST CA 92630-4405 ***EPA Handler ID**: CAC002990349*	NNW	0.10 / 535.58	11
LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID**: CAC002979427*	NW	0.10 / 536.04	12
LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 ***EPA Handler ID**: CAC003000310*	NW	0.10 / 536.04	12
STEVE DALAT	23236 CAVANAUGH RD LAKE FOREST CA 92630-4405 ***EPA Handler ID**: CAC002968612*	N	0.13 / 700.95	15
PETSMART #1291	23602 EL TORO RD LAKE FOREST CA 92630 ***EPA Handler ID**: CAL000400880*	S	0.15 / 811.69	16
MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291	23602 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID**: CAL000313984*	S	0.15 / 811.69	16
ULTA BEAUTY 467	23608 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID**: CAL000388889*	S	0.17 / 895.66	17
GARY & SHELLIE SHAUL	24471 REDLEN ST LAKE FOREST CA 92630 ***EPA Handler ID**: CAC002977553*	NW	0.18 / 941.60	18
HOMEGOODS 0366	23614 EL TORO RD LAKE FOREST CA 92630-4786 ***EPA Handler ID**: CAL000401807*	S	0.19 / 986.85	19

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
AARON BROTHERS #0308	23622 EL TORO RD STE A LAKE FOREST CA 92630-4786	SSW	0.20 / 1,037.65	21
	***EPA Handler ID**: CAL000407538*			

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Mar 11, 2019 has found that there are 3 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	41
	***Estor/EPA ID** | **Cleanup Status**: 70000058 | NO ACTION REQUIRED AS OF 11/1/2005*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	8
	***Estor/EPA ID** | **Cleanup Status**: 60001482 | REFER: LOCAL AGENCY AS OF 2/27/2013*			
LAKE FOREST TOWN CENTER / DRY CLEANER	22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	NNW	0.92 / 4,856.83	40
	***Estor/EPA ID** | **Cleanup Status**: 60002373 | ACTIVE AS OF 6/14/2016*			

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Apr 10, 2019 has found that there are 13 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
KENITA ENTERPRISES	24961 WHISLER DR LAKE FOREST CA 92630	ENE	0.39 / 2,064.04	31
	***Global ID** | **Status** | **Status Date**: T0605902476 | COMPLETED - CASE CLOSED | 1989-05-19 00:00:00*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
BEACON BAY AUTO WASH #06	23602 EL TORO LAKE FOREST CA 92630	S	0.15 / 811.69	16
	***Global ID** | **Status** | **Status Date**: T0605902112 | OPEN - REMEDIATION | 2003-12-18 00:00:00*			
UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	N	0.28 / 1,453.33	25
	***Global ID** | **Status** | **Status Date**: T0605901205 | COMPLETED - CASE CLOSED | 1994-06-21 00:00:00*			
TEXACO	23751 EL TORO LAKE FOREST CA 92630	SSW	0.31 / 1,613.98	27
	***Global ID** | **Status** | **Status Date**: T0605900581 | COMPLETED - CASE CLOSED | 1991-05-06 00:00:00*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SHELL OIL	23751 EL TORO LAKE FOREST CA 92630	SSW	0.35 / 1,831.42	28
	***Global ID** | **Status** | **Status Date**: T0605986985 | COMPLETED - CASE CLOSED | 2013-01-10 00:00:00*			
ARCO #3013	23742 EL TORO LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	30
	***Global ID** | **Status** | **Status Date**: T0605901431 | OPEN - SITE ASSESSMENT | 2014-10-27 00:00:00*			
MOBIL OIL	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
	***Global ID** | **Status** | **Status Date**: T0605900211 | COMPLETED - CASE CLOSED | 1986-09-02 00:00:00*			
MOBIL #18-378	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
	***Global ID** | **Status** | **Status Date**: T0605902221 | OPEN - SITE ASSESSMENT | 2009-03-10 00:00:00*			
CHEVRON #9-0884	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,262.68	34
	***Global ID** | **Status** | **Status Date**: T0605979060 | COMPLETED - CASE CLOSED | 2015-01-15 00:00:00*			
CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,284.90	35
	***Global ID** | **Status** | **Status Date**: T0605902054 | COMPLETED - CASE CLOSED | 1998-06-03 00:00:00*			
SHELL OIL	23842 EL TORO LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37
	***Global ID** | **Status** | **Status Date**: T0605902278 | COMPLETED - CASE CLOSED | 2005-09-29 00:00:00*			
EXXON	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
	***Global ID** | **Status** | **Status Date**: T0605900965 | COMPLETED - CASE CLOSED | 2004-09-20 00:00:00*			
USA PETROLEUM #825	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
	***Global ID** | **Status** | **Status Date**: T0605936712 | COMPLETED - CASE CLOSED | 2005-12-14 00:00:00*			

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
EL TORO AUTO WASH	23602 EL TORD ROAD ROCKFIELD EL TORO CA 92630	S	0.15 / 811.69	16

DELISTED TNK - Delisted Storage Tanks

A search of the DELISTED TNK database, dated May 1, 2019 has found that there are 1 DELISTED TNK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
BEACON BAY AUTO WASH	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	16

DEED - Deed Restrictions and Land Use Restrictions

A search of the DEED database, dated Apr 17, 2019 has found that there are 1 DEED site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	38

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Mar 11, 2019 has found that there are 1 VCP site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	8
	***Estor/EPA ID	Cleanup Status**: 60001482	REFER: LOCAL AGENCY AS OF 2/27/2013*	

CLEANUP SITES - GeoTracker Cleanup Program Sites

A search of the CLEANUP SITES database, dated Apr 17, 2019 has found that there are 4 CLEANUP SITES site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
FORMER CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92603	S	0.03 / 161.26	6
	***Site Facility Type	Status**: CLEANUP PROGRAM SITE	OPEN - ACTIVE*	
THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD LAKE FOREST CA	ESE	0.09 / 453.98	9
	***Site Facility Type	Status**: CLEANUP PROGRAM SITE	OPEN - ACTIVE*	

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS	23684 EL TORO ROAD LAKE FOREST CA 92630	SSW	0.29 / 1,507.98	26
	***Site Facility Type	Status**: CLEANUP PROGRAM SITE	OPEN - SITE ASSESSMENT*	
THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	38
	***Site Facility Type	Status**: CLEANUP PROGRAM SITE	OPEN - REMEDIATION*	

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 1 HIST TANK site(s) within approximately 0.25

miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
EL TORO AUTO WASH	23602 EL TORO ROAD EL TORO CA	S	0.15 / 811.69	16

County

ORANGE LOP - Orange County - LOP Lead Cases List

A search of the ORANGE LOP database, dated May 1, 2019 has found that there are 12 ORANGE LOP site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
BEACON BAY AUTO WASH #06	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	16
	***Record ID | Case Closed Date | Type of Closure**: RO0001881 | |*			
TEXACO	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	29
	***Record ID | Case Closed Date | Type of Closure**: RO0001124 | 5/6/1991 | Closure certification issued*			
SHELL OIL	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	29
	***Record ID | Case Closed Date | Type of Closure**: RO0003195 | 5/17/2013 | Closure certification issued*			
ARCO #3013	23742 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	30
	***Record ID | Case Closed Date | Type of Closure**: RO0002116 | |*			
MOBIL OIL	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
	***Record ID | Case Closed Date | Type of Closure**: RO0002874 | 9/2/1986 | Closure certification issued*			
MOBIL #18-378	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
	***Record ID | Case Closed Date | Type of Closure**: RO0000891 | |*			
UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	NNW	0.42 / 2,239.75	33
	***Record ID | Case Closed Date | Type of Closure**: RO0002900 | 6/21/1994 | Closure certification issued*			
CHEVRON #9-0884	22942 RIDGE ROUTE DR LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	36
	***Record ID | Case Closed Date | Type of Closure**: RO0003116 | 1/15/2015 | Closure certification issued*			
CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	36
	***Record ID | Case Closed Date | Type of Closure**: RO0001283 | 6/3/1998 | Closure certification issued*			
SHELL OIL	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	***Record ID | Case Closed Date | Type of Closure**: RO0001822 | 9/29/2005 | Closure certification issued*			
USA PETROLEUM #825	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
	***Record ID | Case Closed Date | Type of Closure**: RO0003205 | 12/14/2005 | Closure certification issued*			
EXXON	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
	***Record ID | Case Closed Date | Type of Closure**: RO0002476 | 8/19/2004 | Closure certification issued*			

Non Standard

Federal

FED DRYCLEANERS - Drycleaner Facilities

A search of the FED DRYCLEANERS database, dated May 29, 2018 has found that there are 1 FED DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630	ENE	0.19 / 999.86	20

State

DRYCLEANERS - Dry Cleaning Facilities

A search of the DRYCLEANERS database, dated Apr 16, 2019 has found that there are 13 DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ORANGE TREE CLEANERS	23532 EL TORO RD LAKE FOREST CA 926300000	ESE	0.02 / 105.65	4
ORANGE TREE CLEANERS	23532 EL TORO RD #3 EL TORO CA 926300000	ESE	0.02 / 105.65	4
ORANGE TREE CLEANERS	23532 EL TORO BLVD EL TORO CA 926300000	ESE	0.02 / 105.65	4
CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	6
CROWN CLEANERS	24601 RAYMOND WAY UNIT 15 EL TORO CA 926300000	S	0.03 / 161.26	6

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS	24601 RAYMOND WAY EL TORO CA 926300000	S	0.03 / 161.26	6
MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	6
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	20
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	20
SPIC N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 926300000	ENE	0.19 / 999.86	20

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
XPRESS CLEANERS	23635 EL TORO RD STE H1 LAGUNA HILLS CA 92630	SSW	0.24 / 1,276.42	23
XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 926300000	SSW	0.24 / 1,276.42	23
XPRESS CLEANERS	23635 EL TORO RD STE H1 EL TORO CA 926304748	SSW	0.24 / 1,276.42	23

SCH - School Property Evaluation Program Sites

A search of the SCH database, dated Mar 11, 2019 has found that there are 1 SCH site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	41
	***Estor/EPA ID	Cleanup Status**: 70000058	NO ACTION REQUIRED AS OF 11/1/2005*			

HAZNET - Hazardous Waste Manifest Data

A search of the HAZNET database, dated Oct 24, 2016 has found that there are 8 HAZNET site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
TEKRANGE	23591 EL TORO RD STE 178 LAKE FOREST CA 92630	-	0.00 / 0.00	1
DR STEVE PARHAM	23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	-	0.00 / 0.00	1
ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	-	0.00 / 0.00	1
AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130 LAKE FOREST CA 92630	-	0.00 / 0.00	1
LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	-	0.00 / 0.00	1

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
CHOICE HEALTH CENTER	24551 RAYMOND WAY LAKE FOREST CA 926300000	SW	0.00 / 16.67	2
CHOICE HEALTH CENTERS	24551 Raymond Way Lake Forest CA 926304400	SW	0.00 / 16.67	2
UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY LAKE FOREST CA 926309978	SSW	0.01 / 38.06	3

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated May 6, 2019 has found that there are 5 CERS HAZ site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD LAKE FOREST CA 92630	ESE	0.02 / 115.99	5
O'Reilly Auto Parts #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	6
Sizzler Restaurant #409	23501 EL TORO RD LAKE FOREST CA 92630	SE	0.03 / 169.40	7

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD LAKE FOREST CA 92630	E	0.10 / 539.52	13

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Panda Express #1586	23572 EL TORO RD STE A LAKE FOREST CA 92630	S	0.09 / 480.73	10

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 1 DELISTED HAZ site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
7-Eleven 33626	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2017 has found that there are 6 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	4
ORANGE TREE CLEANERS	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	4
CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	6
CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	6
SIZZLER-MORGAN MANAGEMENT	23501 EL TORO RD EL TORO CA 92630	SE	0.03 / 169.40	7
SPIC 'N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	20

CDL - Clandestine Drug Lab Sites

A search of the CDL database, dated Dec 31, 2017 has found that there are 1 CDL site(s) within approximately 0.12 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	23242 CAVANAUGH STREET LAKE FOREST CA 92630	N	0.12 / 659.72	14

County

ORANGE ICP - Orange County - Industrial Cleanup Program Cases Listing

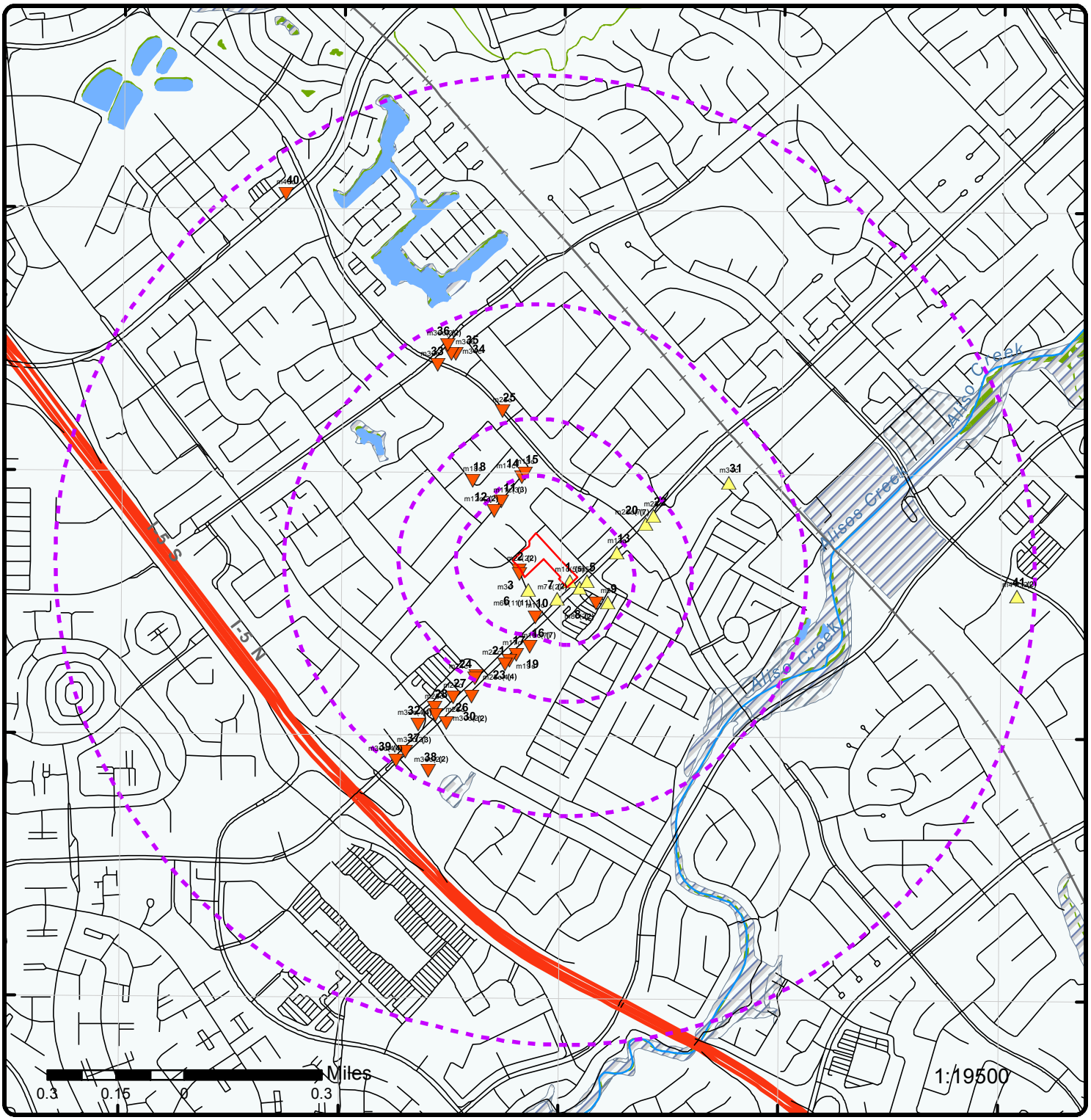
A search of the ORANGE ICP database, dated May 1, 2019 has found that there are 3 ORANGE ICP site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD LAKE FOREST CA 92630-	ESE	0.02 / 105.65	4
CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92630-	S	0.03 / 161.26	6
SPIC N SPAN CLEANERS & LAUNDRY	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	20

ORANGE HW - Orange County - Hazardous Waste Facilities

A search of the ORANGE HW database, dated May 1, 2019 has found that there are 1 ORANGE HW site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
OREILLY AUTO PARTS #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	6



Map : 1 Mile Radius

Order No: 20190618288

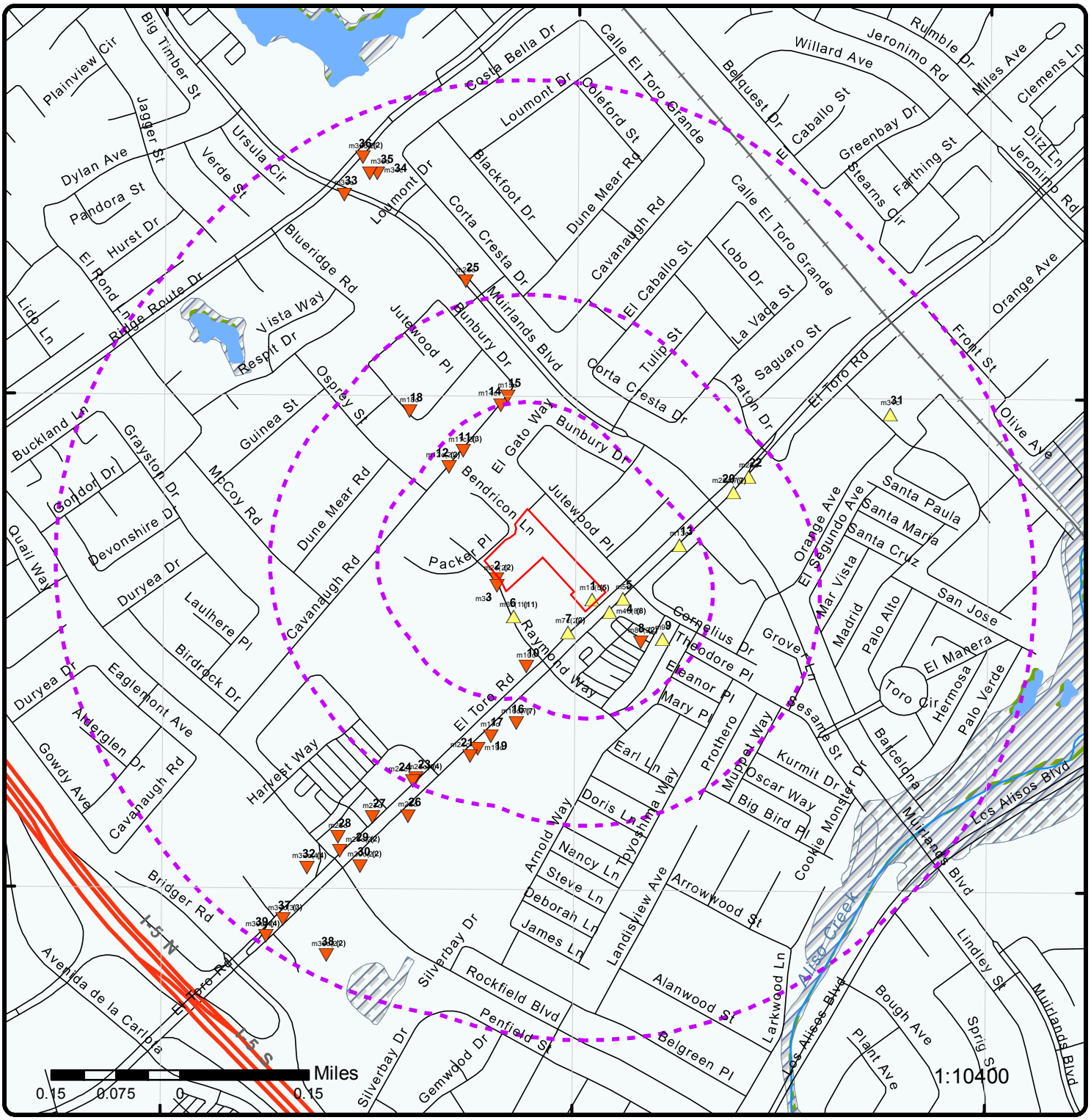
Address: 23591 El Toro Road, Lake Forest, CA, 92630

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.5 Mile Radius

Order No: 20190618288

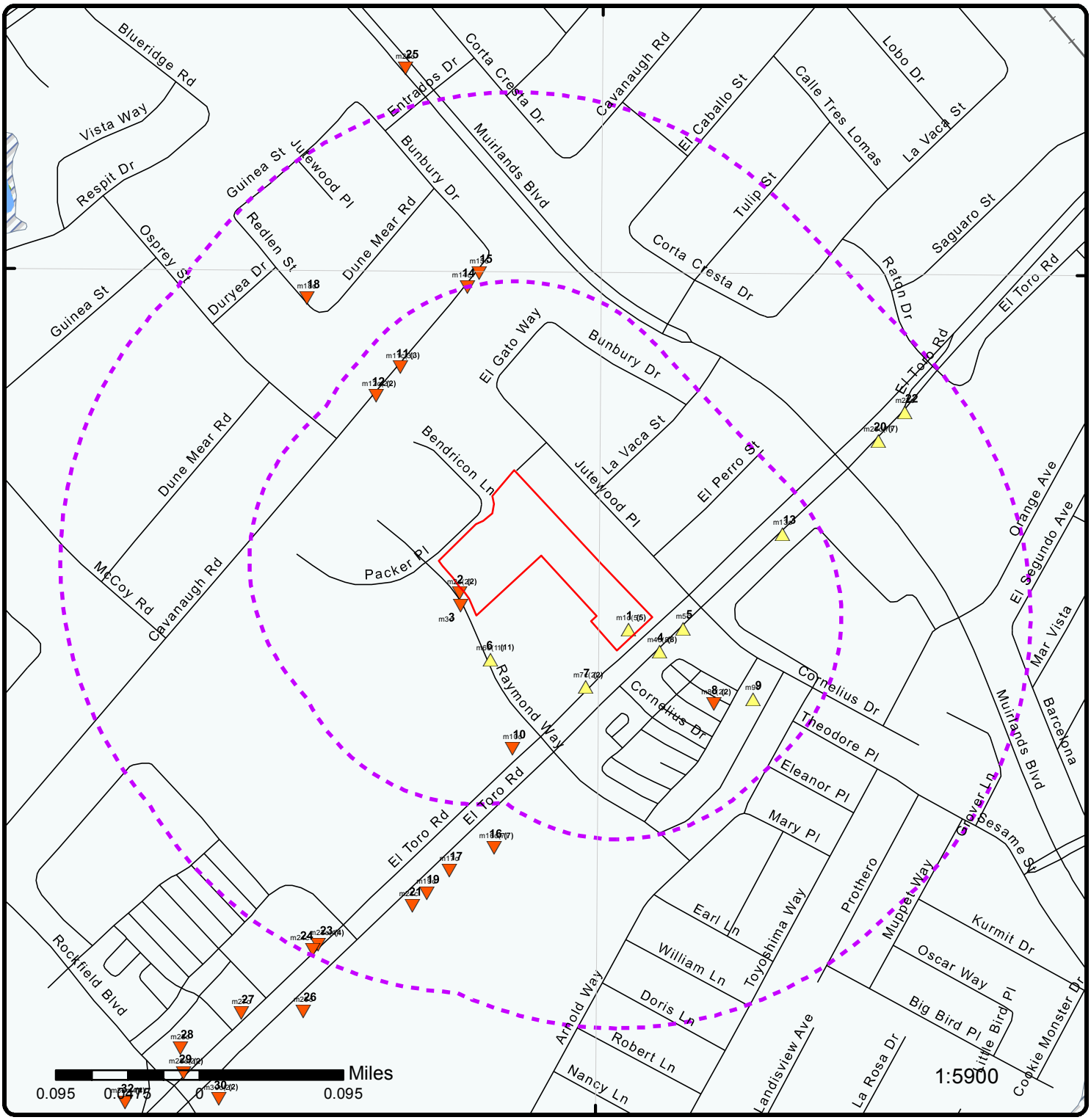
Address: 23591 El Toro Road, Lake Forest, CA, 92630

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.25 Mile Radius

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

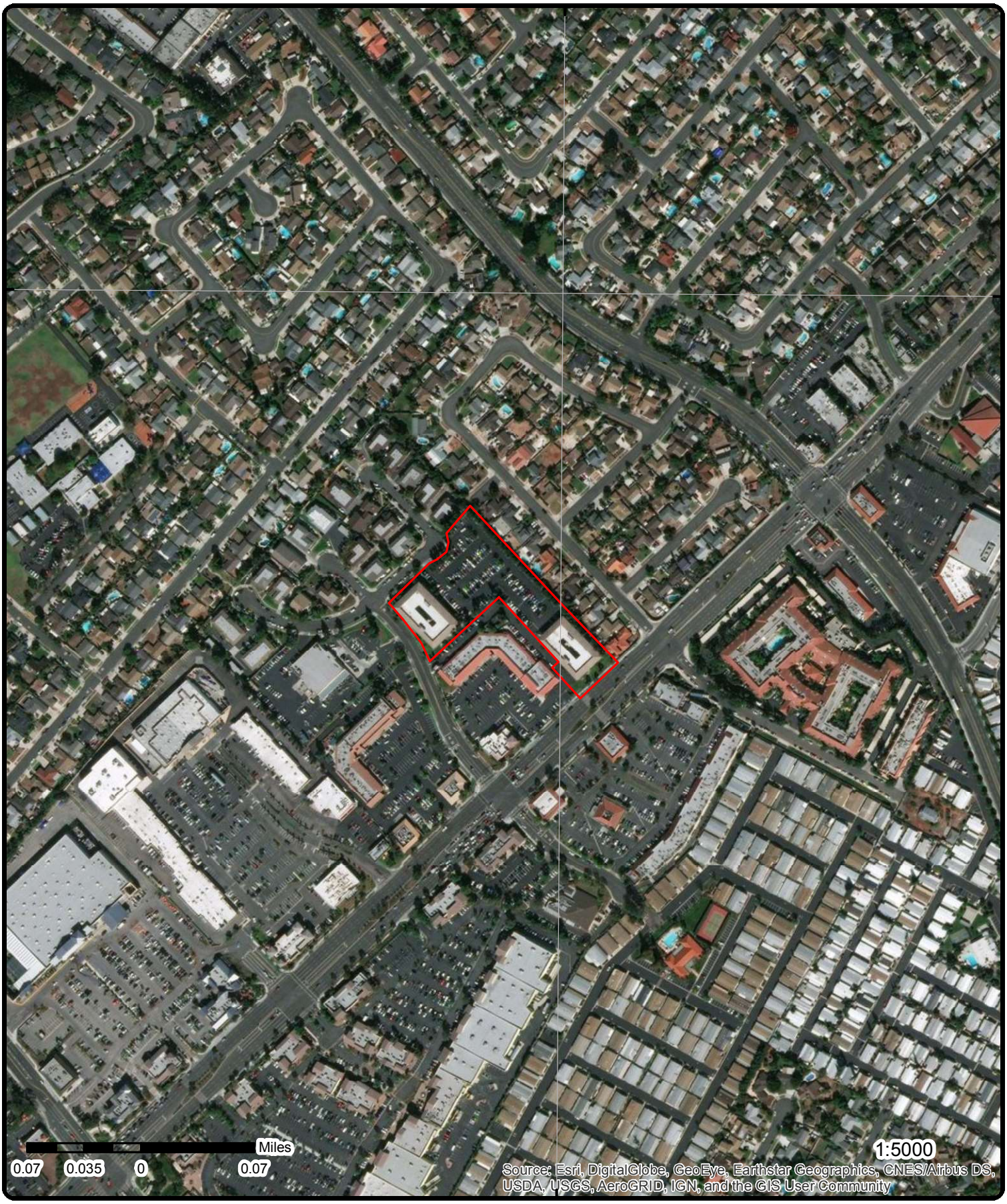
Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

© ERIS Information Inc.

117°42'W

33°37'30"N



33°37'30"N

Aerial (2016)

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630

Source: ESRI World Imagery

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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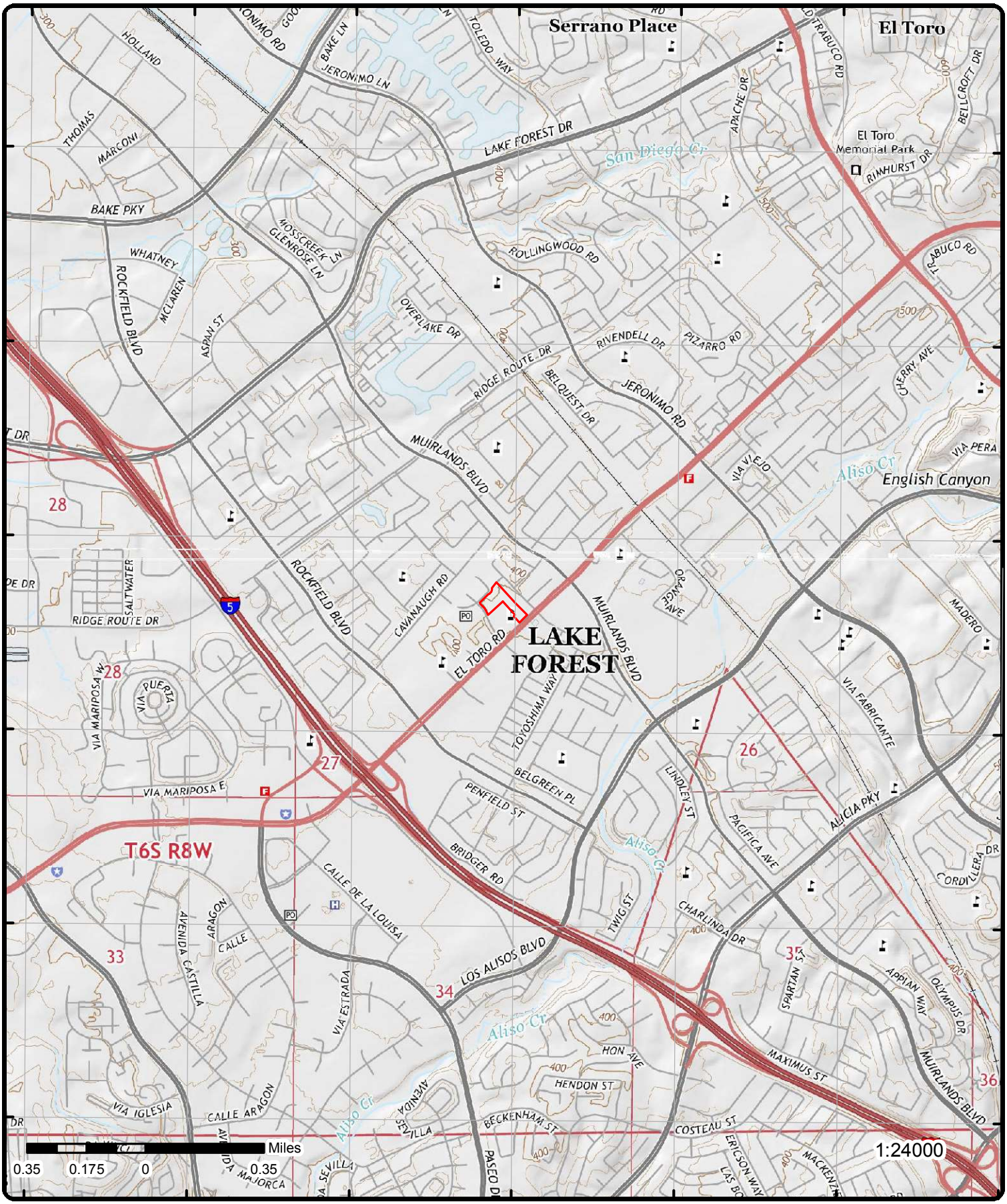

Topographic Map (2015)

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630

Quadrangle(s): San Juan Capistrano, CA; Lake Forest, CA;

Source: USGS Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 5	-	0.00 / 0.00	405.56 / 5	DR STEVE PARHAM 23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	HAZNET

SIC Code:		**Mailing City:**	LAKE FOREST
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAL000110001	**Mailing Zip:**	926300000
Create Date:	1/29/1993	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	STEVE/CYNTHIA PARHAM
Inact Date:	1/1/1996	**Owner Addr 1:**	23591 EL TORO SUITE 110
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	LAKE FOREST
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	23591 EL TORO SUITE 110	**Owner Zip:**	926300000
Mailing Addr 2:		**Owner Phone:**	7145862138
Owner Fax:			

Contact Information

--	--
Contact Name:	--
Street Address 1:	23591 EL TORO SUITE 110
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	7145862138
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 5	-	0.00 / 0.00	405.56 / 5	TEKRANGE 23591 EL TORO RD STE 178 LAKE FOREST CA 92630	HAZNET

SIC Code:	9999	**Mailing City:**	LAKE FOREST
NAICS Code:	99999	**Mailing State:**	CA
EPA ID:	CAL000367708	**Mailing Zip:**	926300000
Create Date:	9/21/2011	**Region Code:**	4
Fac Act Ind:	Yes	**Owner Name:**	JOE HEATHERTON
Inact Date:		**Owner Addr 1:**	23591 EL TORO RD STE 178
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	LAKE FOREST
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	23591 EL TORO RD STE 178	**Owner Zip:**	926300000
Mailing Addr 2:		**Owner Phone:**	9496007090
Owner Fax:	9496007091		

Contact Information

--	--
Contact Name:	JOE HEATHERTON
Street Address 1:	23591 EL TORO RD STE 178
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	9496007090
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 5	-	0.00 /	405.56 /	LAKE FOREST DENTAL GROUP	HAZNET

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
			0.00	5	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	

SIC Code:		**Mailing City:**	LAKE FOREST
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAL000196550	**Mailing Zip:**	926300000
Create Date:	10/16/1998	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	23082 - A RIDGE ROUTE DR
Inact Date:	6/30/2001	**Owner Addr 1:**	23591 EL TORO SUITE 120
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	LAKE FOREST
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	23082-A RIDGE ROUTE DR	**Owner Zip:**	926300000
Mailing Addr 2:		**Owner Phone:**	9497709355
Owner Fax:			

Contact Information

--	--
Contact Name:	DR MERHVARZI
Street Address 1:	INACTIVE PER VQ01 - BMI
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	9497709355
--	--

1	4 of 5	-	0.00 / 0.00	405.56 / 5	AMANI SOLIMAN DDS INC 23591 EL TORO RD STE 130 LAKE FOREST CA 92630	HAZNET

SIC Code:	8021	**Mailing City:**	LAKE FOREST
NAICS Code:	62121	**Mailing State:**	CA
EPA ID:	CAL000365515	**Mailing Zip:**	926300000
Create Date:	7/11/2011	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	AMANI SOLIMAN DDS INC
Inact Date:	6/30/2015	**Owner Addr 1:**	23591 EL TORO RD STE 130
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	LAKE FOREST
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	23591 EL TORO RD STE 130	**Owner Zip:**	926300000
Mailing Addr 2:		**Owner Phone:**	9692069508
Owner Fax:	9692069308		

Contact Information

--	--
Contact Name:	AMANI SOLIMAN
Street Address 1:	23591 EL TORO RD STE 130
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	9492069508
--	--

1	5 of 5	-	0.00 / 0.00	405.56 / 5	ASHRAF SOLIMAN DDS 23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	HAZNET

SIC Code:	8021	**Mailing City:**	LAKE FOREST
NAICS Code:	62121	**Mailing State:**	CA
EPA ID:	CAL000258080	**Mailing Zip:**	926304704
Create Date:	8/22/2002 9:40:50 AM	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	Ashraf Soliman DDS
Inact Date:	6/30/2011	**Owner Addr 1:**	23591 EL TORO RD STE 130
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	LAKE FOREST

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Mail Name:		**Owner State:**	CA
Mailing Addr 1:	23591 EL TORO RD STE 130	**Owner Zip:**	926304704
Mailing Addr 2:		**Owner Phone:**	9495978808
Owner Fax:	0000000000		

Contact Information

--	--
Contact Name:	Ashraf Soliman DDS
Street Address 1:	23591 EL TORO RD STE 130
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926304704
Phone:	9495978808
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 2	SW	0.00 / 16.67	396.70 / -4	**CHOICE HEALTH CENTERS** **24551 Raymond Way** **Lake Forest CA 926304400**	HAZNET

SIC Code:		**Mailing City:**	LAKE FOREST
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAL000082316	**Mailing Zip:**	000000000
Create Date:	4/2/1993	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	ROBERT SHERMAN TOLLEY
Inact Date:	6/30/1993	**Owner Addr 1:**	21061 BRAIRWOOD LANE
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	TRABUCO CANYON
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	24551 RAYMOND WAY	**Owner Zip:**	926790000
Mailing Addr 2:		**Owner Phone:**	7148584343
Owner Fax:			

Contact Information

--	--
Contact Name:	INACTIVE PER FEES 6/93
Street Address 1:	24551 RAYMOND WAY
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	7145817711
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 2	SW	0.00 / 16.67	396.70 / -4	**CHOICE HEALTH CENTER** **24551 RAYMOND WAY** **LAKE FOREST CA 926300000**	HAZNET

SIC Code:		**Mailing City:**	LAKE FOREST
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAL000080634	**Mailing Zip:**	926300000
Create Date:	7/28/1993	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	--
Inact Date:	12/31/1899	**Owner Addr 1:**	--
County Code:	30	**Owner Addr 2:**	
County Name:	Orange	**Owner City:**	--
Mail Name:		**Owner State:**	99
Mailing Addr 1:	24551 RAYMOND WAY	**Owner Zip:**	--
Mailing Addr 2:		**Owner Phone:**	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	INACTIVE BUSINESS MOVED
Street Address 1:	ACTIVE #CAL000110563
Street Address 2:	
City:	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

State:	99
Zip:	--
Phone:	--
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 1	SSW	0.01 / 38.06	398.13 / -2	UNITED STATES POSTAL SERVICE 24552 RAYMOND WAY LAKE FOREST CA 926309978	HAZNET

SIC Code:		Mailing City:	SANTA ANA
NAICS Code:		Mailing State:	CA
EPA ID:	CAC001265040	Mailing Zip:	927117184
Create Date:	6/9/1997	Region Code:	4
Fac Act Ind:	No	Owner Name:	USPS
Inact Date:	10/25/2000	Owner Addr 1:	PO BOX 21184
County Code:	30	Owner Addr 2:	
County Name:	Orange	Owner City:	SANTA ANA
Mail Name:	ADMINISTRATIVE SERVICES	Owner State:	CA
Mailing Addr 1:	PO BOX 21184	Owner Zip:	927117184
Mailing Addr 2:		Owner Phone:	7146676765
Owner Fax:			

Contact Information

--	--
Contact Name:	ED VANDER WOUDE
Street Address 1:	PO BOX 21184
Street Address 2:	
City:	SANTA ANA
State:	CA
Zip:	927117184
Phone:	7146676765
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO RD LAKE FOREST CA 926300000	DRYCLEANERS

EPA ID:	CAL000138320	Owner Phone:	9499514900
Create Date:	7/10/1995	Owner Fax:	0000000000
Facility Act Ind:	No	Contact Name:	GEORGE BAHOU-OWNER
Inact Date:	6/30/2014	Contact Street 1:	23532 EL TORO RD STE 3
Reason:	SIC/NAICS	Contact Street 2:	
County Name:	Orange	Contact City:	LAKE FOREST
Region Code:	4	Contact State:	CA
Owner Name:	GEORGE BAHOU	Contact Zip:	926304703
Owner Street 1:	23532 EL TORO RD STE 3	Contact Phone:	9499514900
Owner Street 2:		Mail Name:	
Owner City:	LAKE FOREST	DD Latitude:	33.620767
Owner State:	CA	DD Longitude:	-117.699867
Owner Zip:	926304703		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	2 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO BLVD EL TORO CA 926300000	DRYCLEANERS

EPA ID:	CAL000026234	Owner Phone:	0000000000
Create Date:	5/10/1990	Owner Fax:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility Act Ind:	No	**Contact Name:**	DEACT NON-DELIV. PER 95 FEES -
Inact Date:	6/30/1995	**Contact Street 1:**	P.H.
Reason:	Cleaners	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	--
Region Code:	4	**Contact State:**	99
Owner Name:	BAHOU MICHEAL E	**Contact Zip:**	--
Owner Street 1:	--	**Contact Phone:**	--
Owner Street 2:		**Mail Name:**	
Owner City:	--	**DD Latitude:**	
Owner State:	99	**DD Longitude:**	
Owner Zip:	--		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	3 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO RD #3 EL TORO CA 926300000	DRYCLEANERS

EPA ID:	CAL000009640	**Owner Phone:**	0000000000
Create Date:	11/14/1989	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	--
Inact Date:	6/30/1998	**Contact Street 1:**	INACT PER NONDELIVERABLE VQ98 NK
Reason:	Cleaners	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	--
Region Code:	4	**Contact State:**	99
Owner Name:	BAHOU MICHAEL	**Contact Zip:**	--
Owner Street 1:	--	**Contact Phone:**	--
Owner Street 2:		**Mail Name:**	
Owner City:	--	**DD Latitude:**	
Owner State:	99	**DD Longitude:**	
Owner Zip:	--		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	4 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO RD, #3 EL TORO CA 92630	EMISSIONS

1987 Criteria Data

Facility ID:	35785	**CERR Code:**	
Facility SIC Code:	7216	**TOGT:**	0
CO:	30	**ROGT:**	0
Air Basin:	SC	**COT:**	
District:	SC	**NOXT:**	
COID:	ORA	**SOXT:**	
DISN:	SOUTH COAST AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

1987 Toxic Data

Facility ID:	35785	**COID:**	ORA
Facility SIC Code:	7216	**DISN:**	SOUTH COAST AQMD
CO:	30	**CHAPIS:**	
Air Basin:	SC	**CERR Code:**	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	5 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS, MICHAEL 23532 EL TORO RD, #3 EL TORO CA 92630	EMISSIONS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

1990 Criteria Data

Facility ID:	81366	***CERR Code:***	
Facility SIC Code:	7216	***TOGT:***	1.9
CO:	30	***ROGT:***	0
Air Basin:	SC	***COT:***	
District:	SC	***NOXT:***	
COID:	ORA	***SOXT:***	
DISN:	SOUTH COAST AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1990 Toxic Data

Facility ID:	81366	***COID:***	ORA
Facility SIC Code:	7216	***DISN:***	SOUTH COAST AQMD
CO:	30	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

4	6 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE PLAZA CLEANERS 23532 EL TORO RD LAKE FOREST CA 92630-	ORANGE ICP

Record ID:	RO0003590	***Status Description:***	CLOSED
Case ID:	13IC001	***Case Closed Date:***	5/31/2016
Released Substance(s):			
Type of Closure:	Referred to Regional Board		

4	7 of 8	ESE	0.02 / 105.65	405.40 / 5	SALONCENTRIC INC 6034 23532 EL TORO RD STE 6 LAKE FOREST CA 92630	RCRA NON GEN

EPA Handler ID:	CAL000394401
Gen Status Universe:	No Report
Contact Name:	JUAN CARLOS BOBEA
Contact Address:	28145 W. HARRISON PARKWAY , , VALENCIA , CA, 91355 ,
Contact Phone No and Ext:	661-295-4887
Contact Email:	JBOBEARIVAS@SALONCENTRIC.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20140226

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No

Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140226
Handler Name:	SALONCENTRIC INC 6034
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	10101 DR MARTIN LUTHER KING ST
Name:	SALONCENTRIC INC	**Street 2:**	SUITE 100
Date Became Current:		**City:**	ST. PETERSBURG
Date Ended Current:		**State:**	FL
Phone:	727-369-2623	**Country:**	
Source Type:	Implementer	**Zip Code:**	33716-0000
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	28145 W. HARRISON PARKWAY
Name:	JUAN CARLOS BOBEA	**Street 2:**	
Date Became Current:		**City:**	VALENCIA
Date Ended Current:		**State:**	CA
Phone:	661-295-4887	**Country:**	
Source Type:	Implementer	**Zip Code:**	91355

4	8 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE PLAZA 23532 EL TORO ROAD UNIT #3 LAKE FOREST CA 92630	RCRA SQG

EPA Handler ID:	CAP000272310
Gen Status Universe:	Small Quantity Generator
Contact Name:	THOMAS R BROWN
Contact Address:	4305 , TORRANCE BLVD # 100 , , TORRANCE , CA, 90503 , US
Contact Phone No and Ext:	310-241-0000
Contact Email:	BROMOHAM@MSN.COM
Contact Country:	US
County Name:	ORANGE
EPA Region:	09
Land Type:	Private
Receive Date:	20170427

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No

Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20170427
Handler Name:	ORANGE TREE PLAZA
Generator Status Universe:	Small Quantity Generator
Source Type:	Temporary

Waste Code Details

Hazardous Waste Code:	352
Waste Code Description:	Other organic solids
Hazardous Waste Code:	D039
Waste Code Description:	TETRACHLOROETHYLENE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	2125
Type:	Private	**Street 1:**	EAST KATELLA AVE STE 100
Name:	ORANGE TREE PLAZA	**Street 2:**	
Date Became Current:	19850101	**City:**	ANAHEIM
Date Ended Current:		**State:**	CA
Phone:	310-214-0000	**Country:**	US
Source Type:	Temporary	**Zip Code:**	92806
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	
Name:	DR. THOMAS R BROWN	**Street 2:**	
Date Became Current:	19850101	**City:**	
Date Ended Current:		**State:**	
Phone:		**Country:**	
Source Type:	Temporary	**Zip Code:**	

5	*1 of 1*	*ESE*	*0.02 / 115.99*	*406.77 / 6*	***BIGSHOTS BILLIARDS BAR & GRILL*** ***23512 EL TORO RD*** ***LAKE FOREST CA 92630***	***CERS HAZ***

Site ID:	413199
Latitude:	33.621322
Longitude:	-117.699341

Regulated Programs

EI Description:	Chemical Storage Facilities	**EI ID:**	10717639

Evaluations

Eval Date:	10/15/2014

Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Kristen Kelly called owner to get permission for inspection to be conducted since he was not on site. He talked to me and granted consent to conduct inspection. I let owner know that he will receive email from E-submit after I review and prepare comments. I walked through the facility, perimeter and inspected hazardous materials storage room where the Carbon Dioxide (400 pound dewar and two smaller cylinders) is stored. All required documents have been electronically submitted to E-submit and are being reviewed by this Agency. The location of storm drains and fire hydrants on site maps that have been submitted are not correct and were discussed with Ms. Kelly. A copy of the map with comments of what needs to be added/revised was left on site for owner. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/18/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Annual certification documents submitted to CERS on 1/4/18 were reviewed and accepted.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/24/2017
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Joe Waitman granted consent to conduct inspection. I walked through the facility and inspected hazardous material storage area outside building. There has been no changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period. Liquid Carbon Dioxide dewar is in a locked room in the back of building/behind kitchen. Dewar is bolted to the ground and filled from the outside. Hazardous materials management training is provided upon employment and annually thereafter. Last training was conducted on 10/17/17. Emergency contact information in maintained in kitchen area. Fire extinguishers observed throughout the facility are not shown on site map submitted electronically. Please add fire extinguishers and north arrow to site map and submit revised map during next annual certification period from January [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/19/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed annual certification documents submitted to CERS on 1/18/17 and did not accept it since Fire Code Hazard Classes and is not listed.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/21/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Submitted RUR to change status of site from "04" to "01."; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/22/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted revised site map that included north arrow and location of fire extinguishers.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/20/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Accepted revised documents submitted to CERS on 1/20/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 23512 EL TORO RD
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630
Phone:

Affil Type Desc: Legal Owner
Entity Name: BETOR INC
Entity Title:
Address: 27362 LOST COLT
City: LA HABRA
State: CA
Country: United States
Zip Code: 90631
Phone: (949) 422-3845

Affil Type Desc: Document Preparer
Entity Name: Chance Betor
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Identification Signer
Entity Name: Chance Betor
Entity Title: Pres
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Chance Betor
Entity Title:
Address: 27362 Lost Colt
City: Laguna Hills
State: CA
Country:
Zip Code: 92653
Phone:

Affil Type Desc: Operator
Entity Name: Chance Betor
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (949) 422-3845

Affil Type Desc: Parent Corporation
Entity Name: BIGSHOTS BILLIARDS BAR & GRILL
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

6	1 of 11	S	0.03 / 161.26	402.71 / 2	O'Reilly Auto Parts #2940 24601 RAYMOND WAY LAKE FOREST CA 92630	CERS HAZ

Site ID: 139250
Latitude: 33.621483
Longitude: -117.700607

Regulated Programs

EI Description: Hazardous Waste Generator **EI ID:** 10435219

EI Description: Chemical Storage Facilities **EI ID:** 10435219

Evaluations

Eval Date: 05/24/2016
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval Notes:

The purpose of this visit is to conduct a routine Hazardous Materials Disclosure inspection. Met with Grant Figueroa. During the inspection the following was observed: Reviewed list of chemicals stored onsite and online. Reviewed training records onsite and online. The facility representative onsite stated that staff are trained at least yearly on emergency response procedures and hazardous waste management. The operator is also aware that new staff must be trained on emergency response within six months of employment and then yearly after that. Reviewed Business Emergency Plan / Plot Plan online. Completely reviewed and approved online CUPA form submittal on California Environmental Reporting System (CERS) For more information regarding Hazardous Materials Disclosure, or to sign up for our eNewsletter please visit http://www.occupainfo.com/ ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/16/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

2016 review: CERS - 2 HazMat = HW - accepted; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/24/2016
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Onsite to conduct a routine hazardous waste inspection. Met with Grant Figueroa. Inspected used oil, drained used oil/fuel filters, absorbent, waste returns and product breaks. Drums were provided with a lid, stored in a secure manner and appear to be in good condition. The operator completes a maintenance inspection on the drums on a weekly basis. A Hazardous Waste label was noted on all drums with the required identification. Municipal dumpster area does not appear to contain any hazardous waste. Perimeter of facility inspected - did not observe any water runoff or staining at this time. Hazardous Waste Emergency Response plan was available for review. Manifests and bills of lading for all hazardous waste streams were reviewed today. Ensure all hazardous waste manifests/disposal documents are maintained on site for at least three years from the date of transport and are available for review during normal business hours. Please continue to ensure all [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 03/25/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

CERS 10435219 Accepted 2017 Annual Certification for the following elements: Facility Information Chemical Inventory Emergency Response and Training Plan ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: Verisk 3E, Regulatory Dept./O'Reilly Auto, 3207 Grey Hawk Ct, Ste 200
City: Carlsbad
State: CA
Country:
Zip Code: 92010
Phone:

Affil Type Desc: Parent Corporation
Entity Name: O'Reilly Auto Parts

Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Document Preparer
Entity Name: Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Environmental Contact
Entity Name: Verisk 3E, Regulatory Department/O?Reilly Auto Parts
Entity Title:
Address: 3207 Grey Hawk Court, Suite 200
City: Carlsbad
State: CA
Country:
Zip Code: 92010
Phone:

Affil Type Desc: Legal Owner
Entity Name: O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address: 702 E. Bethany Home Road
City: Phoenix
State: AZ
Country: United States
Zip Code: 85014
Phone: (417) 862-3333

Affil Type Desc: Identification Signer
Entity Name: Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C.
Entity Title: Regulatory Compliance Specialist, Verisk 3E
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (417) 862-3333

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Coordinates

Env Int Type Code:	HWG	***Longitude:***	-117.700610
Program ID:	10435219	***Coord Name:***	
Latitude:	33.621480	***Ref Point Type Desc:***	Center of a facility or station.

6	2 of 11	S	0.03 / 161.26	402.71 / 2	**CROWN CLEANERS** **24601 RAYMOND WAY UNIT 15** **EL TORO CA 926300000**	**DRYCLEANERS**

EPA ID:	CAL000225344	***Owner Phone:***	9498553148
Create Date:	11/15/2001	***Owner Fax:***	
Facility Act Ind:	No	***Contact Name:***	MOHAMMED DANESHFAR
Inact Date:	6/30/2005 10:01:00 AM	***Contact Street 1:***	24601 RAYMOND WAY UNIT 15
Reason:	SIC/NAICS	***Contact Street 2:***	
County Name:	Orange	***Contact City:***	EL TORO
Region Code:	4	***Contact State:***	CA
Owner Name:	M DANESHFAR	***Contact Zip:***	926300000
Owner Street 1:	24601 RAYMOND WAY STE 15	***Contact Phone:***	9498553148
Owner Street 2:		***Mail Name:***	MOHAMMED DANESHFAR
Owner City:	EL TORO	***DD Latitude:***	33.621693
Owner State:	CA	***DD Longitude:***	-117.701502
Owner Zip:	926300000		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

6	3 of 11	S	0.03 / 161.26	402.71 / 2	**CROWN CLEANERS** **24601 RAYMOND WAY STE 15** **LAKE FOREST CA 926304460**	**DRYCLEANERS**

EPA ID:	CAL000300257	***Owner Phone:***	9498553148
Create Date:	11/10/2005 9:40:44 AM	***Owner Fax:***	
Facility Act Ind:	No	***Contact Name:***	ARMINDA ZAVALA
Inact Date:	6/30/2009	***Contact Street 1:***	1222 MAPLE ST
Reason:	SIC/NAICS	***Contact Street 2:***	
County Name:	Orange	***Contact City:***	SANTA ANA
Region Code:	4	***Contact State:***	CA
Owner Name:	JAVIER ZAVALA	***Contact Zip:***	927071304
Owner Street 1:	1222 MAPLE ST	***Contact Phone:***	9498553148
Owner Street 2:		***Mail Name:***	
Owner City:	SANTA ANA	***DD Latitude:***	33.621674
Owner State:	CA	***DD Longitude:***	-117.701467
Owner Zip:	927071304		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

6	4 of 11	S	0.03 / 161.26	402.71 / 2	**MOHAMMAD BANASHFAT DBA** **CROWN CLEANERS** **24601 RAYMOND WAY STE 15** **LAKE FOREST CA 926304460**	**DRYCLEANERS**

EPA ID:	CAL000235952	***Owner Phone:***	9498553148
Create Date:	12/24/2001	***Owner Fax:***	
Facility Act Ind:	No	***Contact Name:***	MOHAMMAD BANASHFAT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Inact Date:	6/30/2002	**Contact Street 1:**	24601 RAYMOND WAY STE 15
Reason:	SIC/NAICS	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	LAKE FOREST
Region Code:	4	**Contact State:**	CA
Owner Name:	MOHAMMAD BANASHFAT	**Contact Zip:**	926304460
Owner Street 1:	24601 RAYMOND WAY STE 15	**Contact Phone:**	9498553148
Owner Street 2:		**Mail Name:**	MOHAMMAD BANASHFAT
Owner City:	LAKE FOREST	**DD Latitude:**	33.622036
Owner State:	CA	**DD Longitude:**	-117.701778
Owner Zip:	926304460		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

6	5 of 11	S	0.03 / 161.26	402.71 / 2	**CROWN CLEANERS** **24601 RAYMOND WAY** **EL TORO CA 926300000**	**DRYCLEANERS**

EPA ID:	CAL000171875	**Owner Phone:**	9498553148
Create Date:	1/28/1998	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	ZHALEH AFRAS/PARTNER
Inact Date:	6/30/2001	**Contact Street 1:**	NEW OWNER VQ01,MB
Reason:	Cleaners	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	EL TORO
Region Code:	4	**Contact State:**	CA
Owner Name:	AFRAS CORP DBA CROWN CLEANERS	**Contact Zip:**	926300000
Owner Street 1:	24601 RAYMOND #15	**Contact Phone:**	7148553148
Owner Street 2:		**Mail Name:**	
Owner City:	LAKE FOREST	**DD Latitude:**	
Owner State:	CA	**DD Longitude:**	
Owner Zip:	926300000		

6	6 of 11	S	0.03 / 161.26	402.71 / 2	**CROWN 1 HOUR CLEANERS, A. TAHB** **24601 RAYMOND WAY #15** **EL TORO CA 92630**	**EMISSIONS**

1990 Criteria Data

Facility ID:	54258	**CERR Code:**	
Facility SIC Code:	7216	**TOGT:**	.8
CO:	30	**ROGT:**	0
Air Basin:	SC	**COT:**	
District:	SC	**NOXT:**	
COID:	ORA	**SOXT:**	
DISN:	SOUTH COAST AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

1990 Toxic Data

Facility ID:	54258	**COID:**	ORA
Facility SIC Code:	7216	**DISN:**	SOUTH COAST AQMD
CO:	30	**CHAPIS:**	
Air Basin:	SC	**CERR Code:**	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	7 of 11	S	0.03 / 161.26	402.71 / 2	CROWN 1 HOUR CLEANERS 24601 RAYMOND WAY #15 EL TORO CA 92630	EMISSIONS

1987 Criteria Data

Facility ID:	54258	**CERR Code:**	
Facility SIC Code:	7216	**TOGT:**	.8
CO:	30	**ROGT:**	0
Air Basin:	SC	**COT:**	
District:	SC	**NOXT:**	
COID:	ORA	**SOXT:**	
DISN:	SOUTH COAST AQMD	**PMT:**	
CHAPIS:		**PM10T:**	

1987 Toxic Data

Facility ID:	54258	**COID:**	ORA
Facility SIC Code:	7216	**DISN:**	SOUTH COAST AQMD
CO:	30	**CHAPIS:**	
Air Basin:	SC	**CERR Code:**	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	8 of 11	S	0.03 / 161.26	402.71 / 2	FORMER CROWN CLEANERS 24601 RAYMOND WAY LAKE FOREST CA 92603	CLEANUP SITES

Global ID:	T10000009409	**Site Facility Type:**	CLEANUP PROGRAM SITE
Status:	OPEN - ACTIVE	**County:**	ORANGE
Status Date:	2016-09-26 00:00:00	**Latitude:**	33.6217236041589
Site Code:		**Longitude:**	-117.700267406082
Data Source:	Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download		

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:	2080155	**CUF Case:**	NO
Local Case Number:		**Case Worker:**	MB
Begin Date:	2016-09-23 00:00:00	**File Location:**	Regional Board
Stop Method:			
Lead Agency:	SANTA ANA RWQCB (REGION 8)		
Local Agency:			
Potential COC:	Tetrachloroethylene (PCE)		
Potential Media of Concern:	Other Groundwater (uses other than drinking water), Soil		
How Discovered:			
How Discovered Description:			
Stop Description:			
Calwater Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)		
DWR GW Subbasin Name:	Coastal Plain Of Orange County (8-001)		
Disadvantaged Community:			
Site History:			

The site is located in 24601 RAYMOND WAY LAKE FOREST , CA 92603. Bell Tower Shopping Center contains eighteen tenant spaces one of which (Unit 15) has operated as a dry cleaners from approximately 1978 to present. Based upon information from the California Department of Water Resources and nearby groundwater monitoring wells, groundwater was estimated to be less than 35 feet below grade.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type: ENFORCEMENT
Date : 2018-07-05 00:00:00
Action: Annual Estimation Letter

Action Type: ENFORCEMENT
Date : 2017-11-16 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-11-09 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-09-28 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-08-29 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-05-26 00:00:00
Action: Notice to Comply

Action Type: ENFORCEMENT
Date : 2017-05-12 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-05-09 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-03-03 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-03-02 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-01-25 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-01-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-12-22 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-09-26 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-09-23 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: RESPONSE
Date : 2016-08-08 00:00:00
Action: Monitoring Report - Quarterly

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Active

Status Date: 2016-09-26 00:00:00

Status: Open - Case Begin Date
Status Date: 2016-09-23 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: Mona Behrooz
Phone Number: 9517823237
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: mehrnoosh.behrooz@waterboards.ca.gov
Address: 3737 Main St, Suite 500
City: RIVERSIDE

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:
CUF Claim:
CUF Priority Assign:
CUF Amount Paid:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T10000009409
Cleanup Status Detail: OPEN - ACTIVE AS OF 9/26/2016
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000009409&tabname=regulatoryhistory
Potential COC: TETRACHLOROETHYLENE (PCE)
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 2080155
CASEWORKER: Mona Behrooz
WDR Place Type:
WDR File:
WDR Order:
File Location: REGIONAL BOARD

Site History:

The site is located in 24601 RAYMOND WAY LAKE FOREST , CA 92603. Bell Tower Shopping Center contains eighteen tenant spaces one of which (Unit 15) has operated
as a dry cleaners from approximately 1978 to present. Based upon information from the California Department of Water Resources and nearby groundwater monitoring wells,
groundwater was estimated to be less than 35 feet below grade.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 7/5/2018
Received Issue Date: 7/5/2018
Action: Annual Estimation Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6363207&temptable=ENFORCEMENT
Title Description Comments:

Former Crown Cleaners Annual Cost Recovery Program

Action Type: Other Regulatory Actions
Action Date: 11/16/2017
Received Issue Date: 11/16/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341671&temptable=ENFORCEMENT
Title Description Comments:

RE RE 3rd QRT Groundwater Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 11/16/2017
Received Issue Date: 11/16/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341669&temptable=ENFORCEMENT
Title Description Comments:

RE CRown Cleaners Well Installation

Action Type: Other Regulatory Actions
Action Date: 11/9/2017
Received Issue Date: 11/9/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6340721&temptable=ENFORCEMENT
Title Description Comments:

RE 3rd QRT 2017 Groundwater Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 9/28/2017
Received Issue Date: 9/28/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6337630&temptable=ENFORCEMENT
Title Description Comments:

RE Well Installation Work Plan

Action Type: Other Regulatory Actions
Action Date: 8/29/2017
Received Issue Date: 8/29/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6335082&temptable=ENFORCEMENT
Title Description Comments:

RE Groundwater Investigation Report

Action Type: Enforcement/Orders
Action Date: 5/26/2017
Received Issue Date: 5/26/2017
Action: Notice to Comply
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6321230&temptable=ENFORCEMENT
Title Description Comments:

Crown_Cleaners_NOTICE OF NON_COMPLIANCE

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319777&temptable=ENFORCEMENT
Title Description Comments:

Annual Cost Estimate

Action Type: Notices
Action Date: 5/9/2017
Received Issue Date: 5/9/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319450&temp

table=ENFORCEMENT

Title Description Comments:

Crown_Cleaners_Communication_Request

Action Type: Other Regulatory Actions
Action Date: 3/3/2017
Received Issue Date: 3/3/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313273&temptable=ENFORCEMENT
Title Description Comments:

RE Groundwater Investigation Work Plan

Action Type: Other Regulatory Actions
Action Date: 3/3/2017
Received Issue Date: 3/3/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313271&temptable=ENFORCEMENT
Title Description Comments:

RE Soil Vapor Mitigation Plan

Action Type: Other Regulatory Actions
Action Date: 3/2/2017
Received Issue Date: 3/2/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313267&temptable=ENFORCEMENT
Title Description Comments:

Crown cleaner-GW Monitoring Program

Action Type: Notices
Action Date: 1/25/2017
Received Issue Date: 1/25/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6309744&temptable=ENFORCEMENT
Title Description Comments:

Crown Cleaners Meeting Summary_Jan25_2017

Action Type: Other Regulatory Actions
Action Date: 1/12/2017
Received Issue Date: 1/12/2017
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Request for Reports

Action Type: Other Regulatory Actions
Action Date: 12/22/2016
Received Issue Date: 12/22/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6307069&temptable=ENFORCEMENT
Title Description Comments:

Crown_Cleaners_Comments_CSM

Action Type: Other Regulatory Actions
Action Date: 9/26/2016
Received Issue Date: 9/26/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299227&temptable=ENFORCEMENT
Title Description Comments:

Former Crown Cleaners-Preliminary CSM

Action Type: Agreements
Action Date: 9/23/2016
Received Issue Date: 9/23/2016
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299117&temptable=ENFORCEMENT
Title Description Comments:

Cost Recovery Agreement

Action Type: Response Requested - Reports
Action Date: 8/8/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009409&doc_id=5905715
Title Description Comments:

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports ***Submitted:***
Document Date: ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size : 21,407 KB
Title: UNKNOWN - 2"" QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/8249943375/2Q2016%2E080816%2Epdf
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports ***Submitted:***
Document Date: 1/15/2019 ***Submitted By:*** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 7,416 KB
Title: 4TH QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6615591883/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports ***Submitted:***
Document Date: 10/15/2018 ***Submitted By:*** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 11,346 KB
Title: 3RD QTR 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4501685023/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports ***Submitted:***
Document Date: 7/15/2018 ***Submitted By:*** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 11,043 KB
Title: 2ND QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4393057703/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 7/5/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: FORMER CROWN CLEANERS ANNUAL COST RECOVERY PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6363207
Type: ANNUAL ESTIMATION LETTER

Document Type: Monitoring Reports ***Submitted:***
Document Date: 4/14/2018 ***Submitted By:*** C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Size : 10,470 KB
Title: 1ST QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9285333454/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/15/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 11,550 KB
Title: 4TH QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7157030105/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/2/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 3,582 KB
Title: GROUNDWATER WELL INSTALLATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5653724372/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 11/16/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE CROWN CLEANERS WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341669
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/16/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE RE 3RD QRT GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341671
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/9/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE 3RD QRT 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6340721
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/12/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 9,452 KB
Title: 3RD QTR 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7494787812/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 9/28/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WELL INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6337630
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 8/29/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE GROUNDWATER INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6335082
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/14/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 9,488 KB
Title: 2ND QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4053918659/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**

Document Date: 7/14/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 7,465 KB
Title: SOIL GAS INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8279594123/T10000009409.PDF
Type: SOIL VAPOR INTRUSION INVESTIGATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 6/19/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 6,252 KB
Title: GROUNDWATER INVESTIGATION REPORT FORMER CROWN CLEANERS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2924789667/T10000009409.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 5/26/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CROWN_CLEANERS_NOTICE OF NON_COMPLIANCE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6321230
Type: NOTICE TO COMPLY

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ANNUAL COST ESTIMATE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319777
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 5/9/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CROWN_CLEANERS_COMMUNICATION_REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319450
Type: LETTER - NOTICE

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/20/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 5,122 KB
Title: 1ST QUARTER 2017, GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3136034011/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 3/3/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE SOIL VAPOR MITIGATION PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313271
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 3/3/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE GROUNDWATER INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313273
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 3/2/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CROWN CLEANER-GW MONITORING PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313267
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 2/17/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 2,274 KB
Title: SOIL VAPOR MITIGATION PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4878296136/T10000009409.PDF
Type: SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 2/17/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 4,070 KB
Title: GROUNDWATER INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1881669998/T10000009409.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 2/17/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 2,048 KB
Title: GROUNDWATER MONITORING PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6772681891/T10000009409.PDF
Type: GROUNDWATER MONITORING PLAN

Document Type: Site Documents **Submitted:**
Document Date: 1/25/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CROWN CLEANERS MEETING SUMMARY_JAN25_2017
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6309744
Type: LETTER - NOTICE

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/24/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 8,886 KB
Title: 4TH QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1091926276/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 12/22/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CROWN_CLEANERS_COMMENTS_CSM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6307069
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/14/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 2,219 KB
Title: PRELIMINARY CONCEPTUAL SITE MODEL
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9658790290/T10000009409.PDF
Type: CONCEPTUAL SITE MODEL

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/31/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 5,790 KB
Title: 3RD QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3741995453/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 9/26/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: FORMER CROWN CLEANERS-PRELIMINARY CSM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299227
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/23/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: COST RECOVERY AGREEMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299117
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Monitoring Reports **Submitted:**
Document Date: 8/8/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 21,407 KB
Title: 2ND QTR 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2673097610/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/18/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 16,923 KB
Title: 1ST QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8309051752/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/27/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 19,566 KB
Title: 4TH QUARTER 2015 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7701654791/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 8/20/2015 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 7,419 KB
Title: 2ND QUARTER 2015 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5396859943/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/1/2015 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 8,507 KB
Title: 1ST QUARTER 2015 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8284639358/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 12/1/2014 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 9,031 KB
Title: 3RD QTR 2014 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6819648444/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/5/2014 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 3,320 KB
Title: 1ST QUARTER 2014 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4847017288/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/24/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 5,321 KB
Title: 3RD QTR 2013 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6294714391/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/19/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 3,123 KB
Title: 2ND QUARTER 2013 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4453605353/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/17/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 2,340 KB
Title: 1ST QUARTER 2013 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5810171723/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/30/2012 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 10,790 KB
Title: 1ST QUARTER 2012 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7111162185/T10000009409.PDF

Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents
Submitted:
Document Date: 8/11/2011
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 11,172 KB
Title: SUBSURFACE ENVIRONMENTAL INVESTIGATION, GROUNDWATER MONITORING WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3745566010/T10000009409.PDF
Type: WELL INSTALLATION REPORT

Document Type: Site Documents
Submitted:
Document Date: 12/20/2010
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 9,100 KB
Title: PHASE II ENVIRONMENTAL ASSESSMENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7684713959/T10000009409.PDF
Type: SITE INVESTIGATION

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 74 KB
Submitted: 1/11/2018
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1766226649/T10000009409.PDF

Title: MW-12 (MW-12)
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 102 KB
Submitted: 1/11/2018
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3099952399/T10000009409.PDF

Title: MW-11 (MW-11)
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size : 102 KB
Submitted: 1/11/2018
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5264212906/T10000009409.PDF

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Active
Date : 9/26/2016

Status: Open - Case Begin Date
Date : 9/23/2016

6	9 of 11	S	0.03 / 161.26	402.71 / 2	OREILLY AUTO PARTS #2940 24601 RAYMOND WAY LAKE FOREST CA 92630	ORANGE HW

Facility ID: FA0058199

6	10 of 11	S	0.03 / 161.26	402.71 / 2	CARLEN PLAZA - CROWN CLEANERS 24601 RAYMOND WAY LAKE FOREST CA 92630-	ORANGE ICP

Record ID: RO0003553
Status Description: CLOSED
Case ID: 11IC001
Case Closed Date: 8/18/2016
Released Substance(s):
Type of Closure: Referred to Regional Board

6	11 of 11	S	0.03 / 161.26	402.71 / 2	O'REILLY AUTO PARTS STORE 2940 24601 RAYMOND WAY LAKE FOREST CA 92630	RCRA NON GEN

EPA Handler ID: CAL000392709
Gen Status Universe: No Report
Contact Name: JOHN BOUNDS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Contact Address:	233 S. PATTERSON AVE. , , SPRINGFIELD , MO, 65802 ,
Contact Phone No and Ext:	417-520-4589
Contact Email:	JBOUNDS2@OREILLYAUTO.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20140110

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140110
Handler Name:	O'REILLY AUTO PARTS STORE 2940
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	233 S PATTERSON
Name:	O'REILLY AUTO PARTS	**Street 2:**	
Date Became Current:		**City:**	SPRINGFIELD
Date Ended Current:		**State:**	MO
Phone:	417-862-3333	**Country:**	
Source Type:	Implementer	**Zip Code:**	65802-0000
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	233 S. PATTERSON AVE.
Name:	JOHN BOUNDS	**Street 2:**	
Date Became Current:		**City:**	SPRINGFIELD
Date Ended Current:		**State:**	MO
Phone:	417-520-4589	**Country:**	
Source Type:	Implementer	**Zip Code:**	65802

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	1 of 2	SE	0.03 / 169.40	400.73 / 0	Sizzler Restaurant #409 23501 EL TORO RD LAKE FOREST CA 92630	CERS HAZ

Site ID: 153899

Latitude: 33.620946
Longitude: -117.700205

Regulated Programs

EI Description: Chemical Storage Facilities **EI ID:** 10472596

Evaluations

Eval Date: 01/24/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted annual certification documents submitted to CERS on 1/19/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/11/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to CERS on 5/20/15 were reviewed and accepted.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/07/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. I walked through the facility and inspected hazardous material storage area in back of building/next to kitchen area. There has been no changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period. Business has seven (76 pounds/616 cubic feet) cylinders of carbon dioxide gas. Cylinders are chained to the wall. Hazardous materials management training is provided annually and training records are available on site. Emergency contact information is posted in manager's office. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/02/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted Facility Information documents submitted to CERS on 6/1/17. Updated contact information in EC.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 02/17/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency

Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted annual certification documents submitted to CERS on 2/16/16.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/28/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: I walked through the facility and inspected hazardous materials storage area. Christina Slack granted consent to conduct inspection. I verified the location of carbon dioxide cylinder and fire extinguishers as reported in CERS. Facility has four managers that are trained on how to shut off carbon dioxide cylinder if necessary.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/17/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Annual certification documents submitted to CERS on 12/29/17 were reviewed and conditionally accepted with request to update inventory forms with new Federal Hazard Categories and add location of fire hydrant (one observed at corner of El Toro Rd. and Raymond) on site map.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 43172 Business Park Dr Ste 101
City: Temecula
State: CA
Country:
Zip Code: 92590
Phone:

Affil Type Desc: Document Preparer
Entity Name: Roxie Roque
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Identification Signer
Entity Name: Roxie Roque
Entity Title: Accounts Payable
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: Gary W Myers
Entity Title:
Address: 43172 Business Park Dr ste 101
City: Temecula
State: CA
Country: United States
Zip Code: 92590
Phone: (951) 676-8616

Affil Type Desc: Parent Corporation
Entity Name: BMW Management, Inc.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: JESUS SANDOVAL
Entity Title:
Address: 43172 Business Park Dr ste 101
City: Temecula
State: CA
Country:
Zip Code: 92590
Phone:

Affil Type Desc: Operator
Entity Name: BMW Management, Inc
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (951) 676-8616

Coordinates

Env Int Type Code:	HMBP	***Longitude:***	-117.699100
Program ID:	10472596	***Coord Name:***	
Latitude:	33.621850	***Ref Point Type Desc:***	Center of a facility or station.

7	***2 of 2***	***SE***	***0.03 / 169.40***	***400.73 / 0***	***SIZZLER-MORGAN MANAGEMENT 23501 EL TORO RD EL TORO CA 92630***	***EMISSIONS***

1990 Criteria Data

Facility ID:	64771	***CERR Code:***	
Facility SIC Code:	5812	***TOGT:***	.1

CO:	30	**ROGT:**	.04223
Air Basin:	SC	**COT:**	
District:	SC	**NOXT:**	
COID:	ORA	**SOXT:**	
DISN:	SOUTH COAST AQMD	**PMT:**	.4
CHAPIS:		**PM10T:**	.38

1990 Toxic Data

Facility ID:	64771	**COID:**	ORA
Facility SIC Code:	5812	**DISN:**	SOUTH COAST AQMD
CO:	30	**CHAPIS:**	
Air Basin:	SC	**CERR Code:**	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

8	1 of 2	ESE	0.07 / 369.11	400.35 / 0	**PROTHERO ENTERPRISES INC.** **(ORANGE TREE PLAZA SITE)** **23512-23532 EL TORO ROAD** **LAKE FOREST CA 92630**	**ENVIROSTOR**

Estor/EPA ID:	60001482	**Permit Renewal Lead:**	
Site Code:	401582	**Project Manager:**	
Nat Priority List:	NO	**Supervisor:**	
Acres:	0.25 ACRES	**Public Partici Spclst:**	
Special Program:	VOLUNTARY CLEANUP PROGRAM	**Census Tract:**	6059032014
Funding:	SITE PROPONENT	**County:**	ORANGE
Assembly District:	68	**Latitude:**	33.620864
Senate District:	37	**Longitude:**	-117.698652
School District:			

APN:	NONE SPECIFIED
Cleanup Status:	REFER: LOCAL AGENCY AS OF 2/27/2013
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type:	VOLUNTARY CLEANUP
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam:	DRY CLEANING
Potential Media Affected:	INDOOR AIR, SOIL VAPOR, UNDER INVESTIGATION
Potential Contamin of Concern:	

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site is located within the Orange Tree Plaza shopping center, in a commercial and residential area of Lake Forest. The subject property has been utilized as a dry cleaning facility since 1979.

Based on DTSC's evaluation of the data, hazardous substances that pose a threat to public health or the environment under an unrestricted land use were detected at the Site. Therefore, DTSC concured with the conclusion of the Report that further environmental investigation of the Site is warranted. DTSC recommended the collection of additional soil gas data across the site to give a more accurate and current understanding of the potential risk at the Site.

The data in the Report confirms a release of hazardous substances into the environment and that the level of hazardous constituents in soil and groundwater detected near the Site pose unacceptable risk to human health and the environment. Such a release constitutes violation of Health and Safety Code Chapters 6.5 and 6.8 and Title 22 California Code of Regulations, Division 4.5, Chapter 12. Article 3.

On July 19, 2011 DTSC completed scope of work under consultative agreement. The status has been changed to "Inactive-Action Required" as this was deemed to be the closest match for "Further Action". Thereafter, the responsible party elected to conduct investigation/cleanup under the Orange County CUPA. DTSC did not object to local agency oversight and the project was discussed with CUPA staff involved in the project..

Anthony Martinez from CUPA informed DTSC (Thru e-mail) on February 19, 2013 that the RP executed an oversight agreement with the County to oversee the investigation.

Status:	REFER: LOCAL AGENCY
Program Type:	VOLUNTARY CLEANUP

CalEnviroScreen Score: 61-65%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001482

Completed Activities

Title: Investigation Report (PEA Equivalent)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&doc_id=60269735
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 7/19/2011
Comments: DTSC determined that further investigation is necessary at the site.

Title: 10-T1153 Prothero Enterprises Reimbursement Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&enforcement_id=60269731
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Reimbursement Agreement
Date Completed: 6/22/2011
Comments: Agreement fully executed.

8	2 of 2	ESE	0.07 / 369.11	400.35 / 0	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE) 23512-23532 EL TORO ROAD LAKE FOREST CA 92630	VCP

Estor/EPA ID: 60001482
Site Code: 401582
Nat Priority List: NO
Acres: 0.25 ACRES
Special Program: VOLUNTARY CLEANUP PROGRAM
Funding: SITE PROPONENT
Assembly District: 68
Senate District: 37
School District:
Permit Renewal Lead:
Project Manager:
Supervisor:
Public Partici Spclst:
Census Tract: 6059032014
County: ORANGE
Latitude: 33.620864
Longitude: -117.698652
APN: NONE SPECIFIED
Cleanup Status: REFER: LOCAL AGENCY AS OF 2/27/2013
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: DRY CLEANING
Potential Media Affected: INDOOR AIR, SOIL VAPOR, UNDER INVESTIGATION
Potential Contamin of Concern:

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site is located within the Orange Tree Plaza shopping center, in a commercial and residential area of Lake Forest. The subject property has been utilized as a dry cleaning facility since 1979.

Based on DTSC's evaluation of the data, hazardous substances that pose a threat to public health or the environment under an unrestricted land use were detected at the Site. Therefore, DTSC concured with the conclusion of the Report that further environmental investigation of the Site is warranted. DTSC recommended the collection of additional soil gas data across the site to give a more accurate and current understanding of the potential risk at the Site.

The data in the Report confirms a release of hazardous substances into the environment and that the level of hazardous constituents in soil and groundwater detected near the Site pose unacceptable risk to human health and the environment. Such a release constitutes violation of Health and Safety Code Chapters 6.5 and 6.8 and Title 22 California Code of Regulations, Division 4.5, Chapter 12. Article 3.

On July 19, 2011 DTSC completed scope of work under consultative agreement. The status has been changed to "Inactive-Action Required" as this was deemed to be the closest match for "Further Action". Thereafter, the responsible party elected to conduct investigation/cleanup under the Orange County CUPA. DTSC did not object to local agency oversight and the project was discussed with CUPA staff involved in the project..

Anthony Martinez from CUPA informed DTSC (Thru e-mail) on February 19, 2013 that the RP executed an oversight agreement with the County to oversee the investigation.

Status: REFER: LOCAL AGENCY
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 61-65%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001482

Completed Activities

Title: 10-T1153 Prothero Enterprises Reimbursement Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&enforcement_id=60269731
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Reimbursement Agreement
Date Completed: 6/22/2011
Comments: Agreement fully executed.

Title: Investigation Report (PEA Equivalent)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&doc_id=60269735
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 7/19/2011
Comments: DTSC determined that further investigation is necessary at the site.

9	1 of 1	ESE	0.09 / 453.98	400.88 / 0	THE FORMER ORANGE TREE PLAZA DRY CLEANERS 23532 EL TORO ROAD LAKE FOREST CA	CLEANUP SITES

Global ID: T10000009084
Status: OPEN - ACTIVE
Status Date: 2016-06-29 00:00:00
Site Code:
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download
Site Facility Type: CLEANUP PROGRAM SITE
County: ORANGE
Latitude: 33.6209147785558
Longitude: -117.698203033066

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 2080149
Local Case Number:
Begin Date: 2016-06-29 00:00:00
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC: Other Chlorinated Hydrocarbons, Tetrachloroethylene (PCE), Trichloroethylene (TCE)
Potential Media of Concern: Indoor Air, Other Groundwater (uses other than drinking water), Soil, Soil Vapor
How Discovered:
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
CUF Case: NO
Case Worker: MB
File Location: Local Agency

Investigation work conducted at 23532 El Toro Road, Lake Forest (Site) indicates thatvolatile organic compounds (VOCs) associated with pastactivities of Orange Tree Plaza Dry Cleaners are present in the subsurface soil, soil vapor,and groundwater at the Site. Based on the March 2016 investigation report, concentrations of approximately 5,900 micrograms per liter (µg/L)for total VOCs were detected in groundwater beneath the Site.The main VOCs detected in groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene(DCE).In February 2016, PCE concentration of up to 2,000 µg/Lwas also detected in soil vapor at 5 ft below ground surface (bgs) at the Site.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type: RESPONSE
Date : 2019-03-26 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2019-02-05 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2019-01-25 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2018-11-15 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2018-11-05 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2018-10-25 00:00:00
Action: Notice to Comply

Action Type: ENFORCEMENT
Date : 2018-10-16 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2018-09-14 00:00:00
Action: Correspondence

Action Type: RESPONSE
Date : 2018-09-14 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2018-09-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2018-09-14 00:00:00
Action: Site Investigation Workplan

Action Type: ENFORCEMENT
Date : 2018-08-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-08-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-07-05 00:00:00
Action: Annual Estimation Letter

Action Type: ENFORCEMENT
Date : 2018-05-01 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-02-27 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT

Date : 2017-11-08 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-11-07 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2017-10-13 00:00:00
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 2017-08-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-06-20 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-05-12 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-01-27 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-11-30 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-10-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-10-11 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-09-23 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-09-07 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2016-09-02 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2016-08-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2016-08-24 00:00:00
Action: Preliminary Site Assessment Workplan - Addendum

Action Type: ENFORCEMENT
Date : 2016-08-19 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2016-08-19 00:00:00
Action: Remedial Investigation Workplan

Action Type: ENFORCEMENT
Date : 2016-08-17 00:00:00

Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2016-08-17 00:00:00
Action: Meeting

Action Type: ENFORCEMENT
Date : 2016-08-09 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2016-08-08 00:00:00
Action: Conceptual Site Model

Action Type: RESPONSE
Date : 2016-08-04 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2016-07-29 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-07-05 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-06-23 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: RESPONSE
Date : 2016-03-25 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2016-03-14 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2014-05-14 00:00:00
Action: Preliminary Site Assessment Report - Regulator Responded

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Active
Status Date: 2016-06-29 00:00:00

Status: Open - Case Begin Date
Status Date: 2016-06-29 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: Mona Behrooz
Phone Number: 9517823237
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: mehrnoosh.behrooz@waterboards.ca.gov
Address: 3737 Main St, Suite 500
City: RIVERSIDE

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:
CUF Claim:
CUF Priority Assign:
CUF Amount Paid:
User Defined Beneficial Use:
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY

Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T10000009084
Cleanup Status Detail: OPEN - ACTIVE AS OF 6/29/2016
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000009084&tabname=regulatoryhistory
Potential COC: OTHER CHLORINATED HYDROCARBONS, TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)
Potential Media Of Concern: INDOOR AIR, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL, SOIL VAPOR
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 2080149
CASEWORKER: Mona Behrooz
Site History:

Investigation work conducted at 23532 El Toro Road, Lake Forest (Site) indicates thatvolatile organic compounds (VOCs) associated with pastactivities of Orange Tree Plaza Dry Cleaners are present in the subsurface soil, soil vapor,and groundwater at the Site. Based on the March 2016 investigation report, concentrations of approximately 5,900 micrograms per liter (µg/L)for total VOCs were detected in groundwater beneath the Site.The main VOCs detected in groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene(DCE).In February 2016, PCE concentration of up to 2,000 µg/Lwas also detected in soil vapor at 5 ft below ground surface (bgs) at the Site.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Enforcement - Other
Action Date:
Received Issue Date:
Action: Unknown
Doc Link:
Title Description Comments:

Action Type: Response Requested - Workplans
Action Date: 11/15/2018
Received Issue Date: 11/15/2018
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5979423
Title Description Comments:

Additional Soil Vapor Investigation

Action Type: Response Requested - Workplans
Action Date: 11/5/2018
Received Issue Date: 11/5/2018
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5979421
Title Description Comments:

Pre-Design Testing_Interim GW Remed_2018-11-05

Action Type: Enforcement/Orders
Action Date: 10/25/2018
Received Issue Date: 10/25/2018
Action: Notice to Comply
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6373495&temptable=ENFORCEMENT
Title Description Comments:

NOTICE OF NON-COMPLIANCE WITH WORK SCHEDULE

Action Type: Other Regulatory Actions
Action Date: 10/16/2018
Received Issue Date: 10/16/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6372499&temptable=ENFORCEMENT

Title Description Comments:

RE Email transmittal of Sep 14, 2018-soil vapor investigation at Orange Tree

Action Type: Response Requested - Other
Action Date: 9/14/2018
Received Issue Date: 9/14/2018
Action: Correspondence
Doc Link:
Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Other Regulatory Actions
Action Date: 9/14/2018
Received Issue Date: 9/14/2018
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Response Requested - Workplans
Action Date: 9/14/2018
Received Issue Date: 9/14/2018
Action: Other Workplan
Doc Link:
Title Description Comments:

Additional Investigation

Action Type: Response Requested - Workplans
Action Date: 9/14/2018
Received Issue Date: 9/14/2018
Action: Site Investigation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5975647
Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Other Regulatory Actions
Action Date: 8/15/2018
Received Issue Date: 8/15/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366899&temptable=ENFORCEMENT
Title Description Comments:

Re Additional Investigation, June 2018

Action Type: Other Regulatory Actions
Action Date: 8/14/2018
Received Issue Date: 8/14/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366747&temptable=ENFORCEMENT
Title Description Comments:

Request for GW Interim Measure

Action Type: Other Regulatory Actions
Action Date: 7/5/2018
Received Issue Date: 7/5/2018
Action: Annual Estimation Letter

Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6363208&temptable=ENFORCEMENT
Title Description Comments:

Former Orange Tree Plaza-Annual Cost Recovery

Action Type: Other Regulatory Actions
Action Date: 5/1/2018
Received Issue Date: 5/1/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6356628&temptable=ENFORCEMENT
Title Description Comments:

RE Proposed Additional Investigation

Action Type: Other Regulatory Actions
Action Date: 2/27/2018
Received Issue Date: 2/27/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6350404&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Additional Investigation

Action Type: Other Regulatory Actions
Action Date: 11/8/2017
Received Issue Date: 11/8/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6340663&temptable=ENFORCEMENT
Title Description Comments:

RE Well Installation and Third Quarter 2017 Groundwater Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 11/7/2017
Received Issue Date: 11/7/2017
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

RE Well Installation and Third Quarter 2017 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 10/13/2017
Received Issue Date: 10/13/2017
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

Well Install and 3Q 2017 GWM Report_2017-10-13

Action Type: Other Regulatory Actions
Action Date: 8/15/2017
Received Issue Date: 8/15/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6329872&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Supplemental Investigation

Action Type: Other Regulatory Actions
Action Date: 6/20/2017
Received Issue Date: 6/20/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323778&temptable=ENFORCEMENT
Title Description Comments:

RE Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 6/20/2017
Received Issue Date: 6/20/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323779&temptable=ENFORCEMENT
Title Description Comments:

RE Additional Soil Vapor Probe Installation and Sampling

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6319787&temptable=ENFORCEMENT
Title Description Comments:

Annual Cost Estimate

Action Type: Other Regulatory Actions
Action Date: 1/27/2017
Received Issue Date: 1/27/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309850&temptable=ENFORCEMENT
Title Description Comments:

RE Evaluation of VOCs in Soil Vapor

Action Type: Other Regulatory Actions
Action Date: 1/27/2017
Received Issue Date: 1/27/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309848&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 11/30/2016
Received Issue Date: 11/30/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6304779&temptable=ENFORCEMENT
Title Description Comments:

RE Revised Soil Vapor Mitigation Work Plan

Action Type: Other Regulatory Actions
Action Date: 10/14/2016
Received Issue Date: 10/14/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6301060&temp

table=ENFORCEMENT

Title Description Comments:

RE Work Plan for Cone Penetrometer and HydropounchTM Testing

Action Type: Other Regulatory Actions
Action Date: 10/11/2016
Received Issue Date: 10/11/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6300818&temptable=ENFORCEMENT
Title Description Comments:

RE 3rd Q GW Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 9/23/2016
Received Issue Date: 9/23/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6298988&temptable=ENFORCEMENT
Title Description Comments:

RE Soil Vapor Mitigation Work Plan

Action Type: Notices
Action Date: 9/7/2016
Received Issue Date: 9/7/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297317&temptable=ENFORCEMENT
Title Description Comments:

GROUNDWATER MONITORING PROGRAM

Action Type: Notices
Action Date: 9/2/2016
Received Issue Date: 9/2/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297021&temptable=ENFORCEMENT
Title Description Comments:

OTP_Regulatory_Required_Procedures_090116

Action Type: Other Regulatory Actions
Action Date: 8/25/2016
Received Issue Date: 8/25/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296087&temptable=ENFORCEMENT
Title Description Comments:

RE Third Revision-Work Plan to Conduct Two Indoor Air Sampling Events, Install Soil Vapor probes

Action Type: Other Regulatory Actions
Action Date: 8/25/2016
Received Issue Date: 8/25/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296032&temptable=ENFORCEMENT
Title Description Comments:

RE Review of CSM and Request for Soil Vapor Mitigation Work Plan

Action Type: Response Requested - Workplans
Action Date: 8/24/2016
Received Issue Date: 8/24/2016
Action: Preliminary Site Assessment Workplan - Addendum
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5898453
Title Description Comments:

Third Revision of Indoor Air Sampling-Vapor Probe Installation Work Plan

Action Type: Other Regulatory Actions
Action Date: 8/19/2016
Received Issue Date: 8/19/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295630&temptable=ENFORCEMENT
Title Description Comments:

RE Second revision of IA-soil vapor probe installation inside daycare work plan

Action Type: Response Requested - Workplans
Action Date: 8/19/2016
Received Issue Date: 8/19/2016
Action: Remedial Investigation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5898086
Title Description Comments:

Second revision of IA-soil vapor probe installation inside daycare work plan

Action Type: Other Regulatory Actions
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295301&temptable=ENFORCEMENT
Title Description Comments:

OTP-Silver Cleaners Meeting Summary

Action Type: Notices
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295305&temptable=ENFORCEMENT
Title Description Comments:

OTP-request for GW monitoring frequency

Action Type: Other Regulatory Actions
Action Date: 8/9/2016
Received Issue Date: 8/9/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294738&temptable=ENFORCEMENT
Title Description Comments:

RE: The Revised Indoor Air Sampling-Probe Installation Work Plan

Action Type: Response Requested - Other
Action Date: 8/8/2016
Received Issue Date: 8/8/2016
Action: Conceptual Site Model
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5900144
Title Description Comments:

Preliminary CSM

Action Type: Response Requested - Workplans
Action Date: 8/4/2016
Received Issue Date: 8/4/2016
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5897301
Title Description Comments:

The Revised Indoor Air Sampling-Probe Installation Work Plan

Action Type: Other Regulatory Actions
Action Date: 7/29/2016
Received Issue Date: 7/29/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6293755&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Indoor Air Sampling-Vapor Probe installation

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6291800&temptable=ENFORCEMENT
Title Description Comments:

OTP Orange Tree Plaza 23532 El Toro Road Lake Forest

Action Type: Agreements
Action Date: 6/23/2016
Received Issue Date: 6/23/2016
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294734&temptable=ENFORCEMENT
Title Description Comments:

Cost Recovery Agreement

Action Type: Response Requested - Reports
Action Date: 3/25/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5894601
Title Description Comments:

Action Type: Response Requested - Reports
Action Date: 3/14/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5894602
Title Description Comments:

Action Type: Response Requested - Reports
Action Date: *5/14/2014
Received Issue Date: 5/14/2014
Action: Preliminary Site Assessment Report - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5894597
Title Description Comments:

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports ***Submitted:***
Document Date: ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size : 9,095 KB
Title: UNKNOWN - ORANGE TREE PLAZA 1ST QUARTER SEMI ANNUAL 2016 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/1386809408/Orange%20Tree%20Plaza%201st%20Quarter%20Semi%20Annual%202016%2Epdf
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports ***Submitted:***
Document Date: ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size : 5,540 KB
Title: UNKNOWN - ORANGE TREE PLAZA 1-YEAR PILOT SOIL VAPOR - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/9013243734/Orange%20Tree%20Plaza%201%2DYear%20Pilot%20Soil%20Vapor%2Epdf
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 11/15/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: ADDITIONAL SOIL VAPOR INVESTIGATION - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5979423
Type: OTHER WORKPLAN

Document Type: Site Documents ***Submitted:***
Document Date: 11/5/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: PRE-DESIGN TESTING_INTERIM GW REMED_2018-11-05 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5979421
Type: OTHER WORKPLAN

Document Type: Site Documents ***Submitted:***
Document Date: 10/25/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: NOTICE OF NON-COMPLIANCE WITH WORK SCHEDULE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6373495
Type: NOTICE TO COMPLY

Document Type: Site Documents ***Submitted:***
Document Date: 10/16/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE EMAIL TRANSMITTAL OF SEP 14, 2018-SOIL VAPOR INVESTIGATION AT ORANGE TREE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6372499
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports ***Submitted:***
Document Date: 10/9/2018 ***Submitted By:*** AVOCET ENV. (AUTH_RP)
Size : 7,890 KB
Title: THIRD QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1265194833/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 9/14/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE ADDITIONAL INVESTIGATION, JUNE 2018 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5975647
Type: SITE INVESTIGATION WORKPLAN

Document Type: Site Documents ***Submitted:***
Document Date: 8/15/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE ADDITIONAL INVESTIGATION, JUNE 2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366899
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents ***Submitted:***

Document Date: 8/14/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REQUEST FOR GW INTERIM MEASURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366747
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 7/27/2018 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 10,373 KB
Title: ADDITIONAL INVESTIGATION, JUNE 2018
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7318731904/T10000009084.PDF
Type: SITE INVESTIGATION

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/20/2018 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 10,166 KB
Title: OFFSITE WELL INSTALLATION AND SECOND QUARTER 2018 GROUNDWATER MONITORING
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8430807948/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 7/5/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: FORMER ORANGE TREE PLAZA-ANNUAL COST RECOVERY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6363208
Type: ANNUAL ESTIMATION LETTER

Document Type: Site Documents **Submitted:**
Document Date: 5/1/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE PROPOSED ADDITIONAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6356628
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/16/2018 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 8,204 KB
Title: FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3561722040/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 2/27/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR ADDITIONAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6350404
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/11/2018 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 8,347 KB
Title: FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9464978158/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 1/8/2018 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 5,035 KB
Title: WORK PLAN FOR ADDITIONAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2327554523/T10000009084.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 11/8/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WELL INSTALLATION AND THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6340663
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/25/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 9,387 KB
Title: SOIL VAPOR PROBE INSTALLATION AND SAMPLING, MONEYGRAM AND EUROPEAN TAILOR UNITS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5767648518/T10000009084.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/11/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 11,093 KB
Title: WELL INSTALLATION AND THIRD QUARTER GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4223405838/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 8/15/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR SUPPLEMENTAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6329872
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 7/25/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 10,178 KB
Title: WORK PLAN FOR SUPPLEMENTAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1887414753/T10000009084.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/14/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 13,550 KB
Title: SECOND QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4341436982/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 6/20/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323778
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/20/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE ADDITIONAL SOIL VAPOR PROBE INSTALLATION AND SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323779
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/17/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 5,811 KB
Title: ADDITIONAL SOIL VAPOR PROBE INSTALLATION AND SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4411749482/T10000009084.PDF
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 5/17/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 15,678 KB
Title: ADDITIONAL GROUNDWATER INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1906866669/T10000009084.PDF
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ANNUAL COST ESTIMATE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6319787
Type: LETTER - NOTICE

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/12/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 13,915 KB
Title: FIRST QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4532510578/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 1/27/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE EVALUATION OF VOCS IN SOIL VAPOR
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309850
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 1/27/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309848
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 1/19/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 6,394 KB
Title: WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4288398444/T10000009084.PDF
Type: SOIL AND WATER INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 1/19/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 9,666 KB
Title: EVALUATION OF VOCS IN SOIL VAPOR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4307075202/T10000009084.PDF
Type: SITE ASSESSMENT REPORT

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/13/2017 **Submitted By:** AVOCET ENV. (AUTH_RP)
Size : 12,735 KB
Title: FOURTH QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2760415852/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 12/1/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 32,114 KB
Title: REPORT FOR INDOOR AIR SAMPLING EVENTS AT UNIT #1
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1130957245/T10000009084.PDF
Type: REPORT

Document Type: Site Documents **Submitted:**
Document Date: 11/30/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE REVISED SOIL VAPOR MITIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6304779
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/20/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 19,812 KB
Title: WORK PLAN FOR SOIL VAPOR MITIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5541605353/T10000009084.PDF
Type: WORK PLAN

Document Type: Site Documents **Submitted:**
Document Date: 10/19/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 4,139 KB
Title: WORK PLAN FOR CONE PENETROMETER AND HYDROPUNCH TESTING
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7233087897/T10000009084.PDF

Type: GROUNDWATER MONITORING PLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/17/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 3,826 KB
Title: THIRD (3RD) QUARTER 2016 SEMI-ANNUAL GROUNDWATERR MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9527330398/T10000009084.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 10/14/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR CONE PENETROMETER AND HYDROPOUNCHTM TESTING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6301060
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/11/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE 3RD Q GW MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6300818
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/10/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 2,999 KB
Title: CONE PENETROMETER AND HYDROPUNCH TESTING WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7103746414/T10000009084.PDF
Type: REMEDIAL INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 9/29/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 2,487 KB
Title: THIRD QUARTER GROUNDWATER MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6705354690/T10000009084.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 9/23/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE SOIL VAPOR MITIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6298988
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/15/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 16,610 KB
Title: SOIL VAPOR MITIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5879218757/T10000009084.PDF
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 9/7/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: GROUNDWATER MONITORING PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297317
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 9/2/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: OTP_REGULATORY_REQUIRED_PROCEDURES_090116
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297021
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 8/25/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE REVIEW OF CSM AND REQUEST FOR SOIL VAPOR MITIGATION WORK PLAN

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296032
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 8/25/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE THIRD REVISION-WORK PLAN TO CONDUCT TWO INDOOR AIR SAMPLING EVENTS, INSTALL SOIL VAPOR PROBES
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296087
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 8/24/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: THIRD REVISION OF INDOOR AIR SAMPLING-VAPOR PROBE INSTALLATION WORK PLAN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5898453
Type: PRELIMINARY SITE ASSESSMENT WORKPLAN - ADDENDUM

Document Type: Site Documents **Submitted:**
Document Date: 8/19/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE SECOND REVISION OF IA-SOIL VAPOR PROBE INSTALLATION INSIDE DAYCARE WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295630
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 8/19/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: SECOND REVISION OF IA-SOIL VAPOR PROBE INSTALLATION INSIDE DAYCARE WORK PLAN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5898086
Type: REMEDIAL INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 8/17/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: OTP-SILVER CLEANERS MEETING SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295301
Type: MEETING

Document Type: Site Documents **Submitted:**
Document Date: 8/17/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: OTP-REQUEST FOR GW MONITORING FREQUENCY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295305
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 8/9/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE: THE REVISED INDOOR AIR SAMPLING-PROBE INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294738
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 8/8/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: PRELIMINARY CSM - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5900144
Type: CONCEPTUAL SITE MODEL

Document Type: Site Documents **Submitted:**
Document Date: 8/4/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: THE REVISED INDOOR AIR SAMPLING-PROBE INSTALLATION WORK PLAN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5897301
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 7/29/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR INDOOR AIR SAMPLING-VAPOR PROBE INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6293755
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 7/25/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 12,615 KB
Title: WORKPLAN FOR UNIT # 1
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2353506505/T10000009084.PDF
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 7/5/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: OTP ORANGE TREE PLAZA 23532 EL TORO ROAD LAKE FOREST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6291800
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/23/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: COST RECOVERY AGREEMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294734
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Monitoring Reports **Submitted:**
Document Date: 3/14/2016 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 9,004 KB
Title: 1ST QUARTER SEMI-ANNUAL 2016 - GROUNDWATER MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6328178167/T10000009084.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/5/2015 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 3,008 KB
Title: 3RD QUARTER SEMI-ANNEAL 2015-GROUNDWATER MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2789656221/T10000009084.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/22/2015 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 2,523 KB
Title: SEMI-ANNEAL STATUS REPORT FORORANGE TREE PLAZA
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4605844855/T10000009084.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 3/10/2015 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 2,705 KB
Title: PRECISE GRADING PLAN FOR AND BACKFILL MATERIAL AT OTP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3567900240/T10000009084.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Monitoring Reports **Submitted:**
Document Date: 11/17/2014 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 7,632 KB
Title: 3ES QUARTER SEMI-ANNUAL 2014 - GROUNDWATER MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4870292425/T10000009084.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 5/14/2014 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: UNKNOWN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5894597
Type: PRELIMINARY SITE ASSESSMENT REPORT

Document Type: Site Documents **Submitted:**
Document Date: 3/6/2013 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 8,834 KB
Title: SITE HEALTH AND SAFETY PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6287391424/T10000009084.PDF
Type: HEALTH & SAFETY PLAN (H&SC)

Document Type: Site Documents **Submitted:**
Document Date: 1/18/2013 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 18,971 KB
Title: REMEDIAL INVESTIGATION WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2395866096/T10000009084.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 7/31/2012 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 54,292 KB
Title: REPORT ON COMPREHENSIVE SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7758430182/T10000009084.PDF
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 5/7/2009 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 9,998 KB
Title: PHASE I ENVIRONMENTAL SIRE ASSESSMENT (REVISED) A/E WEST CONSULTANTS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2003516852/T10000009084.PDF
Type: PHASE I ASSESSMENT REPORT

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 266 KB **Submitted:** 10/20/2016
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5854704439/T10000009084.JPG

Title: GEO_MAP **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 310 KB **Submitted:** 10/20/2016
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3501120209/T10000009084.JPG

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Case Begin Date
Date : 6/29/2016

Status: Open - Active
Date : 6/29/2016

10	1 of 1	S	0.09 / 480.73	395.38 / -5	Panda Express #1586 23572 EL TORO RD STE A LAKE FOREST CA 92630	CERS HAZ

Site ID: 419423
Latitude: 33.620240
Longitude: -117.700700

Regulated Programs

EI Description: Chemical Storage Facilities **EI ID:** 10727020

Violations

Violation Date: 05/12/2017 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Orange County Environmental Health

Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 06/14/2017. Employee training that includes safety procedures in the event of a release or threatened release of carbon dioxide, must be conducted within 30 days of this inspection and records be submitted to this agency.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Evaluations

Eval Date: 06/02/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted revised documents submitted to CERS on 5/31/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/14/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

A copy of employee training sign in sheet for managing Carbon Dioxide release was submitted to CERS on 6/12/17. Violation I239 regarding failure to provide initial/annual employee training in emergency response plan, cited during routine inspection conducted on 5/12/17, has been corrected.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/12/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Panda Express #1586 23572 El Toro Rd., Ste. A Lake Forest, CA 92630 (949) 472-8445 On site to conduct new hazardous materials chemical inventory and business emergency plan inspection. Jesus Alvarez granted consent to conduct inspection. I walked through the facility and inspected hazardous materials storage area in the back. As reported in CERS, facility stores carbon dioxide that meets required disclosure quantities. There are no storm drains or fire hydrants nearby. Employees have not been trained in managing hazardous materials. Training that includes safety procedures in the event of a release or threatened release of carbon dioxide, must be conducted within 30 days of this inspection and records be submitted to this agency. Emergency notification list is available in the office. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Identification Signer
Entity Name: Helen Yeh
Entity Title: Risk Analyst
Address:
City:
State:
Country:
Zip Code:

Phone:

Affil Type Desc: Legal Owner
Entity Name: Panda Restaurant Group, Inc.
Entity Title:
Address: 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country: United States
Zip Code: 91770
Phone: (626) 799-9898

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Parent Corporation
Entity Name: Panda Restaurant Group
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: Ramon ChavezArreola
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (714) 402-5190

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: Panda Restaurant Group, Risk Dept, 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country:
Zip Code: 91770
Phone:

Affil Type Desc: Document Preparer
Entity Name: Helen Yeh
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Helen Yeh
Entity Title:
Address: 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country:

Zip Code: 91770
Phone:

Affil Type Desc: Property Owner
Entity Name: Prothero Enterprises, Inc
Entity Title:
Address: 214 Via Robina #23
City: San Clemente
State: CA
Country: United States
Zip Code: 92672
Phone: (949) 680-0799

11	1 of 3	NNW	0.10 / 535.58	388.97 / -11	JACQUELINE HUTCHINGS 23292 CAVANAUGH RD LAKE FOREST CA 92630-4405	RCRA NON GEN

EPA Handler ID: CAC002990349
Gen Status Universe: No Report
Contact Name: JACQUELINE HUTCHINGS
Contact Address: 23292 CAVANAUGH RD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext: 949-678-8718
Contact Email: GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20181126

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20181126
Handler Name: JACQUELINE HUTCHINGS
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator **Street No:**

Type:	Other	**Street 1:**	23292 CAVANAUGH RD
Name:	JACQUELINE HUTCHINGS	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-678-8718	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630-4405
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	23292 CAVANAUGH RD
Name:	JACQUELINE HUTCHINGS	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-678-8718	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630-4405

11	2 of 3	NNW	0.10 / 535.58	388.97 / -11	JACQUELINE HUTCHINGS 23292 CAVANAUGH ROAD LAKE FOREST CA 92630	RCRA NON GEN

EPA Handler ID:	CAC002992197
Gen Status Universe:	No Report
Contact Name:	JACQUELINE HUTCHINGS
Contact Address:	23292 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext:	949-678-8718
Contact Email:	VIANCATARANGO@ALLIANCE-ENVIRO.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20181207

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20181207
Handler Name:	JACQUELINE HUTCHINGS
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-678-8718	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-678-8718	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630

11	*3 of 3*	*NNW*	*0.10 / 535.58*	*388.97 / -11*	***JACQUELINE HUTCHINGS*** ***23292 CAVANAUGH ROAD*** ***LAKE FOREST CA 92630-4405***	***RCRA NON GEN***

EPA Handler ID:	CAC003000143
Gen Status Universe:	No Report
Contact Name:	JACQUELINE HUTCHINGS
Contact Address:	23292 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext:	949-678-8718
Contact Email:	GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20190207

Violation/Evaluation Summary

Note:	NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190207
Handler Name:	JACQUELINE HUTCHINGS
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	***Street 2:***	
Date Became Current:		***City:***	LAKE FOREST
Date Ended Current:		***State:***	CA
Phone:	949-678-8718	***Country:***	
Source Type:	Implementer	***Zip Code:***	92630-4405

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	***Street 2:***	
Date Became Current:		***City:***	LAKE FOREST
Date Ended Current:		***State:***	CA
Phone:	949-678-8718	***Country:***	
Source Type:	Implementer	***Zip Code:***	92630-4405

12	***1 of 2***	***NW***	***0.10 / 536.04***	***387.92 / -13***	***LOUGHRY, STEVE 23312 CAVANAUGH ROAD LAKE FOREST CA 92630***	***RCRA NON GEN***

EPA Handler ID:	CAC002979427
Gen Status Universe:	No Report
Contact Name:	LOUGHRY, STEVE
Contact Address:	23312 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext:	949-233-9247
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20180907

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20180907
Handler Name:	LOUGHRY, STEVE
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	***Street 2:***	
Date Became Current:		***City:***	LAKE FOREST
Date Ended Current:		***State:***	CA
Phone:	949-233-9247	***Country:***	
Source Type:	Implementer	***Zip Code:***	92630
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	***Street 2:***	
Date Became Current:		***City:***	LAKE FOREST
Date Ended Current:		***State:***	CA
Phone:	949-233-9247	***Country:***	
Source Type:	Implementer	***Zip Code:***	92630

12	***2 of 2***	***NW***	***0.10 / 536.04***	***387.92 / -13***	***LOUGHRY, STEVE 23312 CAVANAUGH ROAD LAKE FOREST CA 92630***	***RCRA NON GEN***

EPA Handler ID:	CAC003000310
Gen Status Universe:	No Report
Contact Name:	LOUGHRY, STEVE
Contact Address:	23312 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext:	949-230-5993
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
County Name:	PLACER
EPA Region:	09
Land Type:	
Receive Date:	20190208

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190208
Handler Name:	LOUGHRY, STEVE

Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-230-5993	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-230-5993	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630

13	1 of 1	E	0.10 / 539.52	407.64 / 7	FREEDOM VILLAGE HEALTH CARE CENTER 23442 EL TORO RD LAKE FOREST CA 92630	CERS HAZ

Site ID: 427942
Latitude: 33.621609
Longitude: -117.697128

Regulated Programs

EI Description:	Chemical Storage Facilities	**EI ID:**	10564417

Violations

Violation Date:	10/10/2014	**Violation Source:**	CERS
Violation Program:	HMRRP	**Violation Division:**	Orange County Environmental Health
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)		
Violation Notes:			

Returned to compliance on 03/31/2015.

Violation Description:

Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.

Violations

Violation Date:	10/10/2014	**Violation Source:**	CERS
Violation Program:	HMRRP	**Violation Division:**	Orange County Environmental Health
Citation:	HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)		
Violation Notes:			

Returned to compliance on 03/31/2015.

Violation Description:

Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Evaluations

Eval Date: 10/16/2014
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

I prepared and emailed example chemical inventory sheets for oxygen and diesel to facility contact.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 03/31/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to E-submit on 3/6/15 have been reviewed and declined with the following considerations: The ?Yes? box in Section ?A. Hazardous Materials? on the Business Activities form must be checked. Diesel Fuel form must be revised as follows: - CAS# (68476-34-6) must be listed at the top of the form in the section below ?Common Name.? - Fire Code Hazard Classes should be changed from ?Flammable Liquefied Gas (3.2I)? to ?Combustible Liquid ? Class II (1.1 II). The total reported volume for oxygen gas stored on site appears to be lower than volume observed during the onsite inspection conducted by this Agency on 10/15/14. Please review total volume of all oxygen gas stored on site and if at 200 cubic feet or greater, the form must be revised as follows: - Chemical Name should be ?Oxygen, Compressed Gas.? - Fire Code Hazard Classes should be changed from ?Flammable Gas (3.2)? to ?Oxidizing.? - ?Maximum Daily Amount? must be updated to reflect total [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/20/2017
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Joel Niblett granted consent to conduct inspection. I walked through the facility and inspected hazardous material storage areas (backup generator and maintenance shed). Backup generator has a 150 gallon diesel tank. In addition, facility has a 20 gallon drum of diesel for backup generator in maintenance shed. Hazardous materials management training is provided annually. Training records are maintained in each department. Evacuation site maps are posted throughout the facility. I notified business that annual HMBP certification documents must be submitted via CERS. I assisted facility contact in creating account in CERS, completed facility information, and hazardous materials inventory section. Site map and emergency plan will be submitted within 30 days of this inspection. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/15/2014
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: On site to conduct new hazardous materials chemical inventory and business emergency plan inspection. Joel Niblett assisted in conducting inspection. Mr. Niblett stated that the facility did not receive notification letters dated in August and December 2013 sent to the facility regarding this Agency administrating the Hazardous Materials Disclosure and Business Emergency Plan programs and electronically submitting HMBP. Violations I169 and I292 cited in the inspection report dated 10/10/14 have been voided since facility did not receive letters regarding submitting HMBP documents electronically. I walked through the facility. Facility has oxygen cylinders and diesel fuel (in generator) that meet required disclosure quantities. Facility is required and has been notified to electronically submit the following documents within 30 days of this inspection: - Business Activities form - Owner/Operator Identification form - Hazardous [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/05/2014
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

I received email from Joel Niblett, facility administrator, indicating that Dianne at the facility has been having problems receiving username/password for E-submit. I also received a Portal administrator checked to see if the request was received. There was no request. I emailed him back with a screen shot of E-submit with the area to request username/password highlighted. I also called and left message for Dianne stating that the request was not received and for her to try it again. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/05/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Received call from facility contact, Mary Beth Dionisio, in response to letter regarding CERS submittal. She wanted to know what had to be reported. I explained to her that material inventory was uploaded when I was on site in October 2017. I let her know that they had to complete emergency plan and prepare site map. She could not remember the inspection. I emailed another copy of the October inspection report to her.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/10/2014
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: Orange County Environmental Health as the Certified Unified Program Agency (OC CUPA) is the administrating agency for the Hazardous Materials Disclosure and Business Emergency Plan programs (HMD/BEP) previously administered by the Orange County Fire Authority. During the months of August and December of 2013, the OC CUPA sent out letters to regulated businesses requesting them to electronically submit their HMD/BEP forms. Electronic submission of these forms is a legal requirement. Failure to submit HMD/BEP forms is in violation of the California Health & Safety Code Chapter 6.95. According to our records there is no electronic submission for this facility. Please go to www.esubmit.ocgov.com to request a username and password and submit the following HMD/BEP forms within the next 30 days: - Business Activities form - Owner/Operator Identification form - Hazardous Material Chemical Inventory forms - Facility Site Map - Business [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/11/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to E-submit on 6/9/15 were reviewed and declined with the following considerations: - The ?Yes? box in Section ?A. Hazardous Materials? on the Business Activities form must be checked. - Diesel: Dashes must be placed in CAS # (68476-34-6). - Oxygen: Fire Code Hazard Classes should be changed from to ?Oxidizer, Liquefied (4.4l)? to ?Oxidizer, gas (4.4).? The ?Largest Container? is reported at 3 cubic feet. Please verify the size of the largest cylinder storing oxygen and if necessary update form. - Sections ?II a. through f? and ?III. Employee Training Program? of the Emergency Plan must be completed. - The site map does not show adjacent streets, storm drain, access and exit points, electrical shut off(s), evacuation staging areas, and emergency response equipment. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Operator
Entity Name: FREEDOM VILLAGE HEALTH CARE CENTER
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (949) 472-4733

Affil Type Desc: Parent Corporation
Entity Name: FREEDOM VILLAGE HEALTH CARE CENTER
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Joel J. Niblett
Entity Title:
Address: 23442 EL TORO RD
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630
Phone:

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 23442 EL TORO RD
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630
Phone:

Affil Type Desc: Document Preparer
Entity Name: Marybeth Dionisio
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: Joel J. Niblett
Entity Title:
Address: 23442 EL TORO RD
City: LAKE FOREST
State: CA
Country: United States
Zip Code: 92630
Phone: (949) 340-8216

Affil Type Desc: Identification Signer
Entity Name: Marybeth Dionisio
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code:	HMBP	**Longitude:**	-117.697130
Program ID:	10564417	**Coord Name:**	
Latitude:	33.621610	**Ref Point Type Desc:**	Center of a facility or station.

14	1 of 1	N	0.12 / 659.72	390.98 / -9	23242 CAVANAUGH STREET LAKE FOREST CA 92630	CDL

Clue: 1995-09-009
Date: 9/6/1995
County: ORANGE
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

15	1 of 1	N	0.13 / 700.95	391.54 / -9	STEVE DALAT 23236 CAVANAUGH RD LAKE FOREST CA 92630-4405	RCRA NON GEN

EPA Handler ID: CAC002968612
Gen Status Universe: No Report
Contact Name: STEVE DALAT
Contact Address: 23236 CAVANAUGH RD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext: 949-981-6156
Contact Email: GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20180628

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180628
Handler Name: STEVE DALAT
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: STEVE DALAT
Date Became Current:
Date Ended Current:
Phone: 949-981-6156
Source Type: Implementer

Street No:
Street 1: 23236 CAVANAUGH RD
Street 2:
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630-4405

Owner/Operator Ind: Current Operator
Type: Other
Name: STEVE DALAT
Date Became Current:
Date Ended Current:
Phone: 949-981-6156
Source Type: Implementer

Street No:
Street 1: 23236 CAVANAUGH RD
Street 2:
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630-4405

16	1 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH 23602 EL TORO RD LAKE FOREST CA 92630	DELISTED TNK

Delisted Storage Tanks

Facility ID: 4642
County: Orange
Permitting Agency: ORANGE COUNTY
Original Source: UST
Record Date: 30-JAN-2017

Latitude: 33.61998
Longitude: -117.7011

16	2 of 7	S	0.15 / 811.69	393.71 / -7	EL TORO AUTO WASH 23602 EL TORD ROAD ROCKFIELD EL TORO CA 92630	HHSS

County: Orange
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002e574.pdf

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16	3 of 7	S	0.15 / 811.69	393.71 / -7	EL TORO AUTO WASH 23602 EL TORO ROAD EL TORO CA	HIST TANK

Owner Name: BEACON BAY ENTERPRISES, INC.
Owner Street: 260 NEWPORT CENTER DRIVE
Owner City: NEWPORT BEACH
Owner State: CA
Owner Zip: 92660

No of Containers: 9
County: ORANGE
Facility State: CA
Facility Zip: 92630

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	4 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH #06 23602 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0001881
Case ID: 97UT035
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date:
Type of Closure:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	5 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH #06 23602 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605902112
Status: OPEN - REMEDIATION
Status Date: 2003-12-18 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.619474867
Longitude: -117.701163773

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003094T
Local Case Number:
Begin Date: 1992-07-03 00:00:00
Lead Agency: SAN DIEGO RWQCB (REGION 9)
Local Agency:
CUF Case: YES
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Replace Tank
Stop Description:
Case Worker: LT
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2019-01-31 00:00:00
Action: Notification - Public Notice of Case Closure

Action Type: ENFORCEMENT
Date : 2019-01-09 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2018-12-05 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2018-09-24 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2018-05-16 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2018-04-04 00:00:00

Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2018-03-16 00:00:00
Action: Email Correspondence

Action Type: RESPONSE
Date : 2018-02-22 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: RESPONSE
Date : 2018-01-11 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2017-08-24 00:00:00
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 2017-08-14 00:00:00
Action: Referral to Regional Board

Action Type: ENFORCEMENT
Date : 2017-03-03 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2017-02-22 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2016-09-27 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2016-09-21 00:00:00
Action: Soil and Water Investigation Workplan - Addendum - Regulator Responded

Action Type: ENFORCEMENT
Date : 2016-09-02 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2016-03-17 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2015-02-23 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2013-07-23 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2013-04-22 00:00:00
Action: File Review - Closure

Action Type: ENFORCEMENT
Date : 2012-06-20 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2012-04-30 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2012-04-17 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2011-06-15 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2011-03-28 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2010-12-28 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2010-06-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2010-01-05 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2009-07-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-10-06 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-01-29 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-05-15 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-03-15 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-01-29 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-01-25 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 2005-03-28 00:00:00
Action: Excavation

Action Type: REMEDIATION
Date : 2005-03-28 00:00:00
Action: Pump & Treat (P&T) Groundwater

Action Type: ENFORCEMENT
Date : 2005-03-23 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-09-22 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2003-08-06 00:00:00
Action: * Historical Enforcement

Action Type: RESPONSE
Date : 2003-06-23 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2003-04-15 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1997-09-03 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1992-07-03 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: LALITHA THOTAKURA
City: SAN DIEGO
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 2375 NORTHSIDE DRIVE, SUITE 100
Email: lalitha.thotakura@waterboards.ca.gov
Phone Number: 6195213002

Status History

Status: Open - Remediation
Status Date: 2003-12-18 00:00:00

Status: Open - Site Assessment
Status Date: 1999-05-24 00:00:00

Status: Open - Case Begin Date
Status Date: 1992-07-03 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: BEACON BAY AUTO WASH #06
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: OPEN - REMEDIATION
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 23602 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 13832
CUF Priority Assig: C
CUF Amount Paid: $500,213
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902112
Cleanup Status Detail: OPEN - REMEDIATION AS OF 12/18/2003
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902112&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use: GW - AGRICULTURAL SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN DIEGO RWQCB (REGION 9) (LEAD) - CASE #: 083003094T
CASEWORKER: LALITHA THOTAKURA
ORANGE COUNTY LOP - CASE #: 97UT035
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Remediation
Date : 12/18/2003

Status: Open - Site Assessment
Date : 5/24/1999

Status: Open - Case Begin Date
Date : 7/3/1992

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: PUMP & TREAT (P&T) GROUNDWATER ***Begin Date:*** 3/28/2005
Phase: ***End Date:*** 9/9/9999
Contaminant Mass Removed:
Description:

Action Type: EXCAVATION ***Begin Date:*** 3/28/2005
Phase: ***End Date:*** 9/9/9999
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Response Requested - Other
Action Date: 12/5/2018
Received Issue Date: 12/5/2018
Action: Request for Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5980395

Action Type: Other Regulatory Actions
Action Date: 9/24/2018
Received Issue Date: 9/24/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6371340&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/16/2018
Received Issue Date: 5/16/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6358691&temptable=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 4/4/2018
Received Issue Date: 4/4/2018
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5961236

Action Type: Other Regulatory Actions
Action Date: 3/16/2018
Received Issue Date: 3/16/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6351608&temptable=ENFORCEMENT

Action Type: Response Requested - Other
Action Date: 2/22/2018
Received Issue Date: 2/22/2018
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5958078

Action Type: Response Requested - Reports
Action Date: 1/11/2018

Received Issue Date: 1/11/2018
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5954260

Action Type: Response Requested - Reports
Action Date: 8/24/2017
Received Issue Date: 8/24/2017
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5942408

Action Type: Referral to Other Agency
Action Date: 8/14/2017
Received Issue Date: 8/14/2017
Action: Referral to Regional Board
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6329774&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 3/3/2017
Received Issue Date: 3/3/2017
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6313389&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 2/22/2017
Received Issue Date: 2/22/2017
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 9/27/2016
Received Issue Date: 9/27/2016
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6299380&temptable=ENFORCEMENT

Action Type: Response Requested - Workplans
Action Date: 9/21/2016
Received Issue Date: 9/21/2016
Action: Soil and Water Investigation Workplan - Addendum - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5901456

Action Type: Other Regulatory Actions
Action Date: 9/2/2016
Received Issue Date: 9/2/2016
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6297578&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 3/17/2016
Received Issue Date: 3/17/2016
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6279348&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 2/23/2015
Received Issue Date: 2/23/2015
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7/23/2013
Received Issue Date: 7/23/2013
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 4/22/2013
Received Issue Date: 4/22/2013
Action: File Review - Closure
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 6/20/2012
Received Issue Date: 6/20/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6125712&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 4/17/2012
Received Issue Date: 4/17/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6118994&temptable=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 3/5/2012
Received Issue Date: 3/5/2012
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5735906

Action Type: Other Regulatory Actions
Action Date: 3/28/2011
Received Issue Date: 3/28/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6082235&temptable=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 2/10/2011
Received Issue Date: 2/10/2011
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5715134

Action Type: Other Regulatory Actions
Action Date: 6/21/2010
Received Issue Date: 6/21/2010
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6054259&temptable=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 1/5/2010
Received Issue Date: 1/5/2010
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5702036

Action Type: Response Requested - Reports
Action Date: 1/5/2010
Received Issue Date: 1/5/2010
Action: Clean Up Fund - 5-Year Review Summary
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7/14/2009
Received Issue Date: 7/14/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6020988&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/6/2008
Received Issue Date: 10/6/2008
Action: Staff Letter

Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=5989734&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 1/29/2008
Received Issue Date: 1/29/2008
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 5/15/2007
Received Issue Date: 5/15/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 3/15/2007
Received Issue Date: 3/15/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/29/2007
Received Issue Date: 1/29/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/25/2006
Received Issue Date: 1/25/2006
Action: Staff Letter
Doc Link:

Action Type: Cleanup Action
Action Date: 3/28/2005
Received Issue Date:
Action: Pump & Treat (P&T) Groundwater
Doc Link:

Action Type: Cleanup Action
Action Date: 3/28/2005
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 3/23/2005
Received Issue Date: 3/23/2005
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 9/22/2003
Received Issue Date: 1/1/1965
Action: Corrective Action Plan / Remedial Action Plan
Doc Link:

Action Type: Enforcement/Orders
Action Date: 8/6/2003
Received Issue Date: 8/6/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 6/23/2003
Received Issue Date: 7/31/2003
Action: Corrective Action Plan / Remedial Action Plan
Doc Link:

Action Type: Enforcement/Orders
Action Date: 4/15/2003
Received Issue Date: 4/15/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Leak Action
Action Date: 9/3/1997
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 7/3/1992
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5619796574/T0605902112.pdf
Size : 171 KB
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Submitted: 10/11/2005

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :** 7,159 KB
Document Date: 12/5/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: RESPONSE TO ATC CORRESPONDENCE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9676190316/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 9/24/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: WELL DESTRUCTION ACTIVITIES
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6371340

Document Type: Site Documents **Size :**
Document Date: 5/16/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: ATC GROUP SERVICES LLC COMMENTS ON CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6358691

Document Type: Site Documents **Size :**
Document Date: 4/4/2018 **Submitted By:** SUKHMANI BRAR (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: 13832 4TH RSR CONCUR WITH CLOSURE MARCH 2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5961236

Document Type: Site Documents **Size :**
Document Date: 3/16/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: RESPONSE TO CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6351608

Document Type: Site Documents **Size :** 6,946 KB
Document Date: 2/9/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT AND CONCEPTUAL SITE MODEL
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8177362263/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 7,057 KB
Document Date: 12/13/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9530456781/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 8/14/2017 **Submitted By:** GENIECE HIGGINS (REGULATOR)
Type: REFERRAL TO REGIONAL BOARD **Submitted:**
Title: SDRWQCB SITE TRANSFER NOTICE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6329774

Document Type: Monitoring Reports **Size :** 20,342 KB
Document Date: 8/11/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2017 GROUNDWATER MONITORING REPORT REMEDIAL ACTION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6525567829/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 13,842 KB
Document Date: 4/28/2017* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1151831269/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 3/3/2017 **Submitted By:** SHYAMALA RAJAGOPAL (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: COMMENTS TO 4Q16 GW MONITORING AND REMEDIAL ACTION STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6313389

Document Type: Site Documents **Size :**
Document Date: 9/27/2016 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6299380

Document Type: Site Documents **Size :** 4,020 KB
Document Date: 9/15/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: SOIL AND WATER INVESTIGATION WORKPLAN - ADDENDUM **Submitted:**
Title: MONITORING WELL INSTALLATION WORK PLAN, ADDENDUM NO. 1
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1198286592/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 9/2/2016 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WELL INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6297578

Document Type: Monitoring Reports **Size :** 24,135 KB
Document Date: 4/12/2016 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2016 GROUNDWATER MONITORING REPORT REMEDIAL ACTION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8219198822/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 3/17/2016 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE STATUS REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6279348

Document Type: Monitoring Reports **Size :** 15,003 KB
Document Date: 1/26/2015 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FOURTH QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2229315400/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 13,771 KB
Document Date: 11/7/2014* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION

Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3794367194/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 14,335 KB
Document Date: 8/11/2014* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8670923590/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 16,403 KB
Document Date: 5/5/2014* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3012129366/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 7,281 KB
Document Date: 3/21/2014 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6234926342/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 5,901 KB
Document Date: 10/25/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6910722851/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 9,575 KB
Document Date: 7/19/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8683308422/T0605902112.PDF

Document Type: Site Documents **Size :** 5,474 KB
Document Date: 4/17/2013 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: FIRST QUARTER 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8766712248/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 4,744 KB
Document Date: 7/30/2012 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7028806567/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 6/20/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: INTERIM REMEDIAL ACTION PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6125712

Document Type: Site Documents **Size :** 11,800 KB
Document Date: 5/23/2012 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: INTERIM REMEDIAL ACTION REPORT **Submitted:**
Title: INTERIM REMEDIAL ACTION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4855559587/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 4/17/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE FILE REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6118994

Document Type: Site Documents **Size :**
Document Date: 3/5/2012 **Submitted By:** JAMES YOUNG (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: THIRD 5-YEAR REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5735906

Document Type: Monitoring Reports **Size :** 9,709 KB
Document Date: 1/31/2012 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: FOURTH QUARTER 2011
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7002729058/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 6,489 KB
Document Date: 8/8/2011 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2011
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4886698424/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 3/28/2011 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE FILE REVIEW AND QUARTERLY MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6082235

Document Type: Site Documents **Size :**
Document Date: 2/10/2011 **Submitted By:** PAT G. CULLEN (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: SECOND 5-YEAR REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5715134

Document Type: Monitoring Reports **Size :** 5,532 KB
Document Date: 1/26/2011 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4Q 10
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8660825610/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 3,465 KB
Document Date: 7/21/2010 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2010
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1680337488/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 6/21/2010 **Submitted By:** ANTHONY MARTINEZ (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: OCHCA RESPONSE TO 5-YEAR REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6054259

Document Type: Monitoring Reports **Size :** 7,626 KB
Document Date: 1/25/2010 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FOURTH QUARTER 2009
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5579522669/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 1/5/2010 **Submitted By:** PAT G. CULLEN (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: 5-YEAR REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5702036

Document Type: Site Documents **Size :**
Document Date: 7/14/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: QUARTERLY GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6020988

Document Type: Monitoring Reports **Size :** 2,910 KB
Document Date: 10/20/2008* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2008
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1266251087/T0605902112.PDF

Document Type: Site Documents **Size :**

Document Date: 10/6/2008 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SECOND QUARTER 2008 REVIEW COMMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=5989734

Document Type: Monitoring Reports **Size :** 2,603 KB
Document Date: 7/21/2008 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2008
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1600218832/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 3,954 KB
Document Date: 4/7/2008 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2008
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7198181629/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 5,043 KB
Document Date: 1/25/2008 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4Q 07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7679888665/T0605902112.PDF

Document Type: Site Documents **Size :** 1,260 KB
Document Date: 12/23/2007* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: GROUNDWATER PUMP TEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7843159556/T0605902112.PDF

Document Type: Site Documents **Size :** 2,529 KB
Document Date: 12/23/2007* **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: WELL INSTALL NOV 07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9481123983/T0605902112.PDF

Document Type: Site Documents **Size :** 2,529 KB
Document Date: 12/19/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: SOIL VAPOR INTRUSION INVESTIGATION REPORT **Submitted:**
Title: RECOVERY WELL INSTALLATION & SOIL GAS SURVEY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2265472650/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 2,306 KB
Document Date: 11/21/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2007
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9977583169/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 6,617 KB
Document Date: 10/9/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2007
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8937452554/T0605902112.PDF

Document Type: Site Documents **Size :** 2,220 KB
Document Date: 5/22/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 1Q07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6776812493/T0605902112.PDF

Document Type: Site Documents **Size :** 1,305 KB
Document Date: 4/25/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: CAP3 04.18.07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5946383416/T0605902112.PDF

Document Type: Site Documents **Size :** 2,260 KB
Document Date: 1/23/2007 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**

Title: 4Q06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2793073892/T0605902112.PDF

Document Type: Site Documents **Size :** 2,246 KB
Document Date: 9/27/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3Q06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2651212930/T0605902112.PDF

Document Type: Site Documents **Size :** 5,112 KB
Document Date: 8/8/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 2Q06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1990659415/T0605902112.PDF

Document Type: Site Documents **Size :** 3,024 KB
Document Date: 6/16/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 1Q06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9051847696/T0605902112.PDF

Document Type: Site Documents **Size :** 8,400 KB
Document Date: 6/15/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 1
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6453933537/T0605902112.PDF

Document Type: Site Documents **Size :** 7,921 KB
Document Date: 6/15/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 3
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8074201822/T0605902112.PDF

Document Type: Site Documents **Size :** 10,890 KB
Document Date: 6/15/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 2
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2382047891/T0605902112.PDF

Document Type: Site Documents **Size :** 3,574 KB
Document Date: 5/17/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: MW INSTALLATION REPORT 4.10.06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2295489251/T0605902112.PDF

Document Type: Site Documents **Size :** 3,510 KB
Document Date: 4/27/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 1Q2005
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7823576211/T0605902112.PDF

Document Type: Site Documents **Size :** 1,169 KB
Document Date: 4/27/2006 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: WORK PLAN 01.10.2006
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5885253727/T0605902112.PDF

16	6 of 7	S	0.15 / 811.69	393.71 / -7	MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291 23602 EL TORO RD LAKE FOREST CA 92630-4786	RCRA NON GEN

EPA Handler ID: CAL000313984
Gen Status Universe: No Report
Contact Name: SEAN AKERS
Contact Address: P.O. BOX 87586 , , VANCOUVER , WA, 98687-7856 ,
Contact Phone No and Ext: 360-784-5217

Contact Email: HSE@BANFIELD.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20061204

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20061204
Handler Name: MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Other
Name: SEAN AKERS
Date Became Current:
Date Ended Current:
Phone: 360-784-5217
Source Type: Implementer

Street No:
Street 1: P.O. BOX 87586
Street 2:
City: VANCOUVER
State: WA
Country:
Zip Code: 98687-7856

Owner/Operator Ind: Current Owner
Type: Other
Name: MEDICAL MANAGEMENT INTERNATIONAL IN
Date Became Current:
Date Ended Current:
Phone: 360-784-5119
Source Type: Implementer

Street No:
Street 1: P.O. BOX 87586
Street 2:
City: VANCOUVER
State: WA
Country:
Zip Code: 98687-7856

16	7 of 7	S	0.15 / 811.69	393.71 / -7	PETSMART #1291 23602 EL TORO RD LAKE FOREST CA 92630	RCRA NON GEN

EPA Handler ID: CAL000400880
Gen Status Universe: No Report
Contact Name: KEN DOBIAS

Contact Address: 3481 PLANO PARKWAY , , THE COLONY , TX, 75056 ,
Contact Phone No and Ext: 972-464-0004
Contact Email: KEN.DOBIAS@QUESTRMG.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20140930

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140930
Handler Name: PETSMART #1291
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: PETSMART CABLE SYSTEMS COMPANY II LP
Date Became Current:
Date Ended Current:
Phone: 623-587-2912
Source Type: Implementer
Street No:
Street 1: 19601 N 27TH AVE
Street 2:
City: PHOENIX
State: AZ
Country:
Zip Code: 85027-4008

Owner/Operator Ind: Current Operator
Type: Other
Name: KEN DOBIAS
Date Became Current:
Date Ended Current:
Phone: 972-464-0004
Source Type: Implementer
Street No:
Street 1: 3481 PLANO PARKWAY
Street 2:
City: THE COLONY
State: TX
Country:
Zip Code: 75056

17	1 of 1	S	0.17 / 895.66	392.94 / -7	ULTA BEAUTY 467 23608 EL TORO RD LAKE FOREST CA 92630-4786	RCRA NON GEN

EPA Handler ID: CAL000388889

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Gen Status Universe:	No Report
Contact Name:	JEREMY HOJNICKI
Contact Address:	1000 REMINGTON BLVD STE 120 , , BOLINGBROOK , IL, 60440 ,
Contact Phone No and Ext:	630-296-1552
Contact Email:	JHOJNICKI@ULTA.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20130823

Violation/Evaluation Summary

Note:	NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20130823
Handler Name:	ULTA BEAUTY 467
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	1000 REMINGTON BLVD STE 120
Name:	JEREMY HOJNICKI	**Street 2:**	
Date Became Current:		**City:**	BOLINGBROOK
Date Ended Current:		**State:**	IL
Phone:	630-296-1552	**Country:**	
Source Type:	Implementer	**Zip Code:**	60440

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	1000 REMINGTON BLVD
Name:	ULTA SALON COSMETICS & FRAGRANCE IN	**Street 2:**	SUITE 120
Date Became Current:		**City:**	BOLINGBROOK
Date Ended Current:		**State:**	IL
Phone:	630-410-4800	**Country:**	
Source Type:	Implementer	**Zip Code:**	60440

18	*1 of 1*	*NW*	*0.18 / 941.60*	*379.96 / -20*	***GARY & SHELLIE SHAUL 24471 REDLEN ST***	***RCRA NON GEN***

EPA Handler ID:	CAC002977553
Gen Status Universe:	No Report
Contact Name:	GARY & SHELLIE SHAUL
Contact Address:	24471 REDLEN ST , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext:	949-636-5094
Contact Email:	ADMIN@VIKINGENVIRO.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20180824

Violation/Evaluation Summary

Note:	NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20180824
Handler Name:	GARY & SHELLIE SHAUL
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	24471 REDLEN ST
Name:	GARY & SHELLIE SHAUL	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-636-5094	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	24471 REDLEN ST
Name:	GARY & SHELLIE SHAUL	**Street 2:**	
Date Became Current:		**City:**	LAKE FOREST
Date Ended Current:		**State:**	CA
Phone:	949-636-5094	**Country:**	
Source Type:	Implementer	**Zip Code:**	92630

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	1 of 1	S	0.19 / 986.85	391.37 / -9	HOMEGOODS 0366 23614 EL TORO RD LAKE FOREST CA 92630-4786	RCRA NON GEN

EPA Handler ID: CAL000401807
Gen Status Universe: No Report
Contact Name: PAUL KANGAS
Contact Address: 770 COCHITUATE RD , 300.1AN , FRAMINGHAM , MA, 01701 ,
Contact Phone No and Ext: 774-308-3651
Contact Email: PAUL_KANGAS@TJX.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20141104

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20141104
Handler Name: HOMEGOODS 0366
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: HOMEGOODS INC
Date Became Current:
Date Ended Current:
Phone: 774-308-3651
Source Type: Implementer

Street No:
Street 1: 770 COCHITUATE RD
Street 2:
City: FRAMINGHAM
State: MA
Country:
Zip Code: 01701

Owner/Operator Ind: Current Operator
Type: Other
Name: PAUL KANGAS
Date Became Current:
Date Ended Current:
Phone: 774-308-3651
Source Type: Implementer

Street No:
Street 1: 770 COCHITUATE RD
Street 2: 300.1AN
City: FRAMINGHAM
State: MA
Country:
Zip Code: 01701

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
20	1 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 926300000	DRYCLEANERS

EPA ID:	CAD983588708	**Owner Phone:**	9499512744
Create Date:	7/9/1991	**Owner Fax:**	0000000000
Facility Act Ind:	Yes	**Contact Name:**	TONY MERCIYAN
Inact Date:		**Contact Street 1:**	23374 ELTORO RD
Reason:	SIC/NAICS	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	LAKE FOREST
Region Code:	4	**Contact State:**	CA
Owner Name:	TONY MERCIYAN	**Contact Zip:**	92630
Owner Street 1:	23374 EL TORO RD	**Contact Phone:**	9499512744
Owner Street 2:		**Mail Name:**	
Owner City:	LAKE FOREST	**DD Latitude:**	33.623333
Owner State:	CA	**DD Longitude:**	-117.696896
Owner Zip:	926300000		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

20	2 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 926300000	DRYCLEANERS

EPA ID:	CAL000034591	**Owner Phone:**	0000000000
Create Date:	5/16/1990	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	TONY MERC, OWNER
Inact Date:	6/30/1999	**Contact Street 1:**	INACT 99VQ FINAL NOTICE - BATCH
Reason:	Cleaners	**Contact Street 2:**	4/11/00
County Name:	Orange	**Contact City:**	LAKE FOREST
Region Code:	4	**Contact State:**	CA
Owner Name:	MERCIYAN ANTRANIK H	**Contact Zip:**	926304807
Owner Street 1:	--	**Contact Phone:**	7149512744
Owner Street 2:		**Mail Name:**	
Owner City:	--	**DD Latitude:**	
Owner State:	99	**DD Longitude:**	
Owner Zip:	--		

20	3 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD LAKE FOREST CA 926300000	DRYCLEANERS

EPA ID:	CAC001312240	**Owner Phone:**	7149611408
Create Date:	5/18/1998	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	RUEY LAI
Inact Date:	10/25/2000	**Contact Street 1:**	7111 GARDEN GROVE BLVD STE 115
Reason:	Cleaners	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	GARDEN GROVE
Region Code:	4	**Contact State:**	CA
Owner Name:	PLAZA EL TORO INVESTORS	**Contact Zip:**	928410000
Owner Street 1:	18220 IMPERIAL HWY	**Contact Phone:**	7148943236
Owner Street 2:		**Mail Name:**	
Owner City:	YORBA LINDA	**DD Latitude:**	
Owner State:	CA	**DD Longitude:**	
Owner Zip:	926860000		

20	4 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC 'N SPAN CLEANERS 23374 EL TORO RD LAKE FOREST CA 92630	EMISSIONS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

2016 Toxic Data

Facility ID:	94696	***TS:***	
Facility SIC Code:	7216	***HRA:***	
CERR CODE:		***CH Index:***	
COID:	ORA	***AH Index:***	
CO:	30	***Air Basin:***	SC
DISN:	SOUTH COAST AQMD	***District:***	SC
CHAPIS:			

2017 Toxic Data

Facility ID:	94696	***COID:***	ORA
Facility SIC Code:	7216	***DISN:***	SOUTH COAST AQMD
CO:	30	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

20	***5 of 7***	***ENE***	***0.19 / 999.86***	***407.68 / 7***	***SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 92630***	***FED DRYCLEANERS***

FRS Facility ID:	110002848802
NPDES IDs:	
NAICS Codes:	81232
SIC Codes:	
Latitude:	33.623315
Longitude:	-117.696944

20	***6 of 7***	***ENE***	***0.19 / 999.86***	***407.68 / 7***	***SPIC N SPAN CLEANERS & LAUNDRY 23374 EL TORO RD LAKE FOREST CA 92630***	***ORANGE ICP***

Record ID:	RO0000644	***Status Description:***	CLOSED
Case ID:	98IC014	***Case Closed Date:***	7/13/1998
Released Substance(s):	PERCHLOROETHYLENE SOLVENTS- HALOGENATED		
Type of Closure:	Closure certification issued		

20	***7 of 7***	***ENE***	***0.19 / 999.86***	***407.68 / 7***	***SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 92630***	***RCRA SQG***

EPA Handler ID:	CAD983588708
Gen Status Universe:	Small Quantity Generator
Contact Name:	H ANTRANIK
Contact Address:	23374 EL TORO RD , , EL TORO , CA, 92630 , US
Contact Phone No and Ext:	714-951-2744
Contact Email:	
Contact Country:	US
County Name:	ORANGE
EPA Region:	09
Land Type:	Other
Receive Date:	19910709

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19910709
Handler Name:	SPIC N SPAN CLEANERS
Generator Status Universe:	Small Quantity Generator
Source Type:	Notification

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	NOT REQUIRED
Name:	ANTRANIK H MERCIYAN	***Street 2:***	
Date Became Current:		***City:***	NOT REQUIRED
Date Ended Current:		***State:***	ME
Phone:	415-555-1212	***Country:***	
Source Type:	Notification	***Zip Code:***	99999

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	NOT REQUIRED
Name:	NOT REQUIRED	***Street 2:***	
Date Became Current:		***City:***	NOT REQUIRED
Date Ended Current:		***State:***	ME
Phone:	415-555-1212	***Country:***	
Source Type:	Notification	***Zip Code:***	99999

21	***1 of 1***	***SSW***	***0.20 / 1,037.65***	***390.77 / -10***	***AARON BROTHERS #0308 23622 EL TORO RD STE A LAKE FOREST CA 92630-4786***	***RCRA NON GEN***

EPA Handler ID:	CAL000407538
Gen Status Universe:	No Report
Contact Name:	RYAN DRAPER
Contact Address:	8000 BENT BRANCH DR , , IRVING , TX, 75063 ,
Contact Phone No and Ext:	972-409-5786
Contact Email:	DRAPERR@MICHAELS.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20150605

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20150605
Handler Name:	AARON BROTHERS #0308
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	8000 BENT BRANCH DR
Name:	RYAN DRAPER	***Street 2:***	
Date Became Current:		***City:***	IRVING
Date Ended Current:		***State:***	TX
Phone:	972-409-5786	***Country:***	
Source Type:	Implementer	***Zip Code:***	75063

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	8000 BENT BRANCH DR
Name:	MICHAELS INC	***Street 2:***	
Date Became Current:		***City:***	IRVING
Date Ended Current:		***State:***	TX
Phone:	972-409-5786	***Country:***	
Source Type:	Implementer	***Zip Code:***	75063

22	***1 of 1***	***ENE***	***0.21 / 1,133.85***	***408.88 / 8***	***CVS PHARMACY # 9541 23330 EL TORO ROAD LAKE FOREST CA 92630***	***RCRA LQG***

EPA Handler ID:	CAR000236927
Gen Status Universe:	Large Quantity Generator
Contact Name:	NICOLE WILKINSON
Contact Address:	1 , CVS DRIVE , , WOONSOCKET , RI, 02895 , US
Contact Phone No and Ext:	401-770-7132
Contact Email:	NICOLE.WILKINSON@CVSHEALTH.COM
Contact Country:	US
County Name:	PLACER
EPA Region:	09

Land Type: Private
Receive Date: 20180301

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20180301
Handler Name: CVS PHARMACY # 9541
Generator Status Universe: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification

Waste Code Details

Hazardous Waste Code: 141
Waste Code Description: Off-specification, aged, or surplus inorganics

Hazardous Waste Code: 181
Waste Code Description: Other inorganic solid waste

Hazardous Waste Code: 214
Waste Code Description: Unspecified solvent mixture

Hazardous Waste Code: 311
Waste Code Description: Pharmaceutical waste

Hazardous Waste Code: 331
Waste Code Description: Off-specification, aged, or surplus organics

Hazardous Waste Code: 352
Waste Code Description: Other organic solids

Hazardous Waste Code: 791
Waste Code Description: Liquids with pH < 2

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D007

Waste Code Description: CHROMIUM

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: D010
Waste Code Description: SELENIUM

Hazardous Waste Code: D024
Waste Code Description: M-CRESOL

Hazardous Waste Code: P001
Waste Code Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Hazardous Waste Code: P075
Waste Code Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Hazardous Waste Code: U002
Waste Code Description: 2-PROPANONE (I) (OR) ACETONE (I)

Hazardous Waste Code: U034
Waste Code Description: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

Hazardous Waste Code: U129
Waste Code Description: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Hazardous Waste Code: U165
Waste Code Description: NAPHTHALENE

Hazardous Waste Code: U205
Waste Code Description: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20160826
Handler Name: CVS PHARMACY #9541
Generator Status Universe: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification

Waste Code Details

Hazardous Waste Code: 122
Waste Code Description: Alkaline solution without metals (pH > 12.5)

Hazardous Waste Code: 141
Waste Code Description: Off-specification, aged, or surplus inorganics

Hazardous Waste Code: 181
Waste Code Description: Other inorganic solid waste

Hazardous Waste Code: 214
Waste Code Description: Unspecified solvent mixture

Hazardous Waste Code: 311
Waste Code Description: Pharmaceutical waste

Hazardous Waste Code: 331
Waste Code Description: Off-specification, aged, or surplus organics

Hazardous Waste Code: 791
Waste Code Description: Liquids with pH < 2

Hazardous Waste Code: D001

Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D007
Waste Code Description: CHROMIUM

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: D010
Waste Code Description: SELENIUM

Hazardous Waste Code: D024
Waste Code Description: M-CRESOL

Hazardous Waste Code: P001
Waste Code Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Hazardous Waste Code: P075
Waste Code Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Hazardous Waste Code: U002
Waste Code Description: 2-PROPANONE (I) (OR) ACETONE (I)

Hazardous Waste Code: U129
Waste Code Description: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Hazardous Waste Code: U205
Waste Code Description: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20130327
Handler Name: CVS PHARMACY NO 9541
Generator Status Universe: Large Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: P001
Waste Code Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Hazardous Waste Code: P042
Waste Code Description: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

Hazardous Waste Code: P075
Waste Code Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Hazardous Waste Code: P081
Waste Code Description: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	32
Type:	Private	***Street 1:***	SIDNEY BAY DR
Name:	PLAZA EL TORO INVESTORS LTD PARTNERSHIP	***Street 2:***	
Date Became Current:	19981201	***City:***	NEWPORT COAST
Date Ended Current:		***State:***	CA
Phone:		***Country:***	US
Source Type:	Annual/Biennial Report update with Notification	***Zip Code:***	92657

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	
Name:	LONGS DRUG STORES CALIFORNIA LLC	***Street 2:***	
Date Became Current:	20081022	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	US
Source Type:	Notification	***Zip Code:***	

Owner/Operator Ind:	Current Owner	***Street No:***	32
Type:	Private	***Street 1:***	SIDNEY BAY DR
Name:	PLAZA EL TORO INVESTORS LTD PARTNERSHIP	***Street 2:***	
Date Became Current:	19981201	***City:***	NEWPORT COAST
Date Ended Current:		***State:***	CA
Phone:	949-715-3561	***Country:***	US
Source Type:	Annual/Biennial Report update with Notification	***Zip Code:***	92657

Owner/Operator Ind:	Current Operator	***Street No:***	1
Type:	Private	***Street 1:***	CVS DRIVE
Name:	LONGS DRUG STORES CALIFORNIA, L.L.C	***Street 2:***	
Date Became Current:	20081022	***City:***	WOONSOCKET
Date Ended Current:		***State:***	RI
Phone:	401-765-1500	***Country:***	US
Source Type:	Annual/Biennial Report update with Notification	***Zip Code:***	02895

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	
Name:	LONGS DRUG STORES CALIFORNIA, L.L.C	***Street 2:***	
Date Became Current:	20081022	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	
Source Type:	Annual/Biennial Report update with Notification	***Zip Code:***	

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	32 SIDNEY BAY DR
Name:	PLAZA EL TORO INVESTORS LTD PARTNERSHIP	***Street 2:***	
Date Became Current:	19981201	***City:***	NEWPORT COAST
Date Ended Current:		***State:***	CA
Phone:	949-715-3561	***Country:***	US
Source Type:	Notification	***Zip Code:***	92657-2105

23	***1 of 4***	***SSW***	***0.24 / 1,276.42***	***388.28 / -12***	***XPRESS CLEANERS 23635 EL TORO RD STE H1 LAGUNA HILLS CA 92630***	***DRYCLEANERS***

EPA ID:	CAL000277217	***Owner Phone:***	9495879481
Create Date:	12/12/2003 10:40:15 AM	***Owner Fax:***	
Facility Act Ind:	No	***Contact Name:***	LYE DE VERA
Inact Date:	9/28/2005	***Contact Street 1:***	23635 EL TORO RD STE H1
Reason:	SIC/NAICS	***Contact Street 2:***	
County Name:	Orange	***Contact City:***	LAKE FOREST
Region Code:	4	***Contact State:***	CA
Owner Name:	WILMA DIANGKINAY	***Contact Zip:***	92630
Owner Street 1:	23635 EL TORO RD STE H1	***Contact Phone:***	9495879481

Owner Street 2:		**Mail Name:**	
Owner City:	LAKE FOREST	**DD Latitude:**	33.619056
Owner State:	CA	**DD Longitude:**	-117.702516
Owner Zip:	92630		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

23	2 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD EL TORO CA 926300000	DRYCLEANERS

EPA ID:	CAD983581729	**Owner Phone:**	5624239325
Create Date:	5/7/1991	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	PERLITA L. DE VERA
Inact Date:	6/30/2007	**Contact Street 1:**	1100 45TH WAY
Reason:	Cleaners	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	LONG BEACH
Region Code:	4	**Contact State:**	CA
Owner Name:	CORDIAL CARE CORP	**Contact Zip:**	908070000
Owner Street 1:	1100 E 45TH WAY	**Contact Phone:**	5622251206
Owner Street 2:		**Mail Name:**	
Owner City:	LONG BEACH	**DD Latitude:**	
Owner State:	CA	**DD Longitude:**	
Owner Zip:	90807		

23	3 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD STE H1 EL TORO CA 926304748	DRYCLEANERS

EPA ID:	CAL000315300	**Owner Phone:**	9494725080
Create Date:	1/11/2007 1:57:29 PM	**Owner Fax:**	
Facility Act Ind:	No	**Contact Name:**	MARIO HERRERA
Inact Date:	1/18/2008	**Contact Street 1:**	23635 EL TORO RD STE H1
Reason:	SIC/NAICS	**Contact Street 2:**	
County Name:	Orange	**Contact City:**	EL TORO
Region Code:	4	**Contact State:**	CA
Owner Name:	MARIO HERRERA	**Contact Zip:**	926304748
Owner Street 1:	23635 EL TORO RD STE H1	**Contact Phone:**	9494725080
Owner Street 2:		**Mail Name:**	
Owner City:	EL TORO	**DD Latitude:**	33.618315
Owner State:	CA	**DD Longitude:**	-117.703389
Owner Zip:	926304748		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

23	4 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD EL TORO CA 92630	RCRA SQG

EPA Handler ID:	CAD983581729
Gen Status Universe:	Small Quantity Generator
Contact Name:	HUNG TRAN
Contact Address:	23635 EL TORO RD , , EL TORO , CA, 92630 , US
Contact Phone No and Ext:	714-587-9481

Contact Email:
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 19910507

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19910507
Handler Name: XPRESS CLEANERS
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	TRAN ANTHONY HUNG	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	NOT REQUIRED	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

24	1 of 1	SSW	0.25 / 1,298.98	388.80 / -12	ACC BEST 1 HOUR PHOTO 23615 EL TORO RD #S EL TORO CA 92630	RCRA SQG

EPA Handler ID: CAD982503849
Gen Status Universe: Small Quantity Generator
Contact Name:

Contact Address: US
Contact Phone No and Ext:
Contact Email:
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 19960901

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: ACC BEST 1 HOUR PHOTO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: NACY GWE TSAI
Date Became Current:
Date Ended Current:
Phone: 415-555-1212
Source Type: Implementer

Street No:
Street 1: NOT REQUIRED
Street 2:
City: NOT REQUIRED
State: ME
Country:
Zip Code: 99999

Owner/Operator Ind: Current Operator
Type: Private
Name: NOT REQUIRED
Date Became Current:
Date Ended Current:
Phone: 415-555-1212
Source Type: Implementer

Street No:
Street 1: NOT REQUIRED
Street 2:
City: NOT REQUIRED
State: ME
Country:
Zip Code: 99999

25	1 of 1	N	0.28 / 1,453.33	383.71 / -17	UNOCAL #6186 24382 MUIRLANDS LAKE FOREST CA 92630	LUST

Global ID: T0605901205
County: ORANGE

Status: COMPLETED - CASE CLOSED
Status Date: 1994-06-21 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
Latitude: 33.6269455
Longitude: -117.7022362

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083001581T
Local Case Number: 91UT084
Begin Date: 1991-08-08 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Remove Tank
Stop Description:
Case Worker: KL
File Location: Local Agency

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1994-06-21 00:00:00
Action: Closure/No Further Action Letter

Action Type: REMEDIATION
Date : 1994-01-18 00:00:00
Action: Excavation

Action Type: Other
Date : 1991-08-08 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1991-08-08 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Regional Board Caseworker
Contact Name: NANCY OLSON-MARTIN
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: nolson-martin@waterboards.ca.gov
Phone Number:

Status History

Status: Completed - Case Closed
Status Date: 1994-06-21 00:00:00

Status: Open - Case Begin Date
Status Date: 1991-08-08 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: UNOCAL #6186
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 24382 MUIRLANDS
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 7580
CUF Priority Assig: D
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605901205
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 6/21/1994
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605901205&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use:
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 91UT084
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083001581T
CASEWORKER: NANCY OLSON-MARTIN
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 6/21/1994

Status: Open - Case Begin Date
Date : 8/8/1991

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:
Begin Date: 1/18/1994
End Date: 9/9/9999

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 6/21/1994
Received Issue Date: 6/21/1994
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901205&enforcement_id=6326521&tempt able=ENFORCEMENT

Action Type: Cleanup Action
Action Date: 1/18/1994
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Leak Action
Action Date: 8/8/1991

Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 8/8/1991
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents
Document Date: 6/21/1994
Type: CLOSURE/NO FURTHER ACTION LETTER
Title: RACC
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901205&enforcement_id=6326521
Size :
Submitted By: GENIECE HIGGINS (REGULATOR)
Submitted:

26	1 of 1	SSW	0.29 / 1,507.98	389.38 / -11	THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS 23684 EL TORO ROAD LAKE FOREST CA 92630	CLEANUP SITES

Global ID: SL0605942036
Status: OPEN - SITE ASSESSMENT
Status Date: 2009-06-02 00:00:00
Site Code:
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download
Site Facility Type: CLEANUP PROGRAM SITE
County: ORANGE
Latitude: 33.6180591063786
Longitude: -117.70144701004

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: SL0605942036
Local Case Number:
Begin Date: 2002-08-01 00:00:00
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC: Tetrachloroethylene (PCE)
Potential Media of Concern: Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water)
How Discovered: Property Sale/Transaction, Site Assessment/Site Investigation
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
CUF Case: NO
Case Worker: MB
File Location: Regional Board

The former Silver Dry Cleaners, which operated for 16 years (1982-1998), was located in Suite "S" (or Suite 698) of the former Saddleback Valley Plaza. Chlorinated solvents, primarily tetrachloroethylene (PCE), were first identified in soil by Hemphill, Green & Associates, LLC (HGA) in November 1999. Soil vapor sampling results from HGA's investigation indicated that PCE was present at concentrations up to 13,000 micrograms per liter (µg/l) at 2 feet below ground surface (bgs), and 5,700 µg/l at 5 feet bgs, beneath the former dry cleaner space. No other volatile organic compounds (VOCs) were detected in the soil vapor samples. Between September 2002 and late 2003, several additional soil and groundwater investigations were conducted in the vicinity of the Site. The bulk of the PCE contamination in both the vadose and saturated zones was centered on the location of the former dry cleaners. The investigations consisted of soil and groundwater sampling from borings that were advanced to depths ranging from 26 to 49 feet bgs. The maximum PCE concentration found in the soil was 370 IJg/kg. The highest concentration of PCE in groundwater was 4,100 !Jg/L (geoprobe location GP-7), found in the footprint of the former dry cleaning facility, while the second highest concentration of PCE in groundwater was detected in a boring located 120 feet east of the tenant cluster (1 ,000 IJg/L at GP-11). In 2005, under the oversight of staff from the Orange County Health Care Agency (OCHCA), England Geoscience (EG) conducted a source area excavation at the Site. Approximately 623 cubic yards of soil were removed by successive excavations, in accordance with the OCHCA- approved cleanup goal of 50 µg/kg of PCE. At the completion of the major excavation phase, EG reported that the remedial excavation had succeeded in removing all of the PCE-impacted soil that had been identified at the Site, with the exception of one small, visibly discolored area on the western wall (at 7 feet bgs) of the deepest northwestern portion of the excavation. This residual PCE-impacted soil, which was identified by a sample containing 91 µg/kg PCE, was estimated by EG to have a volume of less than 20 cubic feet. Following the remedial excavation, concentrations of PCE in groundwater in the vicinity of GP-7 dropped from a historical maximum of 4,100 µg/L (GP-7, 2004) to 44 µg/L (monitoring well MW-1, 2012), a greater than 99% reduction. PCE concentrations in the vicinity of GP-11, however, dropped from a maximum of 1,000 µg/L (GP-11, 2004) to 280 µg/L (MW-3, 4012), only a 70% reduction. On June 5, 2013, Regional Board staff request additional investigation of soil

and groundwater in the vicinity of GP-11 and the area between the former dry cleaners and MW-3. We also requested that you investigate the potential existence of a secondary contaminant source zone. In response, the Supplemental Soil and Groundwater Investigation was conducted to further delineate the extent of soil and groundwater contamination in that area in June 2013. In the September 2013 report, we found the following elements of the report noteworthy: - There is an apparent trend of increasing PCE concentrations in groundwater in the southeastern portion of the Site that may indicate that the plume is migrating offsite. - Elevated concentrations of PCE (240 µg/L) were detected in grab groundwater samples at location GW-30, which is approximately 120 feet cross-gradient of the former dry cleaners, and approximately 60 feet from the Site's eastern property boundary, and a concentration of 150 µg/L was detected directly between the former dry cleaners and MW-3. - PCE was detected in a soil sample collected from the borehole at sampling location GW-29. Based on the additional grab groundwater samples and second quarter 2015 groundwater monitoring event, groundwater flow direction is to the south/southwest with 0.005 to 0.013 ft/ft.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type: ENFORCEMENT
Date : 2019-01-24 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-06-27 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-06-06 00:00:00
Action: Annual Estimation Letter

Action Type: ENFORCEMENT
Date : 2018-01-02 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-11-09 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-05-12 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-05-04 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-11-30 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-11-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-08-17 00:00:00
Action: Meeting

Action Type: ENFORCEMENT
Date : 2016-07-05 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-06-28 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: ENFORCEMENT
Date : 2015-04-07 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2015-03-31 00:00:00
Action: Soil and Water Investigation Workplan

Action Type: ENFORCEMENT
Date : 2014-12-29 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2014-10-03 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2014-06-26 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2014-02-27 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2013-11-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2013-06-21 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: ENFORCEMENT
Date : 2013-06-05 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2013-04-10 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2012-12-21 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2012-12-10 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: RESPONSE
Date : 2012-10-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2012-07-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 2012-06-22 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: RESPONSE
Date : 2012-04-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2012-01-23 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2012-01-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 2011-11-18 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2011-09-06 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2011-05-26 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: ENFORCEMENT
Date : 2010-10-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2010-07-06 00:00:00
Action: Site Assessment Report

Action Type: ENFORCEMENT
Date : 2010-06-02 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2010-05-25 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: ENFORCEMENT
Date : 2010-05-19 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2010-04-28 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2010-01-28 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-12-15 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2009-11-03 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2009-10-07 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-08-03 00:00:00
Action: Site Investigation

Action Type: ENFORCEMENT
Date : 2009-06-30 00:00:00
Action: Site Visit / Inspection / Sampling

Action Type: ENFORCEMENT
Date : 2009-06-02 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-05-15 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2009-05-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT

Date : 2009-04-23 00:00:00
Action: Site Visit / Inspection / Sampling

Action Type: ENFORCEMENT
Date : 2009-03-12 00:00:00
Action: Meeting

Action Type: RESPONSE
Date : 2005-06-15 00:00:00
Action: Correspondence

Action Type: REMEDIATION
Date : 2005-01-31 00:00:00
Action: Excavation

Action Type: ENFORCEMENT
Date : 2004-05-10 00:00:00
Action: Cost Recovery Agreement / N. of Reimbursement

Action Type: Other
Date : 1999-11-01 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1999-11-01 00:00:00
Action: Leak Discovery

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Site Assessment
Status Date: 2009-06-02 00:00:00

Status: Open - Remediation
Status Date: 2005-01-31 00:00:00

Status: Open - Site Assessment
Status Date: 2002-08-01 00:00:00

Status: Open - Case Begin Date
Status Date: 2002-08-01 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: Mona Behrooz
Phone Number: 9517823237
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: mehrnoosh.behrooz@waterboards.ca.gov
Address: 3737 Main St, Suite 500
City: RIVERSIDE

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:
CUF Claim:
CUF Priority Assign:
CUF Amount Paid:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=SL0605942036
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 6/2/2009
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL0605942036&tabname=regulatoryhistory
Potential COC: TETRACHLOROETHYLENE (PCE)
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
WDR Place Type:
WDR File:
WDR Order:
File Location: REGIONAL BOARD

Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: SL0605942036
CASEWORKER: Mona Behrooz
ORANGE COUNTY - CASE #: 05IC001

Site History:

The former Silver Dry Cleaners, which operated for 16 years (1982-1998), was located in Suite "S" (or Suite 698) of the former Saddleback Valley Plaza. Chlorinated solvents, primarily tetrachloroethylene (PCE), were first identified in soil by Hemphill, Green & Associates, LLC (HGA) in November 1999. Soil vapor sampling results from HGA's investigation indicated that PCE was present at concentrations up to 13,000 micrograms per liter (µg/l) at 2 feet below ground surface (bgs), and 5,700 µg/l at 5 feet bgs, beneath the former dry cleaner space. No other volatile organic compounds (VOCs) were detected in the soil vapor samples.

Between September 2002 and late 2003, several additional soil and groundwater investigations were conducted in the vicinity of the Site. The bulk of the PCE contamination in both the vadose and saturated zones was centered on the location of the former dry cleaners. The investigations consisted of soil and groundwater sampling from borings that were advanced to depths ranging from 26 to 49 feet bgs. The maximum PCE concentration found in the soil was 370 IJg/kg. The highest concentration of PCE in groundwater was 4,100 !Jg/L (geoprobe location GP-7), found in the footprint of the former dry cleaning facility, while the second highest concentration of PCE in groundwater was detected in a boring located 120 feet east of the tenant cluster (1 ,000 IJg/L at GP-11).

In 2005, under the oversight of staff from the Orange County Health Care Agency (OCHCA), England Geoscience (EG) conducted a source area excavation at the Site. Approximately 623 cubic yards of soil were removed by successive excavations, in accordance with the OCHCA- approved cleanup goal of 50 µg/kg of PCE.

At the completion of the major excavation phase, EG reported that the remedial excavation had succeeded in removing all of the PCE-impacted soil that had been identified at the Site, with the exception of one small, visibly discolored area on the western wall (at 7 feet bgs) of the deepest northwestern portion of the excavation. This residual PCE-impacted soil, which was identified by a sample containing 91 µg/kg PCE, was estimated by EG to have a volume of less than 20 cubic feet. Following the remedial excavation, concentrations of PCE in groundwater in the vicinity of GP-7 dropped from a historical maximum of 4,100 µg/L (GP-7, 2004) to 44 µg/L (monitoring well MW-1, 2012), a greater than 99% reduction. PCE concentrations in the vicinity of GP-11, however, dropped from a maximum of 1,000 µg/L (GP-11, 2004) to 280 µg/L (MW-3, 4012), only a 70% reduction.

On June 5, 2013, Regional Board staff request additional investigation of soil and groundwater in the vicinity of GP-11 and the area between the former dry cleaners and MW-3. We also requested that you investigate the potential existence of a secondary contaminant source zone. In response, the Supplemental Soil and Groundwater Investigation was conducted to further delineate the extent of soil and groundwater contamination in that area in June 2013. In the September 2013 report, we found the following elements of the report noteworthy:
- There is an apparent trend of increasing PCE concentrations in groundwater in the southeastern portion of the Site that may indicate that the plume is migrating
offsite.
- Elevated concentrations of PCE (240 µg/L) were detected in grab groundwater samples at location GW-30, which is approximately 120 feet cross-gradient of the
former dry cleaners, and approximately 60 feet from the Site's eastern property boundary, and a concentration of 150 µg/L was detected directly between the
former dry cleaners and MW-3.
- PCE was detected in a soil sample collected from the borehole at sampling location GW-29.

Based on the additional grab groundwater samples and second quarter 2015 groundwater monitoring event, groundwater flow direction is to the south/southwest with 0.005 to 0.013 ft/ft.

Cleanup Program Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION ***Begin Date:*** 1/31/2005
Phase: Soil ***End Date:*** 3/10/2005
Description: OCHCA oversaw excavation of the contaminated soil. Contaminated soil hauled to Chemical Waste Management's Facility in Kettlemen Hills, CA
Contaminant Mass Removed:

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date:
Received Issue Date:
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Action Type: Other Regulatory Actions

Action Date:
Received Issue Date:
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Action Type: Other Regulatory Actions
Action Date: 6/27/2018
Received Issue Date: 6/27/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6362460&temptable=ENFORCEMENT
Title Description Comments:

RE The Results of Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 6/6/2018
Received Issue Date: 6/6/2018
Action: Annual Estimation Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6360327&temptable=ENFORCEMENT
Title Description Comments:

The Orchard Shopping Center

Action Type: Other Regulatory Actions
Action Date: 1/2/2018
Received Issue Date: 1/2/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344587&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 11/9/2017
Received Issue Date: 11/9/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344101&temptable=ENFORCEMENT
Title Description Comments:

RE Third Quarter 2017 Groundwater Monitoring Report

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link:
Title Description Comments:

Annual Cost Estimate

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319795&temptable=ENFORCEMENT
Title Description Comments:

Annual Cost Estimate

Action Type: Other Regulatory Actions
Action Date: 5/4/2017
Received Issue Date: 5/4/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319074&temptable=ENFORCEMENT
Title Description Comments:

RE Data Transmittal Report- Supplemental Groundwater Investigation Report

Action Type: Other Regulatory Actions
Action Date: 11/30/2016
Received Issue Date: 11/30/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6304785&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Groundwater Treatability Study

Action Type: Other Regulatory Actions
Action Date: 11/15/2016
Received Issue Date: 11/15/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6303568&temptable=ENFORCEMENT
Title Description Comments:

RE Work Plan for Supplemental Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6295302&temptable=ENFORCEMENT
Title Description Comments:

OTP-Silver Cleaners Meeting Summary

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290667&temptable=ENFORCEMENT
Title Description Comments:

Request for the most updated CSM

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290666&temptable=ENFORCEMENT
Title Description Comments:

Re: Work Plan for the Sanitary Sewer Survey and Piezometer Installation

Action Type: Agreements
Action Date: 6/28/2016
Received Issue Date: 6/28/2016
Action: Cost Recovery Agreement / N. of Reimbursement

Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6289587&temptable=ENFORCEMENT
Title Description Comments:

Annual Cost Estimation Letter

Action Type: Other Regulatory Actions
Action Date: 4/7/2015
Received Issue Date: 4/7/2015
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6241237&temptable=ENFORCEMENT
Title Description Comments:

Concurrence with Work Plan for Additional Groundwater Investigation

Action Type: Response Requested - Workplans
Action Date: 3/31/2015
Received Issue Date: 3/31/2015
Action: Soil and Water Investigation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5836895
Title Description Comments:

Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 12/29/2014
Received Issue Date: 12/29/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6231923&temptable=ENFORCEMENT
Title Description Comments:

COMMENTS ON THE OCTOBER 2014 DATA TRANSMITTAL REPORT FOR THE PRELIMINARY SOIL VAPOR SAMPLING PROGRAM

Action Type: Other Regulatory Actions
Action Date: 10/3/2014
Received Issue Date: 10/3/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6223439&temptable=ENFORCEMENT
Title Description Comments:

COMMENTS ON THE SEPTEMBER 2014 PREMINARY SOIL VAPOR INVESTIGATION WORK PLAN

Action Type: Other Regulatory Actions
Action Date: 6/26/2014
Received Issue Date: 6/26/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6209918&temptable=ENFORCEMENT
Title Description Comments:

Comments on the June 2014 Supplemental Site Assessment

Action Type: Other Regulatory Actions
Action Date: 2/27/2014
Received Issue Date: 2/27/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6193965&temptable=ENFORCEMENT
Title Description Comments:

Comments on 10FEB14 Work Plan for Supplemental GW Investigation

Action Type: Other Regulatory Actions
Action Date: 11/14/2013
Received Issue Date: 11/14/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6182689&temptable=ENFORCEMENT
Title Description Comments:

Comments on Supplemental GW Investigation (plus revised version)

Action Type: Agreements
Action Date: 6/21/2013
Received Issue Date: 6/21/2013
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165233&temptable=ENFORCEMENT
Title Description Comments:

ANNUAL ESTIMATE FOR COST RECOVERY LETTER

Action Type: Other Regulatory Actions
Action Date: 6/5/2013
Received Issue Date: 6/5/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165218&temptable=ENFORCEMENT
Title Description Comments:

COMMENTS ON THE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION

Action Type: Other Regulatory Actions
Action Date: 4/10/2013
Received Issue Date: 4/10/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384&temptable=ENFORCEMENT
Title Description Comments:

COMMENT ON THIRD QUARTER 2012 GROUNDWATER MONITORING REPORT

Action Type: Other Regulatory Actions
Action Date: 4/10/2013
Received Issue Date: 4/10/2013
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Comment on Third Quarter 2012 Groundwater Monitoring Report

Action Type: Response Requested - Other
Action Date: 12/21/2012
Received Issue Date: 1/11/2013
Action: Correspondence
Doc Link:
Title Description Comments:

signed Cost Recovery agreement (change in RP)

Action Type: Agreements
Action Date: 12/10/2012
Received Issue Date: 12/10/2012
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link:
Title Description Comments:

New Cost Recovery Agreement for new property owner/responsible party. Sent email to Bill Kugel of Schottenstein Property Group (new property owner)with info on the cost recovery program with an agreement and fee title form for signature.

Action Type: Response Requested - Reports
Action Date: 10/15/2012
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

3rd Quarter 2012 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 7/15/2012
Received Issue Date: 1/30/2013
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725887
Title Description Comments:

2nd Quarter 2012 Groundwater Monitoring Report

Action Type: Agreements
Action Date: 6/22/2012
Received Issue Date: 6/22/2012
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6126431&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate for Cost Recovery letter

Action Type: Response Requested - Reports
Action Date: 4/15/2012
Received Issue Date: 5/14/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725886
Title Description Comments:

1st Quarter 2012 Groundwater Monitoring Report - PCE 270 ppb at MW-3, PCE 7.5 ppb at MW-4

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730110
Title Description Comments:

2nd Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730111
Title Description Comments:

3rd Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730109

Title Description Comments:

1st Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/15/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725885
Title Description Comments:

Well installation and 4th Quarter 2011 Groundwater Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 11/18/2011
Received Issue Date: 11/18/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6104534&temptable=ENFORCEMENT
Title Description Comments:

Response to Well Installation and 4th Quarter 2010 Groundwater Monitoring report

Action Type: Response Requested - Reports
Action Date: 9/6/2011
Received Issue Date: 9/6/2011
Action: Soil and Water Investigation Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5721902
Title Description Comments:

Well Installation and Fourth Quarter 2010 Groundwater Monitoring Report

Action Type: Agreements
Action Date: 5/26/2011
Received Issue Date: 5/26/2011
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6087980&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate letter

Action Type: Other Regulatory Actions
Action Date: 10/25/2010
Received Issue Date: 10/25/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant Ann Loomis of PES Env. checking status of my review of Oct. 8, 2010 Addendum. They are proposing to collect additional groundwater grab samples South of sample GW-20 (450 ug/l PCE). I told her that I had no objections to them proceeding with collection of the GW samples. Ann said they were planning do the field work on Thursday October 28, 2010.

Action Type: Response Requested - Reports
Action Date: 7/6/2010
Received Issue Date: 10/13/2010
Action: Site Assessment Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5698804
Title Description Comments:

Addendum to Work Plan for Additonal Groundwater Investigation - June 14 and 15, 2010, PES advanced eight borings at five locations. The three CPT boreholes were advanced to approximately 70 feet below ground surface (bgs) for lithologic characterization. Another borehole was advance at each CPT location for collection of groundwater samples. Tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in groundwater sample GW-20-21 (collected at 21 feet bgs) at concentration of 450 microgram/liter (µg/l) and 11 µg/l respectively. PCE and TCE were also detected in groundwater sample CPTGW-2-20 located north of the GW-20-21 samples. The results were at 200 µg/l for and 330 µg/l for PCE, and 7.4 and 9.3 µg/l for TCE. The

recommendations in the addendum are to advance three additional borings for collection of groundwater samples and one CPT boring for lithologic characterization

Action Type: Other Regulatory Actions
Action Date: 6/2/2010
Received Issue Date: 6/2/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant Ann Loomis of PES. Scheduling drilling for mid June. Ann said she had received authorization to implement the work plan and is planning to be drilling by mid-June and is still on track to submit the report by the due date in our concurrence letter.

Action Type: Agreements
Action Date: 5/25/2010
Received Issue Date: 5/25/2010
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6052001&temptable=ENFORCEMENT
Title Description Comments:

Annual Estimate for Cost Recovery letter

Action Type: Other Regulatory Actions
Action Date: 5/19/2010
Received Issue Date: 5/19/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant. Implementation of work plan maybe delayed. The client has internally appoved the proposal to implement the work plan. However they are having some financial difficulties and will need to borrow funds to implement the work plan. They are currently applying for a loan. Unknown how long of a delay this will be.

Action Type: Other Regulatory Actions
Action Date: 4/28/2010
Received Issue Date: 4/28/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6049495&temptable=ENFORCEMENT
Title Description Comments:

Response to Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 1/28/2010
Received Issue Date: 1/28/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Contacted consultant and she stated that the work plan was posted to GeoTracker today.

Action Type: Response Requested - Workplans
Action Date: *12/15/2009
Received Issue Date: 1/28/2010
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5659820
Title Description Comments:

Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 11/3/2009

Received Issue Date: 11/3/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6035013&temptable=ENFORCEMENT
Title Description Comments:

COMMENTS ON GROUNDWATER INVESTIGATION REPORT FOR FORMER SILVER DRY CLEANERS

Action Type: Other Regulatory Actions
Action Date: 10/7/2009
Received Issue Date: 10/7/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6032166&temptable=ENFORCEMENT
Title Description Comments:

Change in RB program manager

Action Type: Response Requested - Reports
Action Date: 8/3/2009
Received Issue Date: 8/18/2009
Action: Site Investigation
Doc Link:
Title Description Comments:

Groundwater Investigation Report

Action Type: Other Regulatory Actions
Action Date: 6/30/2009
Received Issue Date: 6/30/2009
Action: Site Visit / Inspection / Sampling
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031966&temptable=ENFORCEMENT
Title Description Comments:

Site Inspection Report

Action Type: Other Regulatory Actions
Action Date: 6/2/2009
Received Issue Date: 6/2/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6015558&temptable=ENFORCEMENT
Title Description Comments:

Approval of Groundwater Investigation Work Plan

Action Type: Response Requested - Workplans
Action Date: 5/15/2009
Received Issue Date: 5/15/2009
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5641093
Title Description Comments:

Groundwater Investigation Work Plan - Reviewed the work plan and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 5/12/2009
Received Issue Date: 5/12/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031967&temptable=ENFORCEMENT
Title Description Comments:

Record of Communication

Action Type: Other Regulatory Actions
Action Date: 4/23/2009
Received Issue Date: 4/23/2009
Action: Site Visit / Inspection / Sampling
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031964&temptable=ENFORCEMENT
Title Description Comments:

Site Inspection Report

Action Type: Other Regulatory Actions
Action Date: 3/12/2009
Received Issue Date: 3/12/2009
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031951&temptable=ENFORCEMENT
Title Description Comments:

Meeting Summary Report

Action Type: Response Requested - Other
Action Date: 6/15/2005
Received Issue Date: 6/15/2005
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5652152
Title Description Comments:

Orange County Health Care Agency Case Closure for the Soil

Action Type: Cleanup Action
Action Date: 1/31/2005
Received Issue Date:
Action: Excavation
Doc Link:
Title Description Comments:

OCHCA oversaw excavation of the contaminated soil. Contaminated soil hauled to Chemical Waste Management's Facility in Kettlemen Hills, CA

Action Type: Agreements
Action Date: 5/10/2004
Received Issue Date: 5/10/2004
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6144119&temptable=ENFORCEMENT
Title Description Comments:

Oversight Cost Reimbursement for Spill, Leaks, Investigations and Cleanups (SLIC)Program

Action Type: Leak Action
Action Date: 11/1/1999
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 11/1/1999
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports ***Submitted:***
Document Date: 10/15/2018 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 23,698 KB
Title: THIRD QUARTER 2018 GROUNDWATER MONITORING AND WELL COMPLETION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3789908289/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports ***Submitted:***
Document Date: 7/31/2018 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 9,953 KB
Title: SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9605713129/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 6/27/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE THE RESULTS OF GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6362460
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents ***Submitted:***
Document Date: 6/6/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: THE ORCHARD SHOPPING CENTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6360327
Type: ANNUAL ESTIMATION LETTER

Document Type: Monitoring Reports ***Submitted:***
Document Date: 4/30/2018 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 9,731 KB
Title: FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3942270100/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 4/30/2018 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 8,603 KB
Title: RESULTS OF GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2175657808/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Monitoring Reports ***Submitted:***
Document Date: 1/31/2018 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 10,797 KB
Title: FOURTH QUARTER 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3309860467/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents ***Submitted:***
Document Date: 1/2/2018 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344587
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents ***Submitted:***
Document Date: 12/20/2017 ***Submitted By:*** ANN LOOMIS (AUTH_RP)
Size : 5,412 KB
Title: WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6421148896/SL0605942036.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Site Documents ***Submitted:***
Document Date: 11/9/2017 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :

Title: RE THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344101
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/13/2017 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 11,420 KB
Title: THIRD QUARTER 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5123153924/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/14/2017 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 13,590 KB
Title: SECOND QUARTER 2017 MONITORING AND WELL COMPLETION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2371725678/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ANNUAL COST ESTIMATE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319795
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 5/4/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE DATA TRANSMITTAL REPORT- SUPPLEMENTAL GROUNDWATER INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319074
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/13/2017 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 10,974 KB
Title: FIRST QUARTER 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1946466267/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 2/28/2017 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 13,725 KB
Title: SUPPLEMENTAL GROUNDWATER INVESTIGATION AND FOURTH QUARTER 2016 MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7818197846/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 11/30/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR GROUNDWATER TREATABILITY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6304785
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/15/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6303568
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/3/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 7,871 KB
Title: WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION AND GROUNDWATER TREATABILITY STUDY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5963568329/SL0605942036.PDF
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**

Document Date: 10/20/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 14,078 KB
Title: THIRD QUARTER 2016
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6499601900/SL0605942036.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 8/17/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: OTP-SILVER CLEANERS MEETING SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6295302
Type: MEETING

Document Type: Site Documents **Submitted:**
Document Date: 8/8/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 15,697 KB
Title: PRELIMINARY CONCEPTUAL SITE MODEL
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3292967379/SL0605942036.PDF
Type: CONCEPTUAL SITE MODEL

Document Type: Site Documents **Submitted:**
Document Date: 7/5/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE: WORK PLAN FOR THE SANITARY SEWER SURVEY AND PIEZOMETER INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290666
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 7/5/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REQUEST FOR THE MOST UPDATED CSM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290667
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/28/2016 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ANNUAL COST ESTIMATION LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6289587
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Site Documents **Submitted:**
Document Date: 5/27/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,647 KB
Title: WORK PLAN FOR SANITARY SEWER SURVEY AND PIEZOMETER INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6361872076/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/23/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 9,477 KB
Title: FIRST QUARTER 2016
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5727434158/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 2/8/2016 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 8,607 KB
Title: FOURTH QUARTER 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2023841559/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/30/2015 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 8,032 KB
Title: THIRD QUARTER 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8732172369/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 7/8/2015 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 14,283 KB
Title: DATA TRANSMITTAL REPORT ADDITIONAL GROUNDWATER INVESTIGATION AND SECOND QUARTER 2015 MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7693129122/SL0605942036.PDF
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 4/7/2015 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: CONCURRENCE WITH WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6241237
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 3/31/2015 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5836895
Type: SOIL AND WATER INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 12/29/2014 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON THE OCTOBER 2014 DATA TRANSMITTAL REPORT FOR THE PRELIMINARY SOIL VAPOR SAMPLING PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6231923
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/29/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,393 KB
Title: DATA TRANSMITTAL REPORT, PRELIMINARY SOIL VAPOR SAMPLING PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9946157872/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/29/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 7,766 KB
Title: THIRD QUARTER 2014 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2940126538/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 10/3/2014 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON THE SEPTEMBER 2014 PREMINARY SOIL VAPOR INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6223439
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/17/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,554 KB
Title: WORK PLAN, PRELIMINARY SOIL VAPOR INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8303536593/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 8/7/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 7,754 KB
Title: SECOND QUARTER 2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2610385954/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 6/26/2014 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON THE JUNE 2014 SUPPLEMENTAL SITE ASSESSMENT

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6209918
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/6/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 13,124 KB
Title: RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3336032927/SL0605942036.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 2/27/2014 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON 10FEB14 WORK PLAN FOR SUPPLEMENTAL GW INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6193965
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 2/10/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,509 KB
Title: WORK PLAN FOR SUPPLEMENTAL SITE ASSESSMENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8160483658/SL0605942036.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/15/2014 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,880 KB
Title: FOURTH QUARTER 2013 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1820056974/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 11/14/2013 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON SUPPLEMENTAL GW INVESTIGATION (PLUS REVISED VERSION)
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6182689
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/26/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 7,510 KB
Title: SUPPLEMENTAL GROUNDWATER INVESTIGATION AND THIRD QUARTER 2013 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2391602993/SL0605942036.PDF
Type: SITE INVESTIGATION COMPLETE

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/15/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 5,077 KB
Title: SECOND QUARTER 2013 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9045621752/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 6/21/2013 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: ANNUAL ESTIMATE FOR COST RECOVERY LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165233
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Site Documents **Submitted:**
Document Date: 6/5/2013 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENTS ON THE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165218
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**

Document Date: 5/20/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,408 KB
Title: WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2136170864/SL0605942036.PDF
Type: SITE INVESTIGATION WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/15/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 1,763 KB
Title: FIRST QUARTER 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8085130214/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 4/10/2013 **Submitted By:** TOMAS EGGERS (REGULATOR)
Size :
Title: COMMENT ON THIRD QUARTER 2012 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 3/29/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,081 KB
Title: FOURTH QUARTER 2012 GROUNDWATER MONITORING REPORTS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1634507656/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 3/28/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,135 KB
Title: THIRD QUARTER 2012 GROUNDWATER MONITORING REPORTS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6024644374/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/11/2013 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,335 KB
Title: SECOND QUARTER 2012 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6742326259/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 6/22/2012 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: ANNUAL ESTIMATE FOR COST RECOVERY LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6126431
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/10/2012* **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,545 KB
Title: FIRST QUARTER 2012 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5360356152/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/20/2012 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,221 KB
Title: WELL INSTALLATION AND FOURTH QUARTER 2011 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2711165666/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/19/2012 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,327 KB
Title: THIRD QUARTER 2011 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5469258129/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/18/2012 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,659 KB
Title: SECOND QUARTER 2011 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9672789812/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/17/2012 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,143 KB
Title: FIRST QUARTER 2011 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4158477067/SL0605942036.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents **Submitted:**
Document Date: 11/18/2011 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: RESPONSE TO WELL INSTALLATION AND 4TH QUARTER 2010 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6104534
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/1/2011 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 12,894 KB
Title: WELL INSTALLATION AND FOURTH QUARTER 2010 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4810480773/SL0605942036.PDF
Type: WELL INSTALLATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 5/26/2011 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: ANNUAL ESTIMATE LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6087980
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Site Documents **Submitted:**
Document Date: 10/8/2010 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,033 KB
Title: ADDENDUM TO WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9087571501/SL0605942036.PDF
Type: WELL INSTALLATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 5/25/2010 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: ANNUAL ESTIMATE FOR COST RECOVERY LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6052001
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Document Type: Site Documents **Submitted:**
Document Date: 4/28/2010 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: RESPONSE TO WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6049495
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 1/15/2010 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 3,563 KB
Title: WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1001657068/SL0605942036.PDF
Type: WELL INSTALLATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 11/3/2009 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: COMMENTS ON GROUNDWATER INVESTIGATION REPORT FOR FORMER SILVER DRY CLEANERS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6035013
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/17/2009 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 11,013 KB
Title: GROUNDWATER INVESTIGATION REPORT (PART 2)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7822928190/SL0605942036.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 10/17/2009 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 4,876 KB
Title: GROUNDWATER INVESTIGATION REPORT (PART 1)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1802758336/SL0605942036.PDF
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 10/7/2009 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: CHANGE IN RB PROGRAM MANAGER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6032166
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/17/2009 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 863 KB
Title: ADDENDUM TO GROUNDWATER INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6583284676/SL0605942036.PDF
Type: SOIL AND WATER INVESTIGATION WORKPLAN - ADDENDUM

Document Type: Site Documents **Submitted:**
Document Date: 6/30/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: SITE INSPECTION REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031966
Type: SITE VISIT / INSPECTION / SAMPLING

Document Type: Site Documents **Submitted:**
Document Date: 6/2/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: APPROVAL OF GROUNDWATER INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6015558
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/15/2009 **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 5,673 KB
Title: GROUNDWATER INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9183938443/SL0605942036.PDF
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 5/15/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: GROUNDWATER INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5641093
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: RECORD OF COMMUNICATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031967
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 4/23/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: SITE INSPECTION REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031964

Type: SITE VISIT / INSPECTION / SAMPLING

Document Type: Site Documents **Submitted:**
Document Date: 3/12/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: MEETING SUMMARY REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031951
Type: MEETING

Document Type: Site Documents **Submitted:**
Document Date: 6/15/2005 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: ORANGE COUNTY HEALTH CARE AGENCY CASE CLOSURE FOR THE SOIL - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5652152
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 5/10/2004 **Submitted By:** PATRICIA HANNON (REGULATOR)
Size :
Title: OVERSIGHT COST REIMBURSEMENT FOR SPILL, LEAKS, INVESTIGATIONS AND CLEANUPS (SLIC)PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6144119
Type: COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: BORING LOG MW-2 (MW-2) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 78 KB **Submitted:** 8/24/2011
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9158246636/SL0605942036.PDF

Title: GEO_MAP **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 1,564 KB **Submitted:** 10/12/2013
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7910204052/SL0605942036.PDF

Title: RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-8) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 125 KB **Submitted:** 6/9/2014
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8984635829/SL0605942036.PDF

Title: RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-9) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 127 KB **Submitted:** 6/9/2014
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8334001660/SL0605942036.PDF

Title: BORING LOG MW-1 (MW-1) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 74 KB **Submitted:** 8/24/2011
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5935260832/SL0605942036.PDF

Title: BORING LOG MW-3 (MW-3) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 75 KB **Submitted:** 8/24/2011
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8090585291/SL0605942036.PDF

Title: RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-7) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 135 KB **Submitted:** 6/9/2014
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6342043042/SL0605942036.PDF

Title: 2013 SUPPLEMENTAL GROUNDWATER INVESTIGATION (MULTIPLE) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 445 KB **Submitted:** 10/12/2013
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3997582614/SL0605942036.PDF

Title: BORING LOG MW-2D (MW-2D) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 145 KB **Submitted:** 1/23/2012
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1980466485/SL0605942036.PDF

Title: BORING LOG MW-4 (MW-4) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 75 KB **Submitted:** 8/24/2011
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8937220275/SL0605942036.PDF

Title: RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-6) **Submitted By:** ANN LOOMIS (AUTH_RP)
Size : 127 KB **Submitted:** 6/9/2014
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8670325994/SL0605942036.PDF

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Site Assessment
Date : 6/2/2009

Status: Open - Remediation
Date : 1/31/2005

Status: Open - Case Begin Date
Date : 8/1/2002

Status: Open - Site Assessment
Date : 8/1/2002

27	1 of 1	SSW	0.31 / 1,613.98	389.22 / -11	TEXACO 23751 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605900581 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.6178674
Status Date: 1991-05-06 00:00:00 **Longitude:** -117.7040457
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083000732T **Potential COC:** Gasoline, Waste Oil / Motor / Hydraulic / Lubricating
Local Case Number: 86UT218 **How Discovered:** Tank Closure
Begin Date: 1986-11-13 00:00:00 **Stop Method:** Close and Remove Tank
Lead Agency: ORANGE COUNTY LOP **Stop Description:**
Local Agency: ORANGE COUNTY LOP **Case Worker:** KL
CUF Case: YES **File Location:** Local Agency
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1991-05-01 00:00:00
Action: Closure/No Further Action Letter

Action Type: REMEDIATION
Date : 1989-05-19 00:00:00

Action: Other (Use Description Field)

Action Type: Other
Date : 1986-11-13 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1986-11-13 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Regional Board Caseworker
Contact Name: ROSE SCOTT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: rose.scott@waterboards.ca.gov
Phone Number: 9513206375

Status History

Status: Completed - Case Closed
Status Date: 1991-05-06 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-11-13 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: TEXACO
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE, WASTE OIL / MOTOR / HYDRAULIC / LUBRICATING
WDR Place Type:
WDR File:
WDR Order:
Address: 23751 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 6149
CUF Priority Assig: D
CUF Amount Paid: $224,673

File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900581
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/6/1991
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900581&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 86UT218
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083000732T
CASEWORKER: ROSE SCOTT
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 5/6/1991

Status: Open - Case Begin Date
Date : 11/13/1986

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: OTHER (USE DESCRIPTION FIELD)
Phase:
Contaminant Mass Removed:
Description:
Begin Date: 5/19/1989
End Date: 10/22/1990

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/1/1991
Received Issue Date: 5/1/1991
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900581&enforcement_id=6204879&tempt able=ENFORCEMENT

Action Type: Cleanup Action
Action Date: 5/19/1989
Received Issue Date:
Action: Other (Use Description Field)
Doc Link:

Action Type: Leak Action
Action Date: 11/13/1986
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 11/13/1986
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents
Document Date: 5/1/1991
Type: CLOSURE/NO FURTHER ACTION LETTER
Size :
Submitted By: PAMELA YBARRA (REGULATOR)
Submitted:
Title: NFA LETTER AND CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900581&enforcement_id=6204879

28	1 of 1	SSW	0.35 / 1,831.42	389.51 / -11	SHELL OIL 23751 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605986985
Status: COMPLETED - CASE CLOSED
Status Date: 2013-01-10 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.617528403
Longitude: -117.704743511

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:
Local Case Number: 03UT020
Begin Date: 2003-04-24 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Potential COC: Gasoline
How Discovered: UST System Modification
Stop Method: Other Means
Stop Description:
Case Worker: KL
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2013-05-17 00:00:00
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 2013-05-17 00:00:00
Action: LOP Case Closure Summary to RB

Action Type: ENFORCEMENT
Date : 2013-03-25 00:00:00
Action: Notification - Preclosure

Action Type: ENFORCEMENT
Date : 2013-01-17 00:00:00
Action: Notification - Public Notice of Case Closure

Action Type: ENFORCEMENT
Date : 2012-10-24 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2011-11-17 00:00:00
Action: File Review - Closure

Action Type: ENFORCEMENT
Date : 2011-01-20 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2009-07-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-03-16 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-02-26 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-01-24 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-12-11 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-01-03 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-12-08 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2003-08-21 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-08-18 00:00:00
Action: Soil and Water Investigation Workplan

Action Type: RESPONSE
Date : 2003-06-02 00:00:00
Action: Other Report / Document

Action Type: ENFORCEMENT
Date : 2003-05-13 00:00:00
Action: * Corrective Action Orders

Action Type: ENFORCEMENT
Date : 2003-05-13 00:00:00
Action: Notice of Responsibility

Action Type: Other
Date : 2003-04-28 00:00:00
Action: Leak Reported

Action Type: Other
Date : 2003-04-24 00:00:00
Action: Leak Discovery

Action Type: ENFORCEMENT
Date : 1899-12-30 07:14:09
Action: Staff Letter

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Status History

Status: Completed - Case Closed
Status Date: 2013-01-10 00:00:00

Status: Open - Eligible for Closure
Status Date: 2013-01-10 00:00:00

Status: Open - Site Assessment
Status Date: 2004-03-22 00:00:00

Status: Open - Case Begin Date
Status Date: 2003-04-24 00:00:00

Status: Open - Site Assessment
Status Date: 2003-04-24 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	SHELL OIL	***Address:***	23751 EL TORO
Site Facility Type:	LUST CLEANUP SITE	***City:***	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	***Zip:***	92630
Project Status:		***County:***	ORANGE
Potential COC:	GASOLINE	***CUF Claim:***	
WDR Place Type:		***CUF Priority Assig:***	
WDR File:		***CUF Amount Paid:***	
WDR Order:			

File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605986985
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 1/10/2013
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605986985&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use:
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 03UT020
CASEWORKER: KEVIN LAMBERT
SAN DIEGO RWQCB (REGION 9)
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Eligible for Closure
Date : 1/10/2013

Status: Completed - Case Closed
Date : 1/10/2013

Status: Open - Site Assessment
Date : 3/22/2004

Status: Open - Site Assessment
Date : 4/24/2003

Status: Open - Case Begin Date
Date : 4/24/2003

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/17/2013
Received Issue Date: 5/17/2013
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159429&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/17/2013
Received Issue Date: 5/17/2013
Action: LOP Case Closure Summary to RB
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159430&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 3/25/2013
Received Issue Date: 3/25/2013

Action: Notification - Preclosure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6153225&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147542&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147541&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147539&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147543&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147540&tempt able=ENFORCEMENT

Action Type: Notices
Action Date: 1/17/2013
Received Issue Date: 1/17/2013
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147538&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/24/2012
Received Issue Date: 10/24/2012
Action: Technical Correspondence / Assistance / Other
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 11/17/2011
Received Issue Date: 11/17/2011
Action: File Review - Closure
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/20/2011
Received Issue Date: 1/20/2011
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7/14/2009
Received Issue Date: 7/14/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6021012&tempt

able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 3/16/2007
Received Issue Date: 3/16/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 2/26/2007
Received Issue Date: 2/26/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/24/2007
Received Issue Date: 1/24/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 12/11/2006
Received Issue Date: 12/11/2006
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/3/2006
Received Issue Date: 1/3/2006
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Reports
Action Date: 12/8/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Report
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 8/21/2003
Received Issue Date: 8/21/2003
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 8/18/2003
Received Issue Date: 8/13/2003
Action: Soil and Water Investigation Workplan
Doc Link:

Action Type: Response Requested - Other
Action Date: 6/2/2003
Received Issue Date: 1/1/1965
Action: Other Report / Document
Doc Link:

Action Type: Notices
Action Date: 5/13/2003
Received Issue Date: 5/13/2003
Action: Notice of Responsibility
Doc Link:

Action Type: Enforcement/Orders
Action Date: 5/13/2003
Received Issue Date: 5/13/2003
Action: * Corrective Action Orders
Doc Link:

Action Type: Leak Action

Action Date: 4/28/2003
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 4/24/2003
Received Issue Date:
Action: Leak Discovery
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7:14:09 AM
Received Issue Date: 7:14:09 AM
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6020931&temptable=ENFORCEMENT

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3376545011/T0605986985.PDF
Size : 167 KB
Submitted By: GHD (CONTRACTOR)
Submitted: 5/1/2013*

Title: GP-1 (GP-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2804581642/T0605986985.PDF
Size : 55 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: GP-2 (GP-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7599015235/T0605986985.PDF
Size : 55 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: GP-3 (GP-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3787515223/T0605986985.PDF
Size : 53 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: MW-1 (MW-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2386806666/T0605986985.PDF
Size : 46 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: B-2 (B-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2800554573/T0605986985.PDF
Size : 46 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: MW-3 (MW-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8121257960/T0605986985.PDF
Size : 48 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: MW-2 (MW-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1269078135/T0605986985.PDF
Size : 48 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: B-1 (B-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6413345813/T0605986985.PDF
Size : 47 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: GEO_BORE (MW-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3207198917/T0605986985.pdf
Size : 58 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 11/5/2007

Title: GEO_BORE (MW-4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9924244761/T0605986985.pdf
Size : 56 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 11/5/2007

Title: GEO_BORE (MW-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8396471917/T0605986985.pdf
Size : 61 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 11/5/2007

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9279264688/T0605986985.pdf
Size : 66 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/11/2007

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9462186515/T0605986985.pdf
Size : 70 KB
Submitted By: DONNA NGO (CONTRACTOR)
Submitted: 7/29/2004

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 5/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: LOP CASE CLOSURE SUMMARY TO RB **Submitted:**
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159430

Document Type: Site Documents **Size :**
Document Date: 5/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: REMEDIAL ACTION COMPLETION CERTIFICATE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159429

Document Type: Site Documents **Size :** 1,077 KB
Document Date: 5/1/2013 **Submitted By:** GHD (CONTRACTOR)
Type: WELL DESTRUCTION REPORT **Submitted:**
Title: WELL DESTRUCTION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9356540739/T0605986985.PDF

Document Type: Site Documents **Size :**
Document Date: 3/25/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PRECLOSURE **Submitted:**
Title: NOTIFICATION OF PRE-CLOSURE REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6153225

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - BUCHHEIM

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147541

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO INTERESTED PARTIES - LF PLANNING DIVISION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147543

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - SHELL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147538

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO INTERESTED PARTIES (WATER AGENCY)
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147542

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - MCCLELLAND
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147539

Document Type: Site Documents **Size :**
Document Date: 1/17/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - BUCHHEIM PO
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147540

Document Type: Site Documents **Size :** 1,211 KB
Document Date: 1/10/2013* **Submitted By:** GHD (CONTRACTOR)
Type: SENSITIVE RECEPTOR SURVEY REPORT **Submitted:**
Title: ABANDONED GROUNDWATER MONITORING WELL MW-3
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5411069750/T0605986985.PDF

Document Type: Site Documents **Size :** 3,454 KB
Document Date: 10/17/2012 **Submitted By:** GHD (CONTRACTOR)
Type: CLOSURE REPORT **Submitted:**
Title: CLOSURE REQUEST REVISED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2606445252/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 2,821 KB
Document Date: 9/14/2012 **Submitted By:** GHD (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: GROUNDWATER MONITORING REPORT - THIRD QUARTER 2012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9326997280/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,728 KB
Document Date: 3/9/2012 **Submitted By:** GHD (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: GROUNDWATER MONITORING REPORT - FIRST QUARTER 2012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1585865795/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 2,161 KB
Document Date: 9/2/2011 **Submitted By:** GHD (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: GROUNDWATER MONITORING REPORT - THIRD QUARTER 2011
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2171628594/T0605986985.PDF

Document Type: Site Documents **Size :** 3,280 KB
Document Date: 8/12/2011 **Submitted By:** GHD (CONTRACTOR)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6169690728/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 2,338 KB
Document Date: 3/11/2011 **Submitted By:** GHD (CONTRACTOR)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: GROUNDWATER MONITORING REPORT - FIRST QUARTER 2011
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5839826226/T0605986985.PDF

Document Type: Site Documents **Size :** 3,801 KB
Document Date: 11/12/2010 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: ADDITIONAL SITE ASSESSMENT REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8534982264/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 2,319 KB
Document Date: 9/7/2010 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q 2010-GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5154626429/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 2,164 KB
Document Date: 3/9/2010 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q10-GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5080994963/T0605986985.PDF

Document Type: Site Documents **Size :** 359 KB
Document Date: 2/24/2010 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: WORK PLAN FOR ADDITIONAL SITE ASSESSMENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2847222864/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,448 KB
Document Date: 10/21/2009 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q09-GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5516512215/T0605986985.PDF

Document Type: Site Documents **Size :**
Document Date: 7/14/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: REDUCED GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6021012

Document Type: Monitoring Reports **Size :** 1,402 KB
Document Date: 6/1/2009 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2Q09-GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2555034816/T0605986985.PDF

Document Type: Site Documents **Size :** 1,360 KB
Document Date: 5/20/2009 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: 2009-05-20-REVISED SUPPLEMENTAL CASE CLOSURE DOCUMENTS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2709954380/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,366 KB
Document Date: 3/6/2009 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q09-GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9236370265/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,420 KB
Document Date: 12/12/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**

Title: GROUNDWATER MONITORING AND STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8851195394/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,274 KB
Document Date: 9/12/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD Q2008-GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7131302356/T0605986985.PDF

Document Type: Site Documents **Size :** 1,319 KB
Document Date: 9/1/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: SITE CLOSURE REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3289795398/T0605986985.PDF

Document Type: Site Documents **Size :** 1,167 KB
Document Date: 5/30/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 2ND QUARTER 2008-QUARTERLY STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8814488291/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,268 KB
Document Date: 3/19/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7779479086/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 1,180 KB
Document Date: 1/18/2008 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4959028482/T0605986985.PDF

Document Type: Site Documents **Size :** 1,433 KB
Document Date: 11/28/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: QTRLY STATUS RPT - 3Q07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7832992374/T0605986985.PDF

Document Type: Site Documents **Size :** 6,040 KB
Document Date: 11/3/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SITE ASSESSMENT REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2751271128/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 133 KB
Document Date: 7/26/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8097488224/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 124 KB
Document Date: 4/11/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY STATUS REPORT - 1Q07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3301877677/T0605986985.PDF

Document Type: Site Documents **Size :** 32 KB
Document Date: 3/3/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: NOTIFICATION OF WELL STATUS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6152830362/T0605986985.PDF

Document Type: Site Documents **Size :** 319 KB
Document Date: 2/18/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: WORK PLAN FOR WELL REPLACEMENT-REVISED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7460066080/T0605986985.PDF

Document Type: Site Documents **Size :** 76 KB
Document Date: 1/30/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: QUARTERLY STATUS REPORT-4TH QTR 06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4502134025/T0605986985.PDF

Document Type: Site Documents **Size :** 448 KB
Document Date: 1/13/2007 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: WP FOR WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4581235587/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 69 KB
Document Date: 10/28/2006 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7366270303/T0605986985.PDF

Document Type: Site Documents **Size :** 32 KB
Document Date: 9/23/2006 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: NOTIFICATION OF WELL STATUS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6575391471/T0605986985.PDF

Document Type: Site Documents **Size :** 414 KB
Document Date: 7/29/2006 **Submitted By:** WAYNE PERRY, INC. (CONTRACTOR)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: QUARTERLY STATUS REPORT-2ND QTR 06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4151670694/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 461 KB
Document Date: 5/31/2006 **Submitted By:** DONNA NGO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2006 GROUNDWATER MONITORING REPOPRT AND PROJECT STATUS UPDATE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8809049308/T0605986985.PDF

Document Type: Monitoring Reports **Size :** 640 KB
Document Date: 9/28/2005 **Submitted By:** DONNA NGO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q05 STATUS UPDATE REPORT (DATE 9-14-05)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5655286490/T0605986985.PDF

Document Type: Site Documents **Size :**
Document Date: 12/30/1899 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: REDUCED GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6020931

29	1 of 2	SSW	0.36 / 1,897.21	388.23 / -12	SHELL OIL 23751 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0003195 **Case Closed Date:** 5/17/2013
Case ID: 03UT020 **Type of Closure:** Closure certification issued
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

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29	2 of 2	SSW	0.36 / 1,897.21	388.23 / -12	TEXACO 23751 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0001124 **Case Closed Date:** 5/6/1991
Case ID: 86UT218 **Type of Closure:** Closure certification issued
Case Type: S
Case Type Desc: Soil only affected

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Released Substance: Unleaded gasoline
Regular gasoline
Waste oil/Used oil

30	1 of 2	SSW	0.36 / 1,913.69	388.84 / -12	ARCO #3013 23742 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0002116
Case ID: 91UT105
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date:
Type of Closure:

30	2 of 2	SSW	0.36 / 1,913.69	388.84 / -12	ARCO #3013 23742 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605901431
Status: OPEN - SITE ASSESSMENT
Status Date: 2014-10-27 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.6170434666666
Longitude: -117.7042993

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083001923T
Local Case Number: 91UT105
Begin Date: 1991-05-01 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: * SA
Stop Method: Other Means
Stop Description:
Case Worker: SR
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2018-04-16 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2018-03-14 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2017-09-06 00:00:00
Action: Meeting

Action Type: ENFORCEMENT
Date : 2017-07-05 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT

Date : 2017-02-22 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2016-12-30 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2016-07-18 00:00:00
Action: File review

Action Type: RESPONSE
Date : 2015-11-24 00:00:00
Action: Site Investigation Workplan - Regulator Responded

Action Type: RESPONSE
Date : 2015-09-15 00:00:00
Action: Site Investigation Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2014-10-27 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2013-08-13 00:00:00
Action: Notice of Responsibility

Action Type: ENFORCEMENT
Date : 2013-01-02 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2012-12-27 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2012-01-26 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2011-02-08 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2011-01-25 00:00:00
Action: Notification - Public Notice of ROD/RAP/CAP

Action Type: ENFORCEMENT
Date : 2010-04-05 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-09-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-07-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-06-24 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-04-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-08-21 00:00:00

Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-06-29 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 2007-04-03 00:00:00
Action: Dual Phase Extraction

Action Type: ENFORCEMENT
Date : 2007-01-29 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-01-18 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-02-03 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 2005-01-20 00:00:00
Action: Excavation

Action Type: ENFORCEMENT
Date : 2004-10-06 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 1996-09-25 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: REMEDIATION
Date : 1994-04-14 00:00:00
Action: Excavation

Action Type: REMEDIATION
Date : 1991-12-12 00:00:00
Action: Free Product Removal

Action Type: Other
Date : 1991-09-23 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1991-05-01 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: SHYAMALA RAJAGOPAL
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: srajagopal@ochca.com
Phone Number: 7144336262

Contact Type: Regional Board Caseworker
Contact Name: VALERIE JAHN-BULL
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: valerie.jahn-bull@waterboards.ca.gov
Phone Number: 9517824903

Status History

Status: Open - Site Assessment
Status Date: 2014-10-27 00:00:00

Status: Open - Verification Monitoring
Status Date: 2004-08-01 00:00:00

Status: Open - Remediation
Status Date: 1996-09-25 00:00:00

Status: Open - Case Begin Date
Status Date: 1991-05-01 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: ARCO #3013
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: OPEN - SITE ASSESSMENT
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 23742 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 10634
CUF Priority Assig: D
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605901431
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 10/27/2014
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605901431&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use: GW - AGRICULTURAL SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 91UT105
CASEWORKER: SHYAMALA RAJAGOPAL
SANTA ANA RWQCB (REGION 8) - CASE #: 083001923T
CASEWORKER: VALERIE JAHN-BULL
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Site Assessment
Date : 10/27/2014

Status: Open - Verification Monitoring
Date : 8/1/2004

Status: Open - Remediation
Date : 9/25/1996

Status: Open - Case Begin Date
Date : 5/1/1991

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: DUAL PHASE EXTRACTION
Phase: Soil Vapor, Water
Contaminant Mass Removed: 56 Pounds
Description: DPE Pilot Test
Begin Date: 4/3/2007
End Date: 4/4/2007

Action Type: EXCAVATION
Phase: Soil
Contaminant Mass Removed: 30 Tons
Description:
Begin Date: 1/20/2005
End Date: 1/20/2005

Action Type: SOIL VAPOR EXTRACTION (SVE) **Begin Date:** 9/25/1996
Phase: Soil Vapor **End Date:** 8/12/2004
Contaminant Mass Removed: 7,107 Pounds
Description:

Action Type: EXCAVATION **Begin Date:** 4/14/1994
Phase: Soil **End Date:** 4/14/1994
Contaminant Mass Removed: 945 Tons
Description:

Action Type: FREE PRODUCT REMOVAL **Begin Date:** 12/12/1991
Phase: **End Date:** 7/22/1994
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Response Requested - Reports
Action Date: 4/16/2018
Received Issue Date: 4/16/2018
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5962081

Action Type: Other Regulatory Actions
Action Date: 7/5/2017
Received Issue Date: 7/5/2017
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6325366&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 2/22/2017
Received Issue Date: 2/22/2017
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6312390&temptable=ENFORCEMENT

Action Type: Response Requested - Other
Action Date: 12/30/2016
Received Issue Date: 12/30/2016
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5913516

Action Type: Other Regulatory Actions
Action Date: 7/18/2016
Received Issue Date: 7/18/2016
Action: File review
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 11/24/2015
Received Issue Date: 11/24/2015
Action: Site Investigation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5871558

Action Type: Response Requested - Workplans
Action Date: 9/15/2015
Received Issue Date: 9/15/2015
Action: Site Investigation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5860962

Action Type: Other Regulatory Actions
Action Date: 10/27/2014
Received Issue Date: 10/27/2014
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6225910&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 8/13/2013
Received Issue Date: 8/13/2013
Action: Notice of Responsibility
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6171495&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 1/2/2013
Received Issue Date: 1/2/2013
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6146058&temptable=ENFORCEMENT

Action Type: Response Requested - Other
Action Date: 12/27/2012
Received Issue Date: 12/27/2012
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5767512

Action Type: Other Regulatory Actions
Action Date: 1/26/2012
Received Issue Date: 1/26/2012
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 2/8/2011
Received Issue Date: 2/8/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6077258&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 1/25/2011
Received Issue Date: 1/25/2011
Action: Notification - Public Notice of ROD/RAP/CAP
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6075481&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 4/5/2010
Received Issue Date: 4/5/2010
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6047525&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 9/21/2009
Received Issue Date: 9/21/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6030943&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 7/14/2009
Received Issue Date: 7/14/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6021038&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 6/24/2009
Received Issue Date: 6/24/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6018185&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 4/21/2009
Received Issue Date: 4/21/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6010741&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 8/21/2007
Received Issue Date: 8/21/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 6/29/2007
Received Issue Date: 6/29/2007
Action: Staff Letter
Doc Link:

Action Type: Cleanup Action
Action Date: 4/3/2007
Received Issue Date:
Action: Dual Phase Extraction
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/29/2007
Received Issue Date: 1/29/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/18/2007
Received Issue Date: 1/18/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 2/3/2006
Received Issue Date: 2/3/2006
Action: Staff Letter
Doc Link:

Action Type: Cleanup Action
Action Date: 1/20/2005
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 10/6/2004
Received Issue Date: 10/6/2004
Action: Staff Letter
Doc Link:

Action Type: Cleanup Action
Action Date: 9/25/1996
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:

Action Type: Cleanup Action
Action Date: 4/14/1994
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Cleanup Action
Action Date: 12/12/1991

Received Issue Date:
Action: Free Product Removal
Doc Link:

Action Type: Leak Action
Action Date: 9/23/1991
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 5/1/1991
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: HP-1 (HP-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2685983479/T0605901431.PDF
Size : 125 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-5 (VE-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5363273322/T0605901431.PDF
Size : 438 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: B-11A (B-11A)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3104551851/T0605901431.PDF
Size : 362 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-1 (VE-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9381934821/T0605901431.PDF
Size : 412 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-4 (VE-4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8904542922/T0605901431.PDF
Size : 458 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: AV-2 (AV-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4163840949/T0605901431.PDF
Size : 413 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VP-12 (VP 12)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6185905218/T0605901431.PDF
Size : 45 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: MW-2 (MW-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4458304047/T0605901431.PDF
Size : 584 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: MW-3 (MW-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4483068883/T0605901431.PDF

Size : 518 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-7 (VE-7)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7242347419/T0605901431.PDF
Size : 459 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-8 (VE-8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1817465424/T0605901431.PDF
Size : 363 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: AV-3 (AV-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7599481940/T0605901431.PDF
Size : 414 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: B-6 (B-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5711265265/T0605901431.PDF
Size : 225 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: MW-4 (MW-4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9453512787/T0605901431.PDF
Size : 329 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-6 (VE-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8084138870/T0605901431.PDF
Size : 438 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-9 (VE-9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8308534622/T0605901431.PDF
Size : 364 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-3 (VE-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2133047699/T0605901431.PDF
Size : 427 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: AV-1 (AV-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2192857742/T0605901431.PDF
Size : 409 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: AV-5 (AV-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8189058303/T0605901431.PDF
Size : 414 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: AV-4 (AV-4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4927328526/T0605901431.PDF
Size : 412 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VP-9 (VP 9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3902778327/T0605901431.PDF
Size : 46 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VP-10 (VP 10)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9350378632/T0605901431.PDF
Size : 46 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: HP-3 (HP-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8755468964/T0605901431.PDF
Size : 92 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: B-1 (B-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3158072113/T0605901431.PDF
Size : 398 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: B-5 (B-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3903190314/T0605901431.PDF
Size : 426 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VE-10 (VE-10)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5280738532/T0605901431.PDF
Size : 358 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: VP-8 (VP 8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9192283332/T0605901431.PDF
Size : 45 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 3/1/2017

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/4268927216/T0605901431.PDF
Size : 1,069 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 2/17/2017

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5507448494/T0605901431.PDF
Size : 140 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 8/24/2010

Title: B-21 WELL CONSTRUCTION/BORING LOG (B-21)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7883332610/T0605901431.PDF
Size : 183 KB
Submitted By: ARCADIS (AUTH_RP)
Submitted: 8/17/2010

Title: B15 (B-15)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2302074611/T0605901431.PDF
Size : 63 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B8 (B-8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9150926887/T0605901431.PDF

Size : 62 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B14 (B-14)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2161736607/T0605901431.PDF
Size : 61 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B9 (B-9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8811336696/T0605901431.PDF
Size : 64 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B12 (B-12)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1122530281/T0605901431.PDF
Size : 94 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B10 (B-10)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3710497200/T0605901431.PDF
Size : 64 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B13 (B-13)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7577447056/T0605901431.PDF
Size : 93 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: VE2 (VE-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3452867805/T0605901431.PDF
Size : 47 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B11 (B-11)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2983725309/T0605901431.PDF
Size : 95 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: B7 (B-7)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6434856593/T0605901431.PDF
Size : 62 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/15/2009*

Title: GEO_BORE (VE-12)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3312727212/T0605901431.pdf
Size : 65 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 10/4/2007*

Title: GEO_BORE (CB-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3039675652/T0605901431.pdf
Size : 31 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 10/4/2007

Title: GEO_BORE (VE-13)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7575243890/T0605901431.pdf
Size : 66 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 10/4/2007*

Title: GEO_BORE (B-20)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7223996818/T0605901431.pdf
Size : 44 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 10/4/2007*

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2417437493/T0605901431.pdf
Size : 45 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 6/6/2006

Title: GEO_BORE (B-16)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3616027653/T0605901431.pdf
Size : 48 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/17/2006

Title: GEO_BORE (B-18)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1224459588/T0605901431.pdf
Size : 53 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9705080926/T0605901431.pdf
Size : 32 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5698486149/T0605901431.pdf
Size : 33 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-1B)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7697370231/T0605901431.pdf
Size : 35 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4501310586/T0605901431.pdf
Size : 29 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (B-17)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1933746159/T0605901431.pdf
Size : 56 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1084228336/T0605901431.pdf
Size : 28 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (B-19)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6073531925/T0605901431.pdf
Size : 63 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (VE-11)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2397566080/T0605901431.pdf

Size : 60 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1022704899/T0605901431.pdf
Size : 29 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_BORE (CB-7)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2584548771/T0605901431.pdf
Size : 37 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 5/2/2006

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3497022330/T0605901431.pdf
Size : 24 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 9/19/2005

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1496686637/T0605901431.pdf
Size : 44 KB
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Submitted: 2/5/2002

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports **Size :** 10,487 KB
Document Date: 6/21/2018* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 2Q 2018 GMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4211160480/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 4/16/2018 **Submitted By:** SUKHMANI BRAR (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: 10634 1ST RSR RATIONALE FOR ADDITIONAL WORK APRIL 2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5962081

Document Type: Monitoring Reports **Size :** 7,945 KB
Document Date: 2/2/2018* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 4Q 2017 GMR_02.02.2018
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3414436042/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 9,320 KB
Document Date: 7/27/2017* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: CA 03013 2Q17 GWM_072717
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3100740432/T0605901431.PDF

Document Type: Site Documents **Size :** 125 KB
Document Date: 7/14/2017* **Submitted By:** ARCADIS (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: TESORO ARCADIS CONTACT INFORMATION LETTER_071417
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7781580328/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 7/5/2017 **Submitted By:** GENIECE HIGGINS (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: DENIAL OF REQUEST FOR CASE CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6325366

Document Type: Site Documents **Size :**

Document Date: 2/22/2017 **Submitted By:** TAMARA ESCOBEDO (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SEMI-ANNUAL GROUNDWATER MONITORING REPORT AND CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6312390

Document Type: Site Documents **Size :** 10,821 KB
Document Date: 12/30/2016 **Submitted By:** ARCADIS (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: CA 3013 4Q16 GMR AND REQUEST FOR CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6666868746/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 15,981 KB
Document Date: 7/18/2016* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: CA 03013 2Q16 GMR_071516
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6370245397/T0605901431.PDF

Document Type: Site Documents **Size :** 6,974 KB
Document Date: 5/2/2016 **Submitted By:** ARCADIS (AUTH_RP)
Type: SITE INVESTIGATION **Submitted:**
Title: OFFSITE HYDROPUNCH® BORING INVESTIGATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7254087984/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 10,500 KB
Document Date: 2/3/2016* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 3013 4Q15 GWM REPORT_020116
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3805490851/T0605901431.PDF

Document Type: Site Documents **Size :** 1,859 KB
Document Date: 11/24/2015 **Submitted By:** ARCADIS (AUTH_RP)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: OFFSITE HYDROPUNCH INVESTIGATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6872320592/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 11/24/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: OFFSITE HYDROPUNCH INVESTIGATION WORK PLAN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5871558

Document Type: Site Documents **Size :** 1,219 KB
Document Date: 9/15/2015 **Submitted By:** ARCADIS (AUTH_RP)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: WORK PLAN FOR OFFSITE HYDROPUNCH® BORING INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9548864781/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 9/15/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: WORK PLAN FOR OFFSITE HYDROPUNCH® BORING INVESTIGATION - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5860962

Document Type: Monitoring Reports **Size :** 10,418 KB
Document Date: 8/20/2015 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 3013 2Q15 GROUNDWATER MONITORING REPORT_082015_REVISED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2598776280/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 9,865 KB
Document Date: 2/10/2015 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 3013 4Q14 GWM REPORT_020615
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1008658707/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 10/27/2014 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: LOW-THREAT CASE CLOSURE

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6225910

Document Type: Monitoring Reports **Size :** 6,988 KB
Document Date: 12/13/2013 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: CA-3013 20131213 4Q13_GW_REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4884843945/T0605901431.PDF

Document Type: Site Documents **Size :** 56 KB
Document Date: 8/30/2013* **Submitted By:** ARCADIS (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CA-3013 20130830 FEE TITLE OWNER LETTER
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3769288539/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 8/13/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTICE OF RESPONSIBILITY **Submitted:**
Title: NOR
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6171495

Document Type: Monitoring Reports **Size :** 8,227 KB
Document Date: 6/21/2013 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: BP 3013 2Q13 GW REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5491093456/T0605901431.PDF

Document Type: Site Documents **Size :** 119 KB
Document Date: 4/12/2013* **Submitted By:** ARCADIS (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CA-3013_REGULATORY NOTIFICATION LETTER 041213
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9601117968/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 7,333 KB
Document Date: 1/11/2013 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: CA-3013_4Q12 GW REPORT 01112013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3368854582/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 1/2/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: LOW-THREAT CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6146058

Document Type: Site Documents **Size :** 28,756 KB
Document Date: 12/27/2012 **Submitted By:** ARCADIS (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: CA-3013_LTCCR 12272012 PART 1
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2073285937/T0605901431.PDF

Document Type: Site Documents **Size :** 14,392 KB
Document Date: 12/27/2012 **Submitted By:** ARCADIS (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: CA-3013_LTCCR 12272012 PART 2
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1894758105/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 6,225 KB
Document Date: 6/6/2012 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: CA-3013 2Q12 QMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7030140697/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,798 KB
Document Date: 12/8/2011 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3013 4Q11 GWM REPORT_111208
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4649323463/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 4,597 KB

Document Date: 6/10/2011 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 2Q11 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4213715553/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,327 KB
Document Date: 3/8/2011 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q 2011 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7125367164/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 2/8/2011 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: REVISED CAP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6077258

Document Type: Site Documents **Size :**
Document Date: 1/25/2011 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF ROD/RAP/CAP **Submitted:**
Title: PUBLIC NOTICE OF CAP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6075481

Document Type: Site Documents **Size :** 7,264 KB
Document Date: 1/18/2011 **Submitted By:** ARCADIS (AUTH_RP)
Type: CAP/RAP - FEASIBILITY STUDY REPORT **Submitted:**
Title: REVISED RCAP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7847239196/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,280 KB
Document Date: 12/10/2010 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4Q10 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4685166358/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 4,630 KB
Document Date: 9/10/2010 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q10 QMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2580468595/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 5,477 KB
Document Date: 6/16/2010 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: QUARTERLY MONITORING REPORT (2Q10)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6204446256/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 4/5/2010 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WELL INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6047525

Document Type: Monitoring Reports **Size :** 5,401 KB
Document Date: 3/14/2010* **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 10Q1 GMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4652215421/T0605901431.PDF

Document Type: Site Documents **Size :** 5,160 KB
Document Date: 3/1/2010 **Submitted By:** ARCADIS (AUTH_RP)
Type: WELL INSTALLATION WORKPLAN **Submitted:**
Title: WELL INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1774706184/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 5,133 KB
Document Date: 12/10/2009 **Submitted By:** ARCADIS (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**

Title: CA-03013 09 Q4 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8210534214/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 9/21/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: F&EH SERVEY REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6030943

Document Type: Site Documents **Size :** 6,697 KB
Document Date: 9/14/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: FIRE & EXPLOSIVE HAZARD SURVEY REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6249886631/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,307 KB
Document Date: 9/11/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q09 QUARTERLY REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5707452237/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 7/14/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: QUARTERLY GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6021038

Document Type: Site Documents **Size :**
Document Date: 6/24/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WORK PLAN APPROVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6018185

Document Type: Site Documents **Size :** 2,173 KB
Document Date: 6/9/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: OTHER WORKPLAN **Submitted:**
Title: WP FOR FIRE AND EXPLOSION HAZARD SURVEY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3413341701/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,254 KB
Document Date: 6/4/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2Q09 QUARERLY MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3118920445/T0605901431.PDF

Document Type: Site Documents **Size :**
Document Date: 4/21/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE STATUS REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6010741

Document Type: Monitoring Reports **Size :** 2,849 KB
Document Date: 2/20/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q09 GW MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8907690763/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,480 KB
Document Date: 1/14/2009 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4Q08 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5820558845/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 14,147 KB
Document Date: 9/11/2008 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q08 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8456890285/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 5,237 KB
Document Date: 7/24/2008 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2Q08 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2457386851/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,711 KB
Document Date: 3/5/2008 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q08 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6490522623/T0605901431.PDF

Document Type: Site Documents **Size :** 6,697 KB
Document Date: 2/25/2008 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: EVALLUATION OF SUBSURFACE VAPOR INTRUSION TO INDOOR AIR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5683517277/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,780 KB
Document Date: 1/22/2008 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4Q07 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9431974649/T0605901431.PDF

Document Type: Site Documents **Size :** 5,127 KB
Document Date: 10/3/2007* **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: CA 3013 071003 WELL INSTALLATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8489993035/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 3,011 KB
Document Date: 9/7/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3Q07 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2233717978/T0605901431.PDF

Document Type: Site Documents **Size :** 543 KB
Document Date: 8/10/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: WORK PLAN FOR SOIL GAS SURVEY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6156496942/T0605901431.PDF

Document Type: Site Documents **Size :** 9,838 KB
Document Date: 6/29/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: CORRESPONDENCE - DIRECTIVE RELATED **Submitted:**
Title: REVISED CORRECTIVE ACTION PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3691892325/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,471 KB
Document Date: 6/11/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2007 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2494520425/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,432 KB
Document Date: 3/15/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2007 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7579894840/T0605901431.PDF

Document Type: Site Documents **Size :** 980 KB
Document Date: 1/29/2007 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: CORRESPONDENCE - DIRECTIVE RELATED **Submitted:**
Title: WORKPLAN FOR WELL INSTALLATION AND FEASIBILITY TEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4326312005/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 1,815 KB

Document Date: 12/15/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2006 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6414538323/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,192 KB
Document Date: 9/12/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2006 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3313786149/T0605901431.PDF

Document Type: Site Documents **Size :** 1,968 KB
Document Date: 8/2/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: WORK PLAN FOR ADDITIONAL WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7296310245/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,458 KB
Document Date: 6/30/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2006 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6651197671/T0605901431.PDF

Document Type: Site Documents **Size :** 4,864 KB
Document Date: 4/28/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: WELL INSTALLATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7960218131/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,179 KB
Document Date: 3/13/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2006 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6146375358/T0605901431.PDF

Document Type: Site Documents **Size :** 1,461 KB
Document Date: 1/27/2006 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: WORKPLANS - INVESTIGATION WP **Submitted:**
Title: REVISION TO WORK PLAN FOR ADD'L SITE ASSESSMENT & WELL INSTALLATIONS, 1/20/06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5292463004/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,019 KB
Document Date: 12/9/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2005 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9816358268/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 948 KB
Document Date: 11/15/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2005 MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2282974064/T0605901431.PDF

Document Type: Site Documents **Size :** 2,500 KB
Document Date: 11/14/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: WORKPLANS - INVESTIGATION WP **Submitted:**
Title: WORK PLAN FOR ADD'L SITE ASSESSMENT & WELL INSTALL, 11/10/05
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8007557511/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,163 KB
Document Date: 8/2/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2005 QMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2954650700/T0605901431.PDF

Document Type: Monitoring Reports **Size :** 2,717 KB
Document Date: 4/26/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2005 QMR

Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4987592399/T0605901431.PDF

Document Type: Site Documents
Size : 4,666 KB
Document Date: 3/15/2005
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - TANK REMOVAL RPT.
Submitted:
Title: UNDERGROUND STORAGE TANK REMOVAL REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4753936588/T0605901431.PDF

Document Type: Site Documents
Size : 329 KB
Document Date: 3/4/2005
Submitted By: DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - OTHER
Submitted:
Title: SOIL MONITORING RECORDS, 2/24/05
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3174298942/T0605901431.PDF

31	1 of 1	ENE	0.39 / 2,064.04	424.77 / 24	KENITA ENTERPRISES 24961 WHISLER DR LAKE FOREST CA 92630	LUST

Global ID: T0605902476
County: ORANGE
Status: COMPLETED - CASE CLOSED
Latitude: 33.6247385
Status Date: 1989-05-19 00:00:00
Longitude: -117.6936389
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 9UT241
Potential COC:
Local Case Number:
How Discovered:
Begin Date: 1986-12-16 00:00:00
Stop Method:
Lead Agency: SAN DIEGO RWQCB (REGION 9)
Stop Description:
Local Agency:
Case Worker:
CUF Case: NO
File Location:
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1986-12-16 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1986-12-16 00:00:00
Action: Leak Reported

Status History

Status: Completed - Case Closed
Status Date: 1989-05-19 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-12-16 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: KENITA ENTERPRISES
Address: 24961 WHISLER DR
Site Facility Type: LUST CLEANUP SITE
City: LAKE FOREST
Cleanup Status: COMPLETED - CASE CLOSED
Zip: 92630

Project Status:
Potential COC: ,
WDR Place Type:
WDR File:
WDR Order:
File Location:
County: ORANGE
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902476
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/19/1989
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902476&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use: SW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN DIEGO RWQCB (REGION 9) (LEAD) - CASE #: 9UT241
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 5/19/1989

Status: Open - Case Begin Date
Date : 12/16/1986

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Enforcement/Orders
Action Date: 12/16/1986
Received Issue Date: 12/16/1986
Action: * Historical Enforcement
Doc Link:

Action Type: Leak Action
Action Date: 12/16/1986
Received Issue Date:
Action: Leak Reported
Doc Link:

32	1 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL #18-378 23771 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0000891
Case ID: 98UT091
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date:
Type of Closure:

32	2 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL OIL 23771 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0002874
Case ID: 86UT087
Case Type: U
Case Type Desc: Undetermined affected
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 9/2/1986
Type of Closure: Closure certification issued

32	3 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL OIL 23771 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605900211
Status: COMPLETED - CASE CLOSED
Status Date: 1986-09-02 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.6171240101737
Longitude: -117.705594506885

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083000271T
Local Case Number: 86UT087
Begin Date: 1986-09-02 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential Media of Concern: Under Investigation
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Remove Tank
Stop Description:
Case Worker: KL
File Location: Local Agency

Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: ROSE SCOTT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: rose.scott@waterboards.ca.gov
Phone Number: 9513206375

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Status History

Status: Completed - Case Closed
Status Date: 1986-09-02 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-09-02 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: MOBIL OIL
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 23771 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:

File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900211
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 9/2/1986
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900211&tabname=regulatoryhistory
Potential Media Of Concern: UNDER INVESTIGATION
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 86UT087
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083000271T
CASEWORKER: ROSE SCOTT
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 9/2/1986

Status: Open - Case Begin Date
Date : 9/2/1986

32	4 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL #18-378 23771 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605902221
Status: OPEN - SITE ASSESSMENT
Status Date: 2009-03-10 00:00:00
Case Type: LUST CLEANUP SITE
County: ORANGE
Latitude: 33.6169788
Longitude: -117.7052813
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003311T
Local Case Number: 98UT091
Begin Date: 1998-11-09 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential COC: Gasoline
How Discovered: UST System Modification
Stop Method: Replace product piping
Stop Description:
Case Worker: SR
File Location: Local Agency
Potential Media of Concern: Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2019-03-21 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2019-03-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2019-03-08 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2019-02-18 00:00:00
Action: Soil and Water Investigation Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2018-08-03 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2018-06-06 00:00:00
Action: Soil and Water Investigation Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2018-04-13 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2018-02-14 00:00:00
Action: Well Installation Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2016-11-14 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2016-08-30 00:00:00
Action: Other Report / Document

Action Type: RESPONSE
Date : 2016-04-29 00:00:00
Action: Soil Vapor Intrusion Investigation Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2015-10-22 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2015-09-30 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2015-05-13 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2015-01-26 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2013-10-03 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2013-07-08 00:00:00
Action: Access Agreement

Action Type: ENFORCEMENT
Date : 2012-10-23 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2012-09-10 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2012-05-04 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2011-06-30 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2011-02-17 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2010-11-18 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2010-04-26 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-07-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-04-28 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-03-10 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-01-30 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-12-02 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-05-09 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-10-11 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-06-01 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2007-01-18 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-11-27 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2006-11-03 00:00:00
Action: Staff Letter

Action Type: RESPONSE

Date : 2003-10-30 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2003-08-07 00:00:00
Action: * Historical Enforcement

Action Type: REMEDIATION
Date : 2002-07-11 00:00:00
Action: Free Product Removal

Action Type: REMEDIATION
Date : 2001-04-01 00:00:00
Action: In Situ Physical/Chemical Treatment (other than SVE)

Action Type: Other
Date : 1998-11-23 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1998-11-09 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: SHYAMALA RAJAGOPAL
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: srajagopal@ochca.com
Phone Number: 7144336262

Contact Type: Regional Board Caseworker
Contact Name: ROSE SCOTT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: rose.scott@waterboards.ca.gov
Phone Number: 9513206375

Status History

Status: Open - Site Assessment
Status Date: 2009-03-10 00:00:00

Status: Open - Site Assessment
Status Date: 2001-01-10 00:00:00

Status: Open - Site Assessment
Status Date: 2000-01-11 00:00:00

Status: Open - Site Assessment
Status Date: 1999-02-11 00:00:00

Status: Open - Case Begin Date
Status Date: 1998-11-09 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: MOBIL #18-378
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: OPEN - SITE ASSESSMENT
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Address: 23771 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:

Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902221
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 3/10/2009
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902221&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
User Defined Beneficial Use: GW - AGRICULTURAL SUPPLY, GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 98UT091
CASEWORKER: SHYAMALA RAJAGOPAL
SANTA ANA RWQCB (REGION 8) - CASE #: 083003311T
CASEWORKER: ROSE SCOTT
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Site Assessment
Date : 3/10/2009

Status: Open - Site Assessment
Date : 1/10/2001

Status: Open - Site Assessment
Date : 1/11/2000

Status: Open - Site Assessment
Date : 2/11/1999

Status: Open - Case Begin Date
Date : 11/9/1998

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: FREE PRODUCT REMOVAL
Begin Date: 7/11/2002
Phase:
End Date: 9/9/9999
Contaminant Mass Removed:
Description:

Action Type: IN SITU PHYSICAL/CHEMICAL TREATMENT (OTHER THAN SVE)
Begin Date: 4/1/2001
Phase:
End Date: 2/1/2002
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 8/3/2018
Received Issue Date: 8/3/2018
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6365822&temptable=ENFORCEMENT

Action Type: Response Requested - Workplans
Action Date: 6/6/2018
Received Issue Date: 6/6/2018
Action: Soil and Water Investigation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5971328

Action Type: Other Regulatory Actions

Action Date: 4/13/2018
Received Issue Date: 4/13/2018
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6354994&temptable=ENFORCEMENT

Action Type: Response Requested - Workplans
Action Date: 2/14/2018
Received Issue Date: 2/14/2018
Action: Well Installation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5961967

Action Type: Other Regulatory Actions
Action Date: 11/14/2016
Received Issue Date: 11/14/2016
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6313051&temptable=ENFORCEMENT

Action Type: Response Requested - Other
Action Date: 8/30/2016
Received Issue Date: 8/30/2016
Action: Other Report / Document
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5898833

Action Type: Response Requested - Workplans
Action Date: 4/29/2016
Received Issue Date: 4/29/2016
Action: Soil Vapor Intrusion Investigation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5888884

Action Type: Other Regulatory Actions
Action Date: 10/22/2015
Received Issue Date: 10/22/2015
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6265204&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 9/30/2015
Received Issue Date: 9/30/2015
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6262825&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/13/2015
Received Issue Date: 5/13/2015
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6244838&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 1/26/2015
Received Issue Date: 1/26/2015
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6234292&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/3/2013
Received Issue Date: 10/3/2013
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6177783&temptable=ENFORCEMENT

Action Type: Agreements
Action Date: 7/8/2013
Received Issue Date: 7/8/2013

Action: Access Agreement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6166231&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/23/2012
Received Issue Date: 10/23/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6140794&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 9/10/2012
Received Issue Date: 9/10/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6137393&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/4/2012
Received Issue Date: 5/4/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6120864&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 6/30/2011
Received Issue Date: 6/30/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6090963&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 2/17/2011
Received Issue Date: 2/17/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6078289&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 11/18/2010
Received Issue Date: 11/18/2010
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6069630&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 4/26/2010
Received Issue Date: 4/26/2010
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6049173&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 7/14/2009
Received Issue Date: 7/14/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6021035&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 4/28/2009
Received Issue Date: 4/28/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6011551&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 3/10/2009
Received Issue Date: 3/10/2009

Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6006980&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 1/30/2009
Received Issue Date: 1/30/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6001108&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 12/2/2008
Received Issue Date: 12/2/2008
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=5995425&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/9/2008
Received Issue Date: 5/9/2008
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 10/11/2007
Received Issue Date: 10/11/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 6/1/2007
Received Issue Date: 6/1/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 1/18/2007
Received Issue Date: 1/18/2007
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 11/27/2006
Received Issue Date: 11/27/2006
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 11/3/2006
Received Issue Date: 11/3/2006
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Reports
Action Date: 10/30/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Report
Doc Link:

Action Type: Enforcement/Orders
Action Date: 8/7/2003
Received Issue Date: 8/7/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Cleanup Action
Action Date: 7/11/2002
Received Issue Date:

Action: Free Product Removal
Doc Link:

Action Type: Cleanup Action
Action Date: 4/1/2001
Received Issue Date:
Action: In Situ Physical/Chemical Treatment (other than SVE)
Doc Link:

Action Type: Leak Action
Action Date: 11/23/1998
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 11/9/1998
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26 (MW26)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3187308192/T0605902221.PDF
Size : 106 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 8/12/2018*

Title: MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26 (MW25)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4445709466/T0605902221.PDF
Size : 104 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 8/12/2018*

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1977932870/T0605902221.PDF
Size : 172 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 7/19/2018*

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/8854257404/T0605902221.PDF
Size : 353 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 1/24/2018*

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3139032185/T0605902221.PDF
Size : 4,009 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 5/24/2017*

Title: B43-SV14SD (B43-SV14SD)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2181976556/T0605902221.PDF
Size : 448 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 9/29/2016

Title: B41-SV12SD (B41-SV12SD)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5914375007/T0605902221.PDF
Size : 451 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 9/29/2016

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5468908905/T0605902221.PDF
Size : 4,002 KB

Submitted By: CARDNO (AUTH_RP)
Submitted: 9/29/2016

Title: B42-SV13SD (B42-SV13SD)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7930228888/T0605902221.PDF
Size : 448 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 9/29/2016

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3332655489/T0605902221.PDF
Size : 272 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 7/1/2016*

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3463255465/T0605902221.PDF
Size : 274 KB
Submitted By: ATC-SLO (CONTRACTOR)
Submitted: 4/28/2016

Title: B38-AS/SVE11 (B38-AS/SVE11)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9816602349/T0605902221.PDF
Size : 59 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B34-AS/SVE7 (B34-AS/SVE7)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3504927873/T0605902221.PDF
Size : 38 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B35-AS/SVE8 (B35-AS/SVE8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3729710400/T0605902221.PDF
Size : 34 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B31-AS/SVE4 (B31-AS/SVE4)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4898783385/T0605902221.PDF
Size : 37 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B39-AS/SVE12 (B39-AS/SVE12)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9558423638/T0605902221.PDF
Size : 64 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B32-AS/SVE5 (B32-AS/SVE5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2836850762/T0605902221.PDF
Size : 35 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B40-AS/SVE13 (B40-AS/SVE13)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3801421403/T0605902221.PDF
Size : 61 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B36-AS/SVE9 (B36-AS/SVE9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2180832862/T0605902221.PDF
Size : 34 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B37-AS/SVE10 (B37-AS/SVE10)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3603357970/T0605902221.PDF
Size : 40 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: B33-AS/SVE6 (B33-AS/SVE6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1830860912/T0605902221.PDF
Size : 36 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/16/2011

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5345249950/T0605902221.PDF
Size : 39 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 11/15/2011

Title: B29- AS/SVE2 (B29- AS/SVE2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7507737517/T0605902221.PDF
Size : 3,063 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 6/17/2011

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7987075090/T0605902221.PDF
Size : 1,589 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 6/17/2011

Title: B28- AS/SVE1 (B28- AS/SVE1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8659687817/T0605902221.PDF
Size : 3,400 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 6/17/2011

Title: B30- AS/SVE3 (B30- AS/SVE3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1303007006/T0605902221.PDF
Size : 3,097 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 6/17/2011

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2687447965/T0605902221.PDF
Size : 39 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/24/2010

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9131262540/T0605902221.PDF
Size : 196 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/23/2010

Title: B27/MW24 (B27/MW24)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8813348352/T0605902221.PDF
Size : 1,488 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/23/2010

Title: GEO_BORE (B26)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7358813226/T0605902221.pdf
Size : 62 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 8/15/2007

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7602966129/T0605902221.pdf
Size : 337 KB

Submitted By: CARDNO (AUTH_RP)
Submitted: 8/15/2007

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9872113883/T0605902221.jpg
Size : 274 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 12/10/2004

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6674543082/T0605902221.jpg
Size : 168 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 7/6/2004

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3842817008/T0605902221.jpg
Size : 153 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 2/27/2004

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9824284195/T0605902221.pdf
Size : 130 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 12/2/2003

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5938459098/T0605902221.pdf
Size : 53 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 5/8/2002

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7714536368/T0605902221.pdf
Size : 49 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/20/2002

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports **Size :** 12,358 KB
Document Date: 10/26/2018* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8690414667/T0605902221.PDF

Document Type: Site Documents **Size :** 8,788 KB
Document Date: 8/12/2018* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5733527064/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 8/3/2018 **Submitted By:** SHYAMALA RAJAGOPAL (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: RESPONSE TO WORK PLAN FOR CPT/UVOST SOIL BORINGS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6365822

Document Type: Monitoring Reports **Size :** 16,166 KB
Document Date: 6/8/2018* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4628659188/T0605902221.PDF

Document Type: Site Documents **Size :** 2,577 KB
Document Date: 6/6/2018 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: SOIL AND WATER INVESTIGATION **Submitted:**

WORKPLAN
Title: CPT/UVOST SOIL BORINGS WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2867483735/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 4/13/2018 **Submitted By:** SHYAMALA RAJAGOPAL (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: RESPONSE TO WORK PLAN FOR MONITORING WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6354994

Document Type: Monitoring Reports **Size :** 12,790 KB
Document Date: 3/23/2018* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4157045841/T0605902221.PDF

Document Type: Site Documents **Size :** 2,796 KB
Document Date: 2/14/2018 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: WELL INSTALLATION WORKPLAN **Submitted:**
Title: MONITORING WELL INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6344970941/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 14,667 KB
Document Date: 1/26/2018* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2689270257/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 14,014 KB
Document Date: 9/7/2017* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2166938483/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 12,515 KB
Document Date: 6/23/2017* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4445878982/T0605902221.PDF

Document Type: Site Documents **Size :** 4,537 KB
Document Date: 5/24/2017* **Submitted By:** CARDNO (AUTH_RP)
Type: WELL DESTRUCTION REPORT **Submitted:**
Title: WELL DESTRUCTION AND REMEDIATION SYSTEM ENCLOSURE DEMOLITION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6571524262/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 11,464 KB
Document Date: 3/30/2017* **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2017 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9870767414/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 11,752 KB
Document Date: 12/30/2016 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FOURTH QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2942053437/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 11/14/2016 **Submitted By:** GENIECE HIGGINS (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: RESPONSE TO SOIL VAPOR SAMPLING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6313051

Document Type: Site Documents **Size :** 8,484 KB
Document Date: 9/29/2016 **Submitted By:** CARDNO (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: REPORT FOR THE INSTALLATION OF THREE SOIL VAPOR SAMPLING WELLS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7575712740/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 14,892 KB
Document Date: 9/19/2016 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2394148409/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 8/30/2016 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: NOTIFICATION OF CONSULTANT CHANGE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&document_id=5898833

Document Type: Monitoring Reports **Size :** 30,769 KB
Document Date: 7/15/2016 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4357917547/T0605902221.PDF

Document Type: Site Documents **Size :** 245 KB
Document Date: 5/23/2016 **Submitted By:** CARDNO (AUTH_RP)
Type: SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN **Submitted:**
Title: 309402.W08A 18378 ADDENDUM TO WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 05-23-16
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8746131658/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 4/29/2016 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN **Submitted:**
Title: 309401.W08 18378 WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 04-28-16 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&document_id=5888884

Document Type: Monitoring Reports **Size :** 18,569 KB
Document Date: 4/28/2016 **Submitted By:** ATC-SLO (CONTRACTOR)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7684213995/T0605902221.PDF

Document Type: Site Documents **Size :** 7,224 KB
Document Date: 4/28/2016 **Submitted By:** CARDNO (AUTH_RP)
Type: SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN **Submitted:**
Title: 309401.W08 18378 WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 04-28-16
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7667792975/T0605902221.PDF

Document Type: Site Documents **Size :** 33,626 KB
Document Date: 2/1/2016 **Submitted By:** CARDNO (AUTH_RP)
Type: CONCEPTUAL SITE MODEL **Submitted:**
Title: RELLC LAKE FOREST SCM FINAL 020116
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7818384528/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 7,448 KB
Document Date: 12/18/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 12-18-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9542002081/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 10,123 KB
Document Date: 12/1/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 12-01-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7454688787/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 10/22/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: OCLOP DIRECTIVE LETTER DATED SEPTEMBER 30, 2015 AND INTERIM REMEDIAL ACTION

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6265204

Document Type: Site Documents **Size :**
Document Date: 9/30/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: IRAP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6262825

Document Type: Site Documents **Size :** 8,358 KB
Document Date: 9/4/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: CAP/RAP - OTHER REPORT **Submitted:**
Title: 309405.R26 18378 REVISED CORRECTIVE ACTION PLAN. 09-04-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1676054537/T0605902221.PDF

Document Type: Site Documents **Size :** 7,746 KB
Document Date: 9/2/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: FEASIBILITY STUDY (FS) **Submitted:**
Title: 309405.R05 18378 SLUG TEST- PUMP TEST REPORT. 09-02-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5689508795/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 12,082 KB
Document Date: 8/25/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 08-25-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9148279547/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 5/13/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: FEASIBILITY STUDY/CAP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6244838

Document Type: Monitoring Reports **Size :** 10,401 KB
Document Date: 5/4/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 05-04-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5491904556/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 1/26/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: AGENCY MEETING DATED JANUARY 14, 2015
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6234292

Document Type: Monitoring Reports **Size :** 10,328 KB
Document Date: 1/21/2015 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 01-21-15
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2904289007/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 8,644 KB
Document Date: 12/5/2014 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. REVISED. 12-05-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9400911450/T0605902221.PDF

Document Type: Site Documents **Size :** 110 KB
Document Date: 8/28/2014 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 3094C.L75 18378 TRANSFER OF EXXONMOBIL ENVIRONMENTAL SERVICES PROJECT MANAGEMENT. 08-28-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1232917129/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 9,855 KB
Document Date: 7/25/2014 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 07-25-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2648027539/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 13,103 KB
Document Date: 5/8/2014 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 05-08-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6655840039/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 12,645 KB
Document Date: 1/7/2014 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 01-07-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4095692455/T0605902221.PDF

Document Type: Site Documents **Size :** 130 KB
Document Date: 12/9/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 3094 18378 (3559C.L02 18HDR) TRANSFER OF EMES PROJECT MANAGEMENT. 12-09-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6363395035/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 10/3/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: JOINT SAMPLING REQUIREMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6177783

Document Type: Monitoring Reports **Size :** 9,408 KB
Document Date: 9/27/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 09-27-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6194442689/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 7/8/2013 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: ACCESS AGREEMENT **Submitted:**
Title: PROPERTY ACCESS REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6166231

Document Type: Site Documents **Size :** 363 KB
Document Date: 6/19/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 3094CKL.72 18378 OFF-SITE PROPERTY ACCESS UPDATE. 06-19-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2574715793/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 11,421 KB
Document Date: 6/11/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 06-11-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5524414002/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 13,366 KB
Document Date: 3/1/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 03-01-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9042176723/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 9,927 KB
Document Date: 1/11/2013 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 01-11-13
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3613754212/T0605902221.PDF

Document Type: Site Documents **Size :** 20 KB
Document Date: 12/21/2012* **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 3094 FORMER MOBIL 18378 (OCHCA #98UT091) EXTENSION REQUEST CORRESPONDENCE 12-21-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9494776427/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 10/23/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**

Title: BORING INSTALLATION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6140794

Document Type: Site Documents **Size :** 7,791 KB
Document Date: 10/16/2012* **Submitted By:** CARDNO (AUTH_RP)
Type: OTHER WORKPLAN **Submitted:**
Title: 3094C.W07 18378 WORK PLAN FOR THE SAMPLING OF THREE OFF-SITE HYDROPUNCH BORINGS. 10-16-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7980359911/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 9,179 KB
Document Date: 9/12/2012 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 09-12-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9259678661/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 9/10/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: PLUME DELINEATION REQUIREMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6137393

Document Type: Site Documents **Size :** 329 KB
Document Date: 8/14/2012 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 3094KL.L67 18378 RESPONSE TO AGENCY LETTER DATED MAY 04, 2012 OCHCA MEETING ON JUNE 26, 2012. 08-14-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2274335741/T0605902221.PDF

Document Type: Site Documents **Size :** 51 KB
Document Date: 7/3/2012 **Submitted By:** CARDNO (AUTH_RP)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: 309414KL.L66 18378 RESPONSE TO AGENCY LETTER DATED MAY 4,2012 AND OCHCA MEETING DOCUMENTATION. 07-03-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4217803239/T0605902221.PDF

Document Type: Site Documents **Size :** 15 KB
Document Date: 6/22/2012 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 309414KL.L64 18378 TRANSFER OF EXXONMOBIL ENVIRONMENTAL SERVICES PROJECT MANAGEMENT. 06-22-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7749145448/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 2,914 KB
Document Date: 5/17/2012* **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 SECOND QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 5-17-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4633560121/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 5/4/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE FILE REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6120864

Document Type: Monitoring Reports **Size :** 5,752 KB
Document Date: 3/1/2012 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 03-01-12
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7650510430/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 4,514 KB
Document Date: 12/8/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 FOURTH QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 12-8-2011
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3463880419/T0605902221.PDF

Document Type: Site Documents **Size :** 17,374 KB
Document Date: 11/30/2011 **Submitted By:** CARDNO (AUTH_RP)

Type: WELL INSTALLATION REPORT **Submitted:**
Title: 309412.R22 18378 REPORT FOR THE INSTALLATION OF SEVEN ON-SITE AND THREE OFF-SITE AIR SPARGE SOIL VAPOR EXTRACTION WELLS. 11-30-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1020109057/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 4,412 KB
Document Date: 11/7/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 11-07-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9257206737/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 6/30/2011 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: REVISED CAP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6090963

Document Type: Site Documents **Size :** 28,026 KB
Document Date: 6/17/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: 309405.R20 18378 REVISED CORRECTIVE ACTION PLAN. 06-17-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1663035094/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 8,781 KB
Document Date: 6/9/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 06-09-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1106165587/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 11,090 KB
Document Date: 3/7/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 03-07-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5678750455/T0605902221.PDF

Document Type: Site Documents **Size :** 466 KB
Document Date: 3/1/2011* **Submitted By:** CARDNO (AUTH_RP)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: 309405.W06A 18378 WORK PLAN ADDENDDUM TO INSTALL 3 AS-SVE WELLS AND CONDUCT AN AS-SVE FEASIBILITY TEST. 03-01-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8783421337/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 2/17/2011 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WORK PLAN APPROVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6078289

Document Type: Site Documents **Size :** 6,644 KB
Document Date: 1/26/2011 **Submitted By:** CARDNO (AUTH_RP)
Type: SITE INVESTIGATION WORKPLAN **Submitted:**
Title: 309405.W06 18378 WORK PLAN TO INSTALL THREE AS-SVE WELLS AND CONDUCT AN AS-SVE FEASIBILITY TEST. 01-26-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4873719215/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 7,493 KB
Document Date: 12/10/2010 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 FOURTH QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 12-10-10
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2680368006/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 11/18/2010 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: DUAL PHASE HIGH INTENSITY TARGETED EVENT REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6069630

Document Type: Site Documents **Size :** 5,935 KB
Document Date: 10/7/2010 **Submitted By:** CARDNO (AUTH_RP)

Type: REMEDIAL INVESTIGATION REPORT **Submitted:**
Title: 309405.R19 18378 30-DAY DUAL-PHASE EXTRACTION HIGH INTENSITY TARGETED EVENT REPORT. 10-07-10
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5191019713/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 12,545 KB
Document Date: 9/29/2010 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 THIRD QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 9-29-10
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6225656092/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 7,159 KB
Document Date: 6/10/2010* **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 06-10-10.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9587060511/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 4/26/2010 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SOIL VAPOR SURVEY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6049173

Document Type: Site Documents **Size :** 9,041 KB
Document Date: 3/25/2010 **Submitted By:** CARDNO (AUTH_RP)
Type: RISK ASSESSMENT REPORT **Submitted:**
Title: 309403.R18 18378 SOIL VAPOR SURVEY AND VAPOR INTRUSION RISK ASSESSMENT REPORT. 03-25-10.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1691049158/T0605902221.PDF

Document Type: Site Documents **Size :** 7,775 KB
Document Date: 3/25/2010 **Submitted By:** CARDNO (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: 309403.R17 18378 REPORT FOR THE INSTALLATION OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 03-25-10.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9590216398/T0605902221.PDF

Document Type: Site Documents **Size :** 54 KB
Document Date: 3/18/2010* **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 309403KL.L54 (18378) CHANGE IN EXXONMOBIL OIL CORPORATION PROJECT MANGEMENT. 03-18-10.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9121263802/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 9,239 KB
Document Date: 2/26/2010* **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 02-26-10 PART 1 OF 2.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4825562834/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 14,637 KB
Document Date: 2/26/2010* **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 02-26-10-2 PART 2 OF 2.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1734559416/T0605902221.PDF

Document Type: Site Documents **Size :** 140 KB
Document Date: 1/15/2010 **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 309403KL.L53 18378 WORK PLAN ADDENDUM TO CONDUCT A SOIL VAPOR ASSESSMENT. 01-15-10.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1851647496/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 13,569 KB
Document Date: 12/11/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT.12-11-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7537996590/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 12,452 KB
Document Date: 11/6/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 11-06-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2382549464/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 7/14/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: QUARTERLY GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6021035

Document Type: Monitoring Reports **Size :** 8,046 KB
Document Date: 6/5/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 06-05-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3680996119/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 4/28/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WORK PLAN APPROVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6011551

Document Type: Site Documents **Size :** 3,657 KB
Document Date: 4/16/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: SOIL AND WATER INVESTIGATION WORKPLAN **Submitted:**
Title: 309403.W05 18378 WORK PLAN FOR THE INSTALLATION OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 04-16-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8631997227/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 8,927 KB
Document Date: 3/13/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 1ST QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 03-12-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6607753932/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 3/10/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WORK PLAN ADDENDUM SOIL VAPOR ASSESSMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6006980

Document Type: Site Documents **Size :** 959 KB
Document Date: 3/5/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: OTHER WORKPLAN **Submitted:**
Title: 309403.W04A 18378 WORK PLAN ADDENDUM TO CONDUCT A SOIL VAPOR ASSESSMENT.3-5-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3112191319/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 1/30/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SOIL VAPOR ASSESSMENT WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6001108

Document Type: Site Documents **Size :** 2,400 KB
Document Date: 1/8/2009 **Submitted By:** CARDNO (AUTH_RP)
Type: OTHER WORKPLAN **Submitted:**
Title: 309403.W04 18378 WORK PLAN TO CONDUCT A SOIL VAPOR ASSESSEMENT. 01-08-09.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9808757960/T0605902221.PDF

Document Type: Site Documents **Size :**
Document Date: 12/2/2008 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SOIL VAPOR SURVEY REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=5995425

Document Type: Monitoring Reports **Size :** 6,687 KB
Document Date: 8/29/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 08-29-08 REVISED.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8007187366/T0605902221.PDF

Document Type: Site Documents **Size :** 1,842 KB
Document Date: 8/1/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: 309403.R16 18378 FIRE AND EXPLOSION VAULT SURVEY REPORT. 08-01-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6975239634/T0605902221.PDF

Document Type: Site Documents **Size :** 45 KB
Document Date: 6/27/2008* **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: 309414KL.L48 18378 CHANGE IN EXXONMOBIL OIL CORPORATION PROJECT MANAGEMENT. 06-26-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2420323014/T0605902221.PDF

Document Type: Site Documents **Size :** 10,553 KB
Document Date: 5/30/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 2ND QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 05-30-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6496962606/T0605902221.PDF

Document Type: Site Documents **Size :** 5,627 KB
Document Date: 4/23/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: 309403.W03 18378 WORK PLAN FOR A UTILITY VAULT FIRE AND EXPLOSION SURVEY. 04-23-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5566929697/T0605902221.PDF

Document Type: Site Documents **Size :** 10,717 KB
Document Date: 3/28/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 1ST QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 03-28-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7064148426/T0605902221.PDF

Document Type: Site Documents **Size :** 3,587 KB
Document Date: 1/16/2008 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 4TH QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 01-16-08
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3990294516/T0605902221.PDF

Document Type: Site Documents **Size :** 8,366 KB
Document Date: 10/26/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 3RD QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT.10-26-07 PART 2 OF 2
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8469942986/T0605902221.PDF

Document Type: Site Documents **Size :** 5,415 KB
Document Date: 8/21/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: 309403.R15 18378 REPORT FOR THE INSTALLATION OF ONE ON-SITE GROUNDWATER MONITORING WELL AND THE RAISING OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 08-21-07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7160496592/T0605902221.PDF

Document Type: Site Documents **Size :** 8,265 KB
Document Date: 7/26/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 2ND QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 07-26-07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4888168811/T0605902221.PDF

Document Type: Site Documents **Size :** 5,387 KB
Document Date: 5/10/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 1ST QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 05-10-07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5137103021/T0605902221.PDF

Document Type: Site Documents **Size :** 4,602 KB
Document Date: 2/27/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - REMEDIAL ACTION RPT. **Submitted:**
Title: 309405.R14 18378 CORRECTIVE ACTION PLAN ADDENDUM. 02-27-07.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9274398624/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 2,495 KB
Document Date: 2/15/2007* **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2005 GROUNDWATER MONITORING REPORT. 12-09-05.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9060361564/T0605902221.PDF

Document Type: Site Documents **Size :** 933 KB
Document Date: 1/15/2007* **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: 309414.R13 18378 WELL DESTRUCTION AND WELL CASING LOWERING LETTER REPORT. 2-9-05.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6654218912/T0605902221.PDF

Document Type: Site Documents **Size :** 1,208 KB
Document Date: 1/15/2007* **Submitted By:** CARDNO (AUTH_RP)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: 309413GH.L39 18378 STATUS REPORT FOR ACCESS . 11-21-06.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4081893026/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 3,799 KB
Document Date: 1/11/2007 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 4TH QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 01-10-07
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5276080071/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 2,694 KB
Document Date: 12/4/2006 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 2ND QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 06-02-06.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3512678384/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 4,758 KB
Document Date: 10/25/2006 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094 18378 3RD QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 09-08-06.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8503217935/T0605902221.PDF

Document Type: Site Documents **Size :** 2,657 KB
Document Date: 5/8/2006 **Submitted By:** CARDNO (AUTH_RP)
Type: REPORTS - QUARTERLY STATUS REPORT **Submitted:**
Title: 3094 18378 1ST QUARTER 2006 STATUS REPORT. 03-29-06
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7218091666/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 2,495 KB
Document Date: 12/22/2005 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094QRTR0305
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7479566276/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 1,523 KB
Document Date: 11/3/2005 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094QRTR0305
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2577329337/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 2,415 KB
Document Date: 7/8/2005 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3094QRTR0205
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6141784489/T0605902221.PDF

Document Type: Monitoring Reports **Size :** 1,817 KB
Document Date: 5/11/2005 **Submitted By:** CARDNO (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Title: 3094 18378 1ST QUARTER 2005 STATUS REPORT. 04-22-05
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3805051505/T0605902221.PDF

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
33	1 of 1	NNW	0.42 / 2,239.75	369.06 / -31	UNOCAL #6186 24382 MUIRLANDS LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0002900
Case ID: 91UT084
Case Type: S
Case Type Desc: Soil only affected
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 6/21/1994
Type of Closure: Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
34	1 of 1	NNW	0.43 / 2,262.68	371.83 / -29	CHEVRON #9-0884 22942 RIDGE ROUTE LAKE FOREST CA 92630	LUST

Global ID: T0605979060
Status: COMPLETED - CASE CLOSED
Status Date: 2015-01-15 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.628758
Longitude: -117.704037

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:
Local Case Number: 02UT028
Begin Date: 2002-10-02 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: * SA
Stop Method: Other Means
Stop Description:
Case Worker: KL
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2015-01-15 00:00:00
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 2014-11-25 00:00:00
Action: Notification - Preclosure

Action Type: ENFORCEMENT
Date : 2014-09-17 00:00:00
Action: Notification - Public Notice of Case Closure

Action Type: ENFORCEMENT
Date : 2014-09-17 00:00:00
Action: Notification - Public Participation Document

Action Type: ENFORCEMENT
Date : 2013-05-21 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2012-12-13 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2012-07-25 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2011-07-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2010-07-15 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2009-07-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-10-28 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-10-06 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2008-09-29 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2008-05-02 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2008-03-14 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2007-10-31 00:00:00
Action: Well Installation Report

Action Type: ENFORCEMENT
Date : 2007-07-09 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2007-05-01 00:00:00
Action: Soil and Water Investigation Workplan

Action Type: ENFORCEMENT
Date : 2007-03-20 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 2005-08-04 00:00:00
Action: Pump & Treat (P&T) Groundwater

Action Type: ENFORCEMENT
Date : 2005-04-05 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2004-05-28 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2004-03-31 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2004-02-05 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-08-04 00:00:00
Action: Preliminary Site Assessment Report

Action Type: ENFORCEMENT
Date : 2003-04-18 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 2002-12-05 00:00:00
Action: Leak Reported

Action Type: Other
Date : 2002-10-02 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Regional Board Caseworker
Contact Name: MIGUEL OVIEDO
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 Main Street, Suite 500
Email: miguel.oviedo@waterboards.ca.gov
Phone Number: 9517823238

Status History

Status: Completed - Case Closed
Status Date: 2015-01-15 00:00:00

Status: Open - Eligible for Closure
Status Date: 2013-05-06 00:00:00

Status: Open - Remediation
Status Date: 2005-04-05 00:00:00

Status: Open - Site Assessment
Status Date: 2003-06-30 00:00:00

Status: Open - Site Assessment
Status Date: 2003-04-09 00:00:00

Status: Open - Site Assessment
Status Date: 2002-12-16 00:00:00

Status: Open - Case Begin Date
Status Date: 2002-10-02 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: CHEVRON #9-0884
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Address: 22942 RIDGE ROUTE
City: LAKE FOREST
Zip: 92630
County: ORANGE

Potential COC: GASOLINE
CUF Claim:
WDR Place Type:
CUF Priority Assig:
WDR File:
CUF Amount Paid:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605979060
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 1/15/2015
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605979060&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 02UT028
CASEWORKER: KEVIN LAMBERT
SANTA ANA RWQCB (REGION 8)
CASEWORKER: MIGUEL OVIEDO

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 1/15/2015

Status: Open - Eligible for Closure
Date : 5/6/2013

Status: Open - Remediation
Date : 4/5/2005

Status: Open - Site Assessment
Date : 6/30/2003

Status: Open - Site Assessment
Date : 4/9/2003

Status: Open - Site Assessment
Date : 12/16/2002

Status: Open - Case Begin Date
Date : 10/2/2002

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: PUMP & TREAT (P&T) GROUNDWATER
Begin Date: 8/4/2005
Phase: Water
End Date: 3/14/2006
Contaminant Mass Removed: 1,225 Gallons
Description: OVERPURGING USING WELLS MW-1, MW-2, MW-6, AND MW-7

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 1/15/2015
Received Issue Date: 1/15/2015
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233455&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions

Action Date: 1/15/2015
Received Issue Date: 1/15/2015
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233458&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 11/25/2014
Received Issue Date: 11/25/2014
Action: Notification - Preclosure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6228964&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 9/17/2014
Received Issue Date: 9/17/2014
Action: Notification - Public Participation Document
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221258&temptable=ENFORCEMENT

Action Type: Notices
Action Date: 9/17/2014
Received Issue Date: 9/17/2014
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221246&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/21/2013
Received Issue Date: 5/21/2013
Action: File review
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 12/13/2012
Received Issue Date: 12/13/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6144933&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 7/25/2012
Received Issue Date: 7/25/2012
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6131238&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 7/21/2011
Received Issue Date: 7/21/2011
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7/15/2010
Received Issue Date: 7/15/2010
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6057526&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 7/14/2009
Received Issue Date: 7/14/2009
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6020920&temptable=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/28/2008

Received Issue Date: 10/28/2008
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5991824&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 10/6/2008
Received Issue Date: 10/6/2008
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5989733&tempt able=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 9/29/2008
Received Issue Date: 9/29/2008
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5997279&tempt able=ENFORCEMENT

Action Type: Response Requested - Workplans
Action Date: 5/2/2008
Received Issue Date: 1/1/1965
Action: Corrective Action Plan / Remedial Action Plan
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 3/14/2008
Received Issue Date: 3/14/2008
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Reports
Action Date: 10/31/2007
Received Issue Date: 1/1/1965
Action: Well Installation Report
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 7/9/2007
Received Issue Date: 7/9/2007
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 5/1/2007
Received Issue Date: 6/5/2007
Action: Soil and Water Investigation Workplan
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 3/20/2007
Received Issue Date: 3/20/2007
Action: Staff Letter
Doc Link:

Action Type: Cleanup Action
Action Date: 8/4/2005
Received Issue Date:
Action: Pump & Treat (P&T) Groundwater
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 4/5/2005
Received Issue Date: 4/5/2005
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 5/28/2004

Received Issue Date: 5/28/2004
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 3/31/2004
Received Issue Date: 3/31/2004
Action: Staff Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 2/5/2004
Received Issue Date: 2/5/2004
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Reports
Action Date: 8/4/2003
Received Issue Date: 1/1/1965
Action: Preliminary Site Assessment Report
Doc Link:

Action Type: Enforcement/Orders
Action Date: 4/18/2003
Received Issue Date: 4/18/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Leak Action
Action Date: 12/5/2002
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 10/2/2002
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: MW-1 (MW-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8288926601/T0605979060.PDF
Size : 832 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/25/2014

Title: MW-3 (MW-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1479051113/T0605979060.PDF
Size : 818 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/25/2014

Title: MW-6 (MW-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9093692839/T0605979060.PDF
Size : 115 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-9 (MW-9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5587525844/T0605979060.PDF
Size : 83 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-8 (MW-8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3105869352/T0605979060.PDF

Size : 84 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-2 (MW-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5132978320/T0605979060.PDF
Size : 160 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-5 (MW-5)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3842759609/T0605979060.PDF
Size : 90 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-7 (MW-7)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3905434787/T0605979060.PDF
Size : 92 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1940392673/T0605979060.PDF
Size : 280 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: GEOBORE: MW-11 (MW-11)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9206432521/T0605979060.PDF
Size : 100 KB
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Submitted: 3/18/2009

Title: GEOBORE: MW-10 (MW-10)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8661797642/T0605979060.PDF
Size : 104 KB
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Submitted: 3/18/2009

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7868172764/T0605979060.PDF
Size : 69 KB
Submitted By: LEIDOS (SAIC) (AUTH_RP)
Submitted: 3/18/2009

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7948270499/T0605979060.pdf
Size : 264 KB
Submitted By: JASON LEE (RP)
Submitted: 10/19/2007

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6042279899/T0605979060.pdf
Size : 292 KB
Submitted By: JASON LEE (RP)
Submitted: 8/14/2006

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1658695816/T0605979060.pdf
Size : 265 KB
Submitted By: JASON LEE (RP)
Submitted: 12/22/2005

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3717160880/T0605979060.pdf
Size : 126 KB
Submitted By: JASON LEE (RP)
Submitted: 5/6/2004

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents ***Size :***
Document Date: 1/15/2015 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Title: CCS FINAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233458

Document Type: Site Documents ***Size :***
Document Date: 1/15/2015 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Title: RACC
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233455

Document Type: Site Documents ***Size :*** 2,903 KB
Document Date: 12/9/2014* ***Submitted By:*** REBECCA ANDRESEN (AUTH_RP)
Type: WELL DESTRUCTION REPORT ***Submitted:***
Title: 90884_ WELL DECOMMISSIONING REPORT_FINAL_12092014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2012611150/T0605979060.PDF

Document Type: Site Documents ***Size :***
Document Date: 11/25/2014 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PRECLOSURE ***Submitted:***
Title: NOTIFICATION OF PRE-CLOSURE REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6228964

Document Type: Site Documents ***Size :***
Document Date: 9/17/2014 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC PARTICIPATION DOCUMENT ***Submitted:***
Title: DRAFT CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221258

Document Type: Site Documents ***Size :***
Document Date: 9/17/2014 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE ***Submitted:***
Title: PUBLIC/LAND OWNER/RP NOTICE OF PROPOSED CASE CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221246

Document Type: Monitoring Reports ***Size :*** 4,163 KB
Document Date: 5/15/2013 ***Submitted By:*** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY ***Submitted:***
Title: 90884 FIN 1Q13 SAMR 05152013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3783052563/T0605979060.PDF

Document Type: Site Documents ***Size :***
Document Date: 12/13/2012 ***Submitted By:*** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER ***Submitted:***
Title: LOW-THREAT CLOSURE REQUEST LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6144933

Document Type: Site Documents ***Size :*** 69 KB
Document Date: 11/30/2012 ***Submitted By:*** REBECCA ANDRESEN (AUTH_RP)
Type: CORRESPONDENCE ***Submitted:***
Title: 90884 AUS PM CCN 10292012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9696567595/T0605979060.PDF

Document Type: Monitoring Reports ***Size :*** 2,768 KB
Document Date: 11/11/2012 ***Submitted By:*** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY ***Submitted:***
Title: 90884 2Q3Q12 SASR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5652768969/T0605979060.PDF

Document Type: Site Documents ***Size :*** 10,083 KB
Document Date: 10/31/2012 ***Submitted By:*** REBECCA ANDRESEN (AUTH_RP)
Type: CLOSURE REPORT ***Submitted:***

Title: LOW THREAT CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9174991667/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 7/25/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CASE CLOSURE REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6131238

Document Type: Site Documents **Size :** 14,177 KB
Document Date: 7/11/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CLOSURE REPORT **Submitted:**
Title: 9-0884 CASE CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5340193986/T0605979060.PDF

Document Type: Site Documents **Size :** 87 KB
Document Date: 5/30/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CVX PM CHANGE NOTIFICATION REGULATORY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7221485197/T0605979060.PDF

Document Type: Site Documents **Size :** 87 KB
Document Date: 5/30/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CVX PM CHANGE NOTIFICATION PROPERTY OWNER
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4047529101/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,837 KB
Document Date: 4/20/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 90884 4Q11 & 1Q12 SASR FIN 04202012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9145340919/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 3,929 KB
Document Date: 9/2/2011* **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 90884 2Q11&3Q11 SASR FIN 0902011.PDF
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8640103936/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 7,263 KB
Document Date: 4/1/2011 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 4Q10 & 1Q11 SAMR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1309136927/T0605979060.PDF

Document Type: Site Documents **Size :** 4,399 KB
Document Date: 1/12/2011 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: WELL DESTRUCTION REPORT **Submitted:**
Title: WELL DESTRUCTION REPORT (MW-2)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3162531554/T0605979060.PDF

Document Type: Site Documents **Size :** 59 KB
Document Date: 11/11/2010 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CHANGE OF CONTACT LETTER
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8790415465/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 7/15/2010 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: SCM & CASE CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6057526

Document Type: Site Documents **Size :** 11,272 KB
Document Date: 3/31/2010 **Submitted By:** MAY DELA CRUZ (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: UST REMOVAL SOIL SAMPLING & CHEMICAL ANALYSES
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7322022438/T0605979060.PDF

Document Type: Site Documents **Size :** 3,518 KB
Document Date: 3/5/2010 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: WELL DESTRUCTION REPORT **Submitted:**
Title: WELL DESTRUCTION AND WELL BURIAL REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8159638762/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 7,380 KB
Document Date: 2/17/2010* **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMIANNUAL MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1316254973/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 4,450 KB
Document Date: 10/1/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 3Q09 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9034941732/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 7/14/2009 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: REDUCED GROUNDWATER MONITORING REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6020920

Document Type: Monitoring Reports **Size :** 4,034 KB
Document Date: 7/10/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2Q09 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4571999669/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 3,780 KB
Document Date: 5/5/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q09 GWM REPORT, REVISED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9085770130/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 4,223 KB
Document Date: 4/27/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1Q09 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6437066197/T0605979060.PDF

Document Type: Site Documents **Size :** 8,210 KB
Document Date: 3/17/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: WELL INSTALLATION REPORT: MW-10, MW-11
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6714608311/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 3,309 KB
Document Date: 2/6/2009 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6253582179/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,560 KB
Document Date: 10/31/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4680647909/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 10/28/2008 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: WELL INSTALLATION WORK PLAN APPROVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5991824

Document Type: Site Documents **Size :** 765 KB
Document Date: 10/24/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**

Title: NOTIFICATION OF RECORD OWNERS OF FEE TITLE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1382431507/T0605979060.PDF

Document Type: Site Documents **Size :** 466 KB
Document Date: 10/24/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6373657703/T0605979060.PDF

Document Type: Site Documents **Size :** 1,091 KB
Document Date: 10/24/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: WELL INSTALLATION WORKPLAN **Submitted:**
Title: WELL INSTALLATION WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4673885524/T0605979060.PDF

Document Type: Site Documents **Size :** 628 KB
Document Date: 10/24/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: RESPONSE TO OCHCA COMMENTS DATED OCTOBER 1, 2008
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5560529947/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 10/6/2008 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: CAP APPROVAL WITH CONDITIONS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5989733

Document Type: Site Documents **Size :**
Document Date: 9/29/2008 **Submitted By:** (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5997279

Document Type: Site Documents **Size :** 1,029 KB
Document Date: 9/8/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: CAP/RAP - OTHER REPORT **Submitted:**
Title: REVISED CORRECTIVE ACTION PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6620970785/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 4,782 KB
Document Date: 8/9/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7503819346/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 4,022 KB
Document Date: 6/5/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4579312980/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,795 KB
Document Date: 2/1/2008 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8847172617/T0605979060.PDF

Document Type: Site Documents **Size :** 96 KB
Document Date: 12/13/2007 **Submitted By:** LEIDOS (SAIC) (AUTH_RP)
Type: CORRESPONDENCE - DIRECTIVE RELATED **Submitted:**
Title: CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2582533895/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,378 KB
Document Date: 10/24/2007 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2764097452/T0605979060.PDF

Document Type: Site Documents **Size :** 5,613 KB
Document Date: 10/19/2007 **Submitted By:** JASON LEE (RP)
Type: REPORTS - OTHER **Submitted:**
Title: WELL INSTALLATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3372561395/T0605979060.PDF

Document Type: Site Documents **Size :** 103 KB
Document Date: 9/17/2007 **Submitted By:** JASON LEE (RP)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: CHANGE OF CONTACT INFORMATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4065917789/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,846 KB
Document Date: 8/1/2007 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2ND QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7507389903/T0605979060.PDF

Document Type: Site Documents **Size :** 402 KB
Document Date: 6/28/2007 **Submitted By:** JASON LEE (RP)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: REVISED PLATE 3 FROM THE WELL INSTALLATION WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9717604696/T0605979060.PDF

Document Type: Site Documents **Size :** 2,585 KB
Document Date: 6/11/2007 **Submitted By:** JASON LEE (RP)
Type: WORKPLANS - OTHER WP **Submitted:**
Title: WELL INSTALLATION WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7922961175/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 3,239 KB
Document Date: 5/8/2007 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5756773233/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 3,498 KB
Document Date: 2/8/2007 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 4TH QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9989393472/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,642 KB
Document Date: 12/13/2006 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8158919394/T0605979060.PDF

Document Type: Site Documents **Size :** 588 KB
Document Date: 12/4/2006 **Submitted By:** JASON LEE (RP)
Type: REPORTS - OTHER **Submitted:**
Title: 2ND AND 3RD QUARTER 2006 GROUNDWATER DATA EVALUATION AND RECOMMENDATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5605244517/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,436 KB
Document Date: 8/3/2006 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: SECOND QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3014036417/T0605979060.PDF

Document Type: Site Documents **Size :** 8,436 KB
Document Date: 6/21/2006 **Submitted By:** JASON LEE (RP)
Type: REPORTS - OTHER **Submitted:**
Title: GROUNDWATER REMEDIATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6451736271/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,807 KB
Document Date: 5/2/2006 **Submitted By:** JASON LEE (RP)

Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FIRST QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2735944986/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 4,077 KB
Document Date: 2/1/2006 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: FOURTH QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6283018350/T0605979060.PDF

Document Type: Site Documents **Size :** 6,224 KB
Document Date: 12/22/2005 **Submitted By:** JASON LEE (RP)
Type: REPORTS - OTHER **Submitted:**
Title: REPORT FOR GROUNDWATER OVERPURGING ACTIVITIES
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4490873038/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 1,923 KB
Document Date: 10/26/2005 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 3RD QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8153381168/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 1,388 KB
Document Date: 7/29/2005 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 2Q2005 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5958371818/T0605979060.PDF

Document Type: Site Documents **Size :** 40 KB
Document Date: 4/29/2005 **Submitted By:** JASON LEE (RP)
Type: CORRESPONDENCE - OTHER **Submitted:**
Title: CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY AND SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8753705680/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 1,571 KB
Document Date: 4/27/2005 **Submitted By:** JASON LEE (RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 1ST QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1707624137/T0605979060.PDF

Document Type: Site Documents **Size :** 1,375 KB
Document Date: 4/5/2005 **Submitted By:** JASON LEE (RP)
Type: WORKPLANS - REMEDIAL ACTION PLAN **Submitted:**
Title: INTERIM REMEDIAL ACTION PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5359754264/T0605979060.PDF

35	1 of 1	NNW	0.43 / 2,284.90	372.10 / -28	CHEVRON 22942 RIDGE ROUTE LAKE FOREST CA 92630	LUST

Global ID: T0605902054 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.628763
Status Date: 1998-06-03 00:00:00 **Longitude:** -117.704197
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003004T **Potential COC:** Gasoline
Local Case Number: 97UT013 **How Discovered:** Tank Closure
Begin Date: 1997-05-09 00:00:00 **Stop Method:** Close and Remove Tank
Lead Agency: ORANGE COUNTY LOP **Stop Description:**
Local Agency: ORANGE COUNTY LOP **Case Worker:** KL
CUF Case: YES **File Location:** Local Agency
Potential Media of Concern: Soil

How Discovered Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1998-05-19 00:00:00
Action: LOP Case Closure Summary to RB

Action Type: Other
Date : 1997-05-09 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1997-05-09 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Regional Board Caseworker
Contact Name: MIGUEL OVIEDO
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 Main Street, Suite 500
Email: miguel.oviedo@waterboards.ca.gov
Phone Number: 9517823238

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Status History

Status: Completed - Case Closed
Status Date: 1998-06-03 00:00:00

Status: Open - Case Begin Date
Status Date: 1997-05-09 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: CHEVRON
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 22942 RIDGE ROUTE
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 15981
CUF Priority Assig: D
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902054
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 6/3/1998
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902054&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY

DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 97UT013
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083003004T
CASEWORKER: MIGUEL OVIEDO

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 6/3/1998

Status: Open - Case Begin Date
Date : 5/9/1997

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:
Begin Date: 1/1/1965
End Date: 1/1/1965

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/19/1998
Received Issue Date: 5/19/1998
Action: LOP Case Closure Summary to RB
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902054&enforcement_id=6161788&temptable=ENFORCEMENT

Action Type: Leak Action
Action Date: 5/9/1997
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 5/9/1997
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents
Document Date: 5/19/1998
Type: LOP CASE CLOSURE SUMMARY TO RB
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902054&enforcement_id=6161788
Size :
Submitted By: PAMELA YBARRA (REGULATOR)
Submitted:

36	1 of 2	NNW	0.45 / 2,391.12	369.35 / -31	CHEVRON 22942 RIDGE ROUTE LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0001283
Case ID: 97UT013
Case Closed Date: 6/3/1998
Type of Closure: Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Case Type: S
Case Type Desc: Soil only affected
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

---

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
36	2 of 2	NNW	0.45 / 2,391.12	369.35 / -31	CHEVRON #9-0884 22942 RIDGE ROUTE DR LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0003116
Case ID: 02UT028
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 1/15/2015
Type of Closure: Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
37	1 of 3	SSW	0.46 / 2,440.52	375.17 / -25	7-Eleven 33626 23842 EL TORO RD LAKE FOREST CA 92630	DELISTED HAZ

Siteid: 87740
Latitude: 33.615929
Longitude: -117.705582
Original Source: CHAZ
Record Date: 20-OCT-2017

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
37	2 of 3	SSW	0.46 / 2,440.52	375.17 / -25	SHELL OIL 23842 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0001822
Case ID: 99UT030
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 9/29/2005
Type of Closure: Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
37	3 of 3	SSW	0.46 / 2,440.52	375.17 / -25	SHELL OIL 23842 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605902278
Status: COMPLETED - CASE CLOSED
Status Date: 2005-09-29 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.6158299
Longitude: -117.7059824

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:
Local Case Number: 99UT030
Begin Date: 1999-01-07 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Remove Tank
Stop Description:
Case Worker: KL
File Location: Local Agency

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2005-09-29 00:00:00
Action: Closure/No Further Action Letter

Action Type: Other
Date : 1999-03-17 00:00:00
Action: Leak Reported

Action Type: REMEDIATION
Date : 1999-01-15 00:00:00
Action: Excavation

Action Type: Other
Date : 1999-01-07 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Regional Board Caseworker
Contact Name: CARL BERNHARDT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: carl.bernhardt@waterboards.ca.gov
Phone Number: 9517824495

Status History

Status: Completed - Case Closed
Status Date: 2005-09-29 00:00:00

Status: Open - Site Assessment
Status Date: 1999-12-08 00:00:00

Status: Open - Case Begin Date
Status Date: 1999-01-07 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: SHELL OIL
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902278
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 9/29/2005
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902278&tabname=regulatoryhistory
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
Address: 23842 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 18950
CUF Priority Assig: D
CUF Amount Paid:

DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 99UT030
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SAN DIEGO RWQCB (REGION 9)
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 9/29/2005

Status: Open - Site Assessment
Date : 12/8/1999

Status: Open - Case Begin Date
Date : 1/7/1999

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Begin Date: 1/15/1999
Phase:
End Date: 9/9/9999
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 9/29/2005
Received Issue Date: 9/29/2005
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902278&enforcement_id=5959327&temptable=ENFORCEMENT

Action Type: Leak Action
Action Date: 3/17/1999
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Cleanup Action
Action Date: 1/15/1999
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Leak Action
Action Date: 1/7/1999
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6239072501/T0605902278.pdf
Size : 48 KB
Submitted By: DONNA NGO (CONTRACTOR)
Submitted: 9/10/2002

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents ***Size :*** 139 KB
Document Date: 10/7/2005 ***Submitted By:*** (REGULATOR)
Type: ***Submitted:***
Title: REMEDIAL ACTION COMPLETION CERTIFICATION
Title Link: http://geotracker.waterboards.ca.gov/site_documents/3692265152/99UT030%2Epdf

Document Type: Site Documents ***Size :*** 6,046 KB
Document Date: 10/7/2005 ***Submitted By:*** (REGULATOR)
Type: ***Submitted:***
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/site_documents/6276798844/99UT030%2Epdf

Document Type: Site Documents ***Size :***
Document Date: 9/29/2005 ***Submitted By:*** PAMELA YBARRA (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Title: REMEDIAL ACTION COMPLETION CERTIFICATION AND CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902278&enforcement_id=5959327

Document Type: Site Documents ***Size :*** 14 KB
Document Date: 6/3/2005 ***Submitted By:*** DONNA NGO (CONTRACTOR)
Type: REPORTS - CLOSURE RPT. ***Submitted:***
Title: ADDENDUM 2 TO EVALUATION OF DISSOLVED-PHASE PLUME CONDITIONS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5721341788/T0605902278.PDF

Document Type: Site Documents ***Size :*** 8 KB
Document Date: 6/3/2005 ***Submitted By:*** DONNA NGO (CONTRACTOR)
Type: REPORTS - CLOSURE RPT. ***Submitted:***
Title: ADDENDUM TO EVALUATIO OF DISSOLVED-PHASE PLUME CONDITIONS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3377821207/T0605902278.PDF

Document Type: Site Documents ***Size :*** 1,905 KB
Document Date: 6/3/2005 ***Submitted By:*** DONNA NGO (CONTRACTOR)
Type: REPORTS - CLOSURE RPT. ***Submitted:***
Title: EVALUATION OF DISSOLVED-PHASE PLUME CONDITIONS, STABILITY, LONGEVITY AND POTENTIAL BENEFICIAL USE GROUNDWATER IMPAIRMENT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1790982902/T0605902278.PDF

38	*1 of 2*	*SSW*	*0.47 / 2,497.58*	*374.20 / -26*	***THE SHOPS AT LAKE FOREST SHOPPING CENTER 24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630***	***DEED***

Global ID: SL208213876
Site Type: Cleanup Program Site
Status: Open - Remediation
Status Date: 1/14/2013
County: Orange
Latitude: 33.6155271839302
Longitude: -117.704966068267
Search URL: https://geotracker.waterboards.ca.gov/profile_report?global_id=SL208213876

38	*2 of 2*	*SSW*	*0.47 / 2,497.58*	*374.20 / -26*	***THE SHOPS AT LAKE FOREST SHOPPING CENTER 24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630***	***CLEANUP SITES***

Global ID: SL208213876 ***Site Facility Type:*** CLEANUP PROGRAM SITE
Status: OPEN - REMEDIATION ***County:*** ORANGE
Status Date: 2013-01-14 00:00:00 ***Latitude:*** 33.6155271839302
Site Code: ***Longitude:*** -117.704966068267
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: SL208213876
CUF Case: NO
Local Case Number:
Case Worker: MB
Begin Date: 1996-01-01 00:00:00
File Location: Regional Board
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC:
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered: * RPR
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

The Site is in the Orange County Groundwater Management Zone of the Santa Ana River Watershed. The Site is a former dry cleaner located in a shopping center on the southeast corner of El Toro Road and Rockfield Boulevard in Lake Forest, approximately 700 feet to the north of Interstate 5 Freeway (the freeway). The shopping center was developed in the late 1960s and early 1970s. The dry cleaner location was operational since the completion of the shopping center until February 2007. The former dry cleaning facility is currently vacant. Several subsurface investigations were performed at the Site between 1991 and 1998. Chlorinated volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), 1,2-dichloroethylene (DCE), 1,1-DCE, and 1,2-dichloroethane (DCA) have been detected as a result of this release. However, PCE was the primary contaminant that was encountered in the soil and groundwater at the Site. Groundwater monitoring wells MW-1A, MW-2, MW-3, and MW-6 and deep monitoring wells DMW-1, DMW-2, and DMW-3 were installed in the parking lot just to the south of the dry cleaner building. Two additional wells, MW-4 (shallow) and MW-103 (deep) were also installed on the southern edge of the shopping center prior to 1999. Additional monitoring wells MW-7 through MW-12 and MW-14 were installed in the vegetation covered areas next to the entrance and exit ramps for the freeway. One monitoring well, MW-13, was installed to the south of the freeway as a downgradient well to monitor the migration of the groundwater plume in that area. The highest PCE concentration detected in the groundwater was in monitoring well MW-1A at 40,000 micrograms per liter (µg/L) in February 1997. MW-1A is located approximately 20 feet to the south of the former dry cleaning building. From March 2000 to June 2004, ENVIRON operated a 2-PHASE extraction system at the Site to treat impacted soil and groundwater. A horizontal vapor extraction well was extended from the parking lot under the dry cleaning facility to improve soil vapor recovery in that area. Pneumatic fracturing of the soil around well SVE-1 was also applied, to enhance the recovery of soil gas from that well. Approximately 224 million cubic feet of vapor were treated, and 704 pounds of VOCs were removed. A pilot test for injection of sodium permanganate was conducted in August 2005, and a full-scale injection was conducted in February 2007. A total of 31,700 gallons of 10% sodium permanganate solution was injected into soil and groundwater at 32 injection points at on and off-site locations. Depth to groundwater in the onsite wells is in the range of 12.50 and 13.50 feet below ground surface (bgs). Groundwater appears to flow towards the west to southwest with an onsite gradient of 0.004 foot/foot. In April 2009, RB agreed to a reduction of groundwater monitoring frequency from quarterly to semi-annual. PCE concentration is some of the on-site and downgradient wells have shown considerable rebound from their values immediately after the implementation of ISCO. In August 2009 CPT and groundwater sampling was conducted in the off-site downgradient area located to the South of I-5 Freeway. Low concentrations of PCE was detected in the shallow groundwater. Sampling results from September 2009 groundwater monitoring showed higher concentrations of PCE in some of the on-site wells located immediately downgradient of the source area. This provided evidence that a) ISCO does not provide a long-term and permanent solution for the groundwater issue and b) residual concentrations of PCE in soil are still contributing to the groundwater contamination. Additional soil and soil gas sampling was conducted in March 2010 at the source area. A RAP was submitted in December 2011 and commented on in Janaury 2012. Soil excavation in the source area was proposed in the RAP.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type: ENFORCEMENT
Date : 2019-01-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2019-01-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2018-08-14 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2018-07-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-06-20 00:00:00

Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2018-06-06 00:00:00
Action: Annual Estimation Letter

Action Type: ENFORCEMENT
Date : 2018-05-24 00:00:00
Action: Access Agreement

Action Type: ENFORCEMENT
Date : 2018-05-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-05-10 00:00:00
Action: Access Agreement

Action Type: ENFORCEMENT
Date : 2018-05-03 00:00:00
Action: Amendment to Order

Action Type: ENFORCEMENT
Date : 2018-05-01 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-04-19 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2018-03-01 00:00:00
Action: Electronic Reporting Submittal Due

Action Type: ENFORCEMENT
Date : 2018-01-11 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2017-12-20 00:00:00
Action: Response to Comments

Action Type: ENFORCEMENT
Date : 2017-12-07 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2017-11-30 00:00:00
Action: Well Installation Workplan

Action Type: RESPONSE
Date : 2017-11-10 00:00:00
Action: Proposed Plan

Action Type: RESPONSE
Date : 2017-10-27 00:00:00
Action: Proposed Plan

Action Type: ENFORCEMENT
Date : 2017-10-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2017-09-14 00:00:00
Action: Proposed Plan

Action Type: RESPONSE
Date : 2017-09-14 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2017-06-30 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2017-06-08 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2017-05-12 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2017-01-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2016-07-12 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2016-02-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2016-02-24 00:00:00
Action: Well Installation Workplan

Action Type: ENFORCEMENT
Date : 2015-09-15 00:00:00
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 2015-07-15 00:00:00
Action: Deed Restriction / Land Use Restriction / Covenant - #2015000378120

Action Type: ENFORCEMENT
Date : 2014-06-20 00:00:00
Action: Waste Discharge Requirements - #R8-2013-0029-016

Action Type: ENFORCEMENT
Date : 2014-04-28 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2014-04-11 00:00:00
Action: Other Report / Document

Action Type: RESPONSE
Date : 2013-12-18 00:00:00
Action: Corrective Action Plan / Remedial Action Plan - Addendum

Action Type: RESPONSE
Date : 2013-11-06 00:00:00
Action: Feasibility Study Report

Action Type: RESPONSE
Date : 2013-10-03 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2013-06-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2013-06-05 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2013-02-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2012-12-06 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2012-12-04 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2012-11-15 00:00:00
Action: Fact Sheets - Public Participation

Action Type: ENFORCEMENT
Date : 2012-10-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2012-10-10 00:00:00
Action: CAP/RAP - Other Report

Action Type: ENFORCEMENT
Date : 2012-09-27 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2012-09-14 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2012-07-03 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2012-06-26 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2012-06-18 00:00:00
Action: Pilot Study / Treatability Workplan

Action Type: ENFORCEMENT
Date : 2012-05-07 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2012-04-10 00:00:00
Action: Meeting

Action Type: RESPONSE
Date : 2012-02-29 00:00:00
Action: Pilot Study/ Treatability Report

Action Type: ENFORCEMENT
Date : 2012-01-10 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2011-12-09 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2011-10-26 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE

Date : 2011-10-10 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2011-08-01 00:00:00
Action: Risk Assessment Report

Action Type: ENFORCEMENT
Date : 2011-07-06 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2011-06-23 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2011-06-01 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2011-05-24 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2011-05-20 00:00:00
Action: Correspondence

Action Type: RESPONSE
Date : 2011-04-29 00:00:00
Action: Pilot Study/ Treatability Report

Action Type: ENFORCEMENT
Date : 2011-04-21 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2011-04-14 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2011-04-14 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2011-03-22 00:00:00
Action: Technical Memos

Action Type: ENFORCEMENT
Date : 2011-02-23 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2011-01-20 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2010-12-29 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2010-11-30 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2010-11-05 00:00:00
Action: Site Investigation

Action Type: ENFORCEMENT
Date : 2010-11-04 00:00:00

Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2010-10-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2010-10-01 00:00:00
Action: Pilot Study / Treatability Workplan

Action Type: ENFORCEMENT
Date : 2010-09-02 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2010-07-22 00:00:00
Action: Site Investigation Workplan

Action Type: RESPONSE
Date : 2010-07-22 00:00:00
Action: Feasibility Study Report

Action Type: RESPONSE
Date : 2010-05-12 00:00:00
Action: Technical Memos

Action Type: RESPONSE
Date : 2010-04-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2010-03-31 00:00:00
Action: Site Investigation

Action Type: ENFORCEMENT
Date : 2010-01-28 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-12-14 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2009-11-12 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-10-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2009-09-15 00:00:00
Action: Site Investigation

Action Type: ENFORCEMENT
Date : 2009-06-18 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2009-05-01 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2009-04-15 00:00:00
Action: Monitoring Report - Other

Action Type: ENFORCEMENT
Date : 2009-04-01 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2008-12-24 00:00:00
Action: Other Report / Document

Action Type: RESPONSE
Date : 2008-12-24 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2008-10-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: Other
Date : 1965-01-02 00:00:00
Action: Leak Reported

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Remediation
Status Date: 2013-01-14 00:00:00

Status: Open - Site Assessment
Status Date: 2012-04-01 00:00:00

Status: Open - Assessment & Interim Remedial Action
Status Date: 2009-06-18 00:00:00

Status: Open - Remediation
Status Date: 2009-06-18 00:00:00

Status: Open - Case Begin Date
Status Date: 1996-01-01 00:00:00

Status: Open
Status Date: 1996-01-01 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: Mona Behrooz
Phone Number: 9517823237
Address: 3737 Main St, Suite 500
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: mehrnoosh.behrooz@waterboards.ca.gov

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:
CUF Claim:
CUF Priority Assign:
CUF Amount Paid:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=SL208213876
Cleanup Status Detail: OPEN - REMEDIATION AS OF 1/14/2013
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL208213876&tabname=regulatoryhistory
Potential COC: VOLATILE ORGANIC COMPOUNDS
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management: ACTIVITIES PROHIBITED WHICH DISTURB THE REMEDY AND MONITORING SYSTEMS WITHOUT APPROVAL
DAY CARE CENTER PROHIBITED
ELDER CARE CENTER PROHIBITED
HOSPITAL USE PROHIBITED

WDR Place Type:
WDR File:
WDR Order:
File Location: REGIONAL BOARD

LAND USE COVENANT
NO EXCAVATION OF CONTAMINATED SOILS WITHOUT AGENCY REVIEW AND APPROVAL
NOTIFY PRIOR TO DEVELOPMENT
NOTIFY PRIOR TO SUBSURFACE WORK
PUBLIC OR PRIVATE SCHOOL FOR PERSONS UNDER 21 PROHIBITED
RAISING OF FOOD PROHIBITED
RESIDENCE USE PROHIBITED

Future Land Use: COMMERCIAL
INDUSTRIAL

Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: SL208213876
CASEWORKER: Mona Behrooz

Site History:

The Site is in the Orange County Groundwater Management Zone of the Santa Ana River Watershed. The Site is a former dry cleaner located in a shopping center on the southeast corner of El Toro Road and Rockfield Boulevard in Lake Forest, approximately 700 feet to the north of Interstate 5 Freeway (the freeway). The shopping center was developed in the late 1960s and early 1970s. The dry cleaner location was operational since the completion of the shopping center until February 2007. The former dry cleaning facility is currently vacant.

Several subsurface investigations were performed at the Site between 1991 and 1998. Chlorinated volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), 1,2-dichloroethylene (DCE), 1,1-DCE, and 1,2-dichloroethane (DCA) have been detected as a result of this release. However, PCE was the primary contaminant that was encountered in the soil and groundwater at the Site. Groundwater monitoring wells MW-1A, MW-2, MW-3, and MW-6 and deep monitoring wells DMW-1, DMW-2, and DMW-3 were installed in the parking lot just to the south of the dry cleaner building. Two additional wells, MW-4 (shallow) and MW-103 (deep) were also installed on the southern edge of the shopping center prior to 1999. Additional monitoring wells MW-7 through MW-12 and MW-14 were installed in the vegetation covered areas next to the entrance and exit ramps for the freeway. One monitoring well, MW-13, was installed to the south of the freeway as a downgradient well to monitor the migration of the groundwater plume in that area.

The highest PCE concentration detected in the groundwater was in monitoring well MW-1A at 40,000 micrograms per liter (µg/L) in February 1997. MW-1A is located approximately 20 feet to the south of the former dry cleaning building. From March 2000 to June 2004, ENVIRON operated a 2-PHASE extraction system at the Site to treat impacted soil and groundwater. A horizontal vapor extraction well was extended from the parking lot under the dry cleaning facility to improve soil vapor recovery in that area. Pneumatic fracturing of the soil around well SVE-1 was also applied, to enhance the recovery of soil gas from that well. Approximately 224 million cubic feet of vapor were treated, and 704 pounds of VOCs were removed.

A pilot test for injection of sodium permanganate was conducted in August 2005, and a full-scale injection was conducted in February 2007. A total of 31,700 gallons of 10% sodium permanganate solution was injected into soil and groundwater at 32 injection points at on and off-site locations. Depth to groundwater in the onsite wells is in the range of 12.50 and 13.50 feet below ground surface (bgs). Groundwater appears to flow towards the west to southwest with an onsite gradient of 0.004 foot/foot. In April 2009, RB agreed to a reduction of groundwater monitoring frequency from quarterly to semi-annual. PCE concentration is some of the on-site and downgradient wells have shown considerable rebound from their values immediately after the implementation of ISCO. In August 2009 CPT and groundwater sampling was conducted in the off-site downgradient area located to the South of I-5 Freeway. Low concentrations of PCE was detected in the shallow groundwater. Sampling results from September 2009 groundwater monitoring showed higher concentrations of PCE in some of the on-site wells located immediately downgradient of the source area. This provided evidence that a) ISCO does not provide a long-term and permanent solution for the groundwater issue and b) residual concentrations of PCE in soil are still contributing to the groundwater contamination. Additional soil and soil gas sampling was conducted in March 2010 at the source area.

A RAP was submitted in December 2011 and commented on in Janaury 2012. Soil excavation in the source area was proposed in the RAP.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 1/15/2019
Received Issue Date: 1/15/2019
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6382201&temptable=ENFORCEMENT
Title Description Comments:

RE Remedial Action Work Plan Addendum for Off-Site Groundwater Remediation

Action Type: Response Requested - Other
Action Date: 8/14/2018
Received Issue Date: 8/14/2018
Action: Correspondence
Doc Link:
Title Description Comments:

BH Revised CSM Submittal Date - Rev.2

Action Type: Other Regulatory Actions
Action Date: 7/25/2018
Received Issue Date: 7/25/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6364857&tempt able=ENFORCEMENT
Title Description Comments:

Soil Confirmation Sampling at the Proposed Excavation Area

Action Type: Notices
Action Date: 6/20/2018
Received Issue Date: 6/20/2018
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361765&tempt able=ENFORCEMENT
Title Description Comments:

2 nd Access Request

Action Type: Other Regulatory Actions
Action Date: 6/6/2018
Received Issue Date: 6/6/2018
Action: Annual Estimation Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6360325&tempt able=ENFORCEMENT
Title Description Comments:

The Shop at Lake Forest

Action Type: Agreements
Action Date: 5/24/2018
Received Issue Date: 5/24/2018
Action: Access Agreement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361173&tempt able=ENFORCEMENT
Title Description Comments:

Access Request

Action Type: Other Regulatory Actions
Action Date: 5/14/2018
Received Issue Date: 5/14/2018
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

RE Work Plan for Additional Investigation-Goldenwest 2

Action Type: Agreements
Action Date: 5/10/2018
Received Issue Date: 5/10/2018
Action: Access Agreement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6357563&tempt able=ENFORCEMENT
Title Description Comments:

The Second Access Request Letter

Action Type: Enforcement/Orders
Action Date: 5/3/2018
Received Issue Date: 5/3/2018
Action: Amendment to Order
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356809&tempt able=ENFORCEMENT

Title Description Comments:

Amended WDR

Action Type: Other Regulatory Actions
Action Date: 5/1/2018
Received Issue Date: 5/1/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356813&temptable=ENFORCEMENT
Title Description Comments:

CONCURRENCE WITH THE PROPOSED EXCAVATION

Action Type: Other Regulatory Actions
Action Date: 5/1/2018
Received Issue Date: 5/1/2018
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

The Former Shops at Lake Forest

Action Type: Other Regulatory Actions
Action Date: 4/19/2018
Received Issue Date: 4/19/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356812&temptable=ENFORCEMENT
Title Description Comments:

REQUEST FOR ACCESS TO CONDUCT GROUNDWATER INVESTIGATION

Action Type: Response Requested - Other
Action Date: 3/1/2018
Received Issue Date: 3/1/2018
Action: Electronic Reporting Submittal Due
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5958598
Title Description Comments:

2018-03-01 WDR Application

Action Type: Other Regulatory Actions
Action Date: 1/11/2018
Received Issue Date: 1/11/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6345513&temptable=ENFORCEMENT
Title Description Comments:

RE Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy

Action Type: Response Requested - Other
Action Date: 12/20/2017
Received Issue Date: 12/20/2017
Action: Response to Comments
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5951863
Title Description Comments:

Response to RWQCB Comments Regarding the Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy, Dated December 7, 2017

Action Type: Other Regulatory Actions
Action Date: 12/7/2017
Received Issue Date: 12/7/2017

Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342770&temptable=ENFORCEMENT
Title Description Comments:

RE Well Installation Technical Memorandum

Action Type: Other Regulatory Actions
Action Date: 12/7/2017
Received Issue Date: 12/7/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342747&temptable=ENFORCEMENT
Title Description Comments:

Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy

Action Type: Response Requested - Workplans
Action Date: 11/30/2017
Received Issue Date: 11/30/2017
Action: Well Installation Workplan
Doc Link:
Title Description Comments:

SENTRY-METALS-WELL-INSTALL-MEMO

Action Type: Response Requested - Workplans
Action Date: 11/10/2017
Received Issue Date: 11/10/2017
Action: Proposed Plan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5948854
Title Description Comments:

Revised Pre-Design Work Plan_111017

Action Type: Response Requested - Workplans
Action Date: 10/27/2017
Received Issue Date: 10/27/2017
Action: Proposed Plan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5948853
Title Description Comments:

Response to RWQCB Comments Regarding the Pre-Design Work Plan

Action Type: Other Regulatory Actions
Action Date: 10/12/2017
Received Issue Date: 10/12/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6338716&temptable=ENFORCEMENT
Title Description Comments:

RE Pre-Design Work Plan for Full-Scale Groundwater Remedy

Action Type: Response Requested - Workplans
Action Date: 9/14/2017
Received Issue Date: 9/14/2017
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5946033
Title Description Comments:

Pre-Design Work Plan for Full-Scale Groundwater Remedy

Action Type: Response Requested - Workplans

Action Date: 9/14/2017
Received Issue Date: 9/14/2017
Action: Proposed Plan
Doc Link:
Title Description Comments:

Pre-Design Work Plan_091417

Action Type: Response Requested - Other
Action Date: 6/30/2017
Received Issue Date: 6/30/2017
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5945222
Title Description Comments:

Responses to Water Board Comments June 30 2017

Action Type: Other Regulatory Actions
Action Date: 6/8/2017
Received Issue Date: 6/8/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6322444&temptable=ENFORCEMENT
Title Description Comments:

The_Shops_at_the_Lake_Forest_RE_Pilot_Test

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6319789&temptable=ENFORCEMENT
Title Description Comments:

Annual Cost Estimate

Action Type: Other Regulatory Actions
Action Date: 1/12/2017
Received Issue Date: 1/12/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6308394&temptable=ENFORCEMENT
Title Description Comments:

Request for Reports

Action Type: Notices
Action Date: 7/12/2016
Received Issue Date: 7/12/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6291892&temptable=ENFORCEMENT
Title Description Comments:

Notice of Change of Case Manager

Action Type: Other Regulatory Actions
Action Date: 2/25/2016
Received Issue Date: 2/25/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6277125&temptable=ENFORCEMENT
Title Description Comments:

Comments on Work Plan for Installation of Off-Site Wells

Action Type: Response Requested - Workplans
Action Date: 2/24/2016
Received Issue Date: 2/24/2016
Action: Well Installation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5881131
Title Description Comments:

Work Plan for the Installation of Off-Site Groundwater Monitoring Wells

Action Type: Other Regulatory Actions
Action Date: 9/15/2015
Received Issue Date: 9/15/2015
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6260531&temptable=ENFORCEMENT
Title Description Comments:

Conditional Determination of No Further Action for Soil

Action Type: Other Regulatory Actions
Action Date: 7/15/2015
Received Issue Date: 7/15/2015
Action: Deed Restriction / Land Use Restriction / Covenant - #2015000378120
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6255157&temptable=ENFORCEMENT
Title Description Comments:

Land Use Covenant

Action Type: Enforcement/Orders
Action Date: 6/20/2014
Received Issue Date: 6/20/2014
Action: Waste Discharge Requirements - #R8-2013-0029-016
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6210816&temptable=ENFORCEMENT
Title Description Comments:

Discharge Authorization and Monitoring and Reporting Program No. R8-2013-0029-016

Action Type: Other Regulatory Actions
Action Date: 4/28/2014
Received Issue Date: 4/28/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6201213&temptable=ENFORCEMENT
Title Description Comments:

Comments on the ROWD Application Package

Action Type: Response Requested - Other
Action Date: 4/11/2014
Received Issue Date: 4/11/2014
Action: Other Report / Document
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803155
Title Description Comments:

Waste Discharge Requirement (WDR) Permit Application

Action Type: Response Requested - Workplans
Action Date: 12/18/2013
Received Issue Date: 12/18/2013
Action: Corrective Action Plan / Remedial Action Plan - Addendum

Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803149
Title Description Comments:

Second Addendum to Revised Remedial Action Work Plan

Action Type: Response Requested - Reports
Action Date: 11/6/2013
Received Issue Date: 11/6/2013
Action: Feasibility Study Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803150
Title Description Comments:

Amended Feasibility Study

Action Type: Response Requested - Other
Action Date: 10/3/2013
Received Issue Date: 10/3/2013
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803148
Title Description Comments:

Joint Sampling Requirement

Action Type: Other Regulatory Actions
Action Date: 6/12/2013
Received Issue Date: 6/12/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200872&temptable=ENFORCEMENT
Title Description Comments:

Change of Groundwater Monitoring Frequency

Action Type: Other Regulatory Actions
Action Date: 6/12/2013
Received Issue Date: 6/12/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200873&temptable=ENFORCEMENT
Title Description Comments:

Comments on the On-Site Residual Source Removal Report

Action Type: Response Requested - Other
Action Date: 6/5/2013
Received Issue Date: 6/5/2013
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803147
Title Description Comments:

Pilot test of Enhanced Reductive Dechlorination for Groundwater

Action Type: Response Requested - Other
Action Date: 6/5/2013
Received Issue Date: 6/5/2013
Action: Correspondence
Doc Link:
Title Description Comments:

Pilot test of Enhanced Reductive Dechlorination for Groundwater

Action Type: Other Regulatory Actions
Action Date: 2/25/2013
Received Issue Date: 2/25/2013

Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200877&temptable=ENFORCEMENT
Title Description Comments:

SVE-1 Abandonment

Action Type: Other Regulatory Actions
Action Date: 12/6/2012
Received Issue Date: 12/6/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200867&temptable=ENFORCEMENT
Title Description Comments:

Comments on th Contingency Plan

Action Type: Response Requested - Workplans
Action Date: 12/4/2012
Received Issue Date: 12/4/2012
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803141
Title Description Comments:

Contingency Plan to Continue the Migration Pattern for the VOCs in the Downgradient Area of MW-13

Action Type: Response Requested - Other
Action Date: 11/15/2012
Received Issue Date: 11/15/2012
Action: Fact Sheets - Public Participation
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803140
Title Description Comments:

Fact Sheet - Environmental Cleanup Program Planned to Begin January 2013

Action Type: Other Regulatory Actions
Action Date: 10/15/2012
Received Issue Date: 10/15/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6142238&temptable=ENFORCEMENT
Title Description Comments:

Approval of the Remedial Action Work Plan

Action Type: Response Requested - Reports
Action Date: 10/10/2012
Received Issue Date: 10/10/2012
Action: CAP/RAP - Other Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5756961
Title Description Comments:

Addendum to revised Remedial Action Work Plan

Action Type: Other Regulatory Actions
Action Date: 9/27/2012
Received Issue Date: 9/27/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139320&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Revised Remedial Action Work Plan

Action Type: Response Requested - Workplans
Action Date: 9/14/2012
Received Issue Date: 9/14/2012
Action: Corrective Action Plan / Remedial Action Plan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5753834
Title Description Comments:

Revised Remedial Action Work Plan

Action Type: Other Regulatory Actions
Action Date: 7/3/2012
Received Issue Date: 7/3/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139324&temptable=ENFORCEMENT
Title Description Comments:

Comments on Work Plan for Off-Site Pilot Test of Enhanced Reductive Dechlorination

Action Type: Response Requested - Workplans
Action Date: 6/18/2012
Received Issue Date: 6/18/2012
Action: Pilot Study / Treatability Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5753835
Title Description Comments:

Work Plan for Off-Site Pilot Test of Enhanced Reductive Dechlorination

Action Type: Other Regulatory Actions
Action Date: 5/7/2012
Received Issue Date: 5/7/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121151&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Report of Off-Site Bio-Trap Extended Field Study

Action Type: Other Regulatory Actions
Action Date: 4/10/2012
Received Issue Date: 4/10/2012
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121154&temptable=ENFORCEMENT
Title Description Comments:

Summary of the Meeting for the Shops at Lake Forest

Action Type: Response Requested - Reports
Action Date: 2/29/2012
Received Issue Date: 2/29/2012
Action: Pilot Study/ Treatability Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5736574
Title Description Comments:

Report of Off-Site Bio-Trap Extended Field Study

Action Type: Other Regulatory Actions
Action Date: 1/10/2012
Received Issue Date: 1/10/2012
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6119120&temptable=ENFORCEMENT
Title Description Comments:

Comments on Remedial Action Work Plan

Action Type: Response Requested - Workplans
Action Date: 12/9/2011
Received Issue Date: 12/9/2011
Action: Corrective Action Plan / Remedial Action Plan
Doc Link:
Title Description Comments:

Remedial Action Work Plan

Action Type: Response Requested - Workplans
Action Date: 12/9/2011
Received Issue Date: 12/9/2011
Action: Corrective Action Plan / Remedial Action Plan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5735511
Title Description Comments:

Remedial Action Work Plan

Action Type: Other Regulatory Actions
Action Date: 10/26/2011
Received Issue Date: 10/26/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6105775&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Vapor Intrusion and Human Health Risk Evaluation Report

Action Type: Response Requested - Reports
Action Date: 10/10/2011
Received Issue Date: 10/10/2011
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5726821
Title Description Comments:

2011 Second Semi-Annual Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 8/1/2011
Received Issue Date: 8/1/2011
Action: Risk Assessment Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5726820
Title Description Comments:

Vapor Intrusion and Human Health Risk Evaluation

Action Type: Other Regulatory Actions
Action Date: 7/6/2011
Received Issue Date: 7/6/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097004&temptable=ENFORCEMENT
Title Description Comments:

Comments on Work Plan for Additional Off-Site Microbial Sufficiency Field Study

Action Type: Response Requested - Workplans
Action Date: 6/23/2011
Received Issue Date: 6/23/2011
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720537
Title Description Comments:

Work Plan for Additional Off-Site Mivrobial Sufficiency Field Study

Action Type: Other Regulatory Actions
Action Date: 6/1/2011
Received Issue Date: 6/1/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097002&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Report of Indoor Air, Soil Vapor, and Soil Sampling at Adjacent Units

Action Type: Other Regulatory Actions
Action Date: 5/24/2011
Received Issue Date: 5/24/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096999&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Report of Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Response Requested - Other
Action Date: 5/20/2011
Received Issue Date: 5/20/2011
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720539
Title Description Comments:

Response to Comments on the Revised Work Plan for On-Site Residual Source Remvoal

Action Type: Response Requested - Reports
Action Date: 4/29/2011
Received Issue Date: 4/29/2011
Action: Pilot Study/ Treatability Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720538
Title Description Comments:

Report of Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Other Regulatory Actions
Action Date: 4/21/2011
Received Issue Date: 4/21/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096998&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Revised Work Plan for On-Site Residual Source Removal

Action Type: Response Requested - Workplans
Action Date: 4/14/2011
Received Issue Date: 4/14/2011
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720540
Title Description Comments:

Revised Work Plan for On-Site Residual Source Removal

Action Type: Response Requested - Reports
Action Date: 4/14/2011
Received Issue Date: 4/14/2011
Action: Monitoring Report - Semi-Annually

Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720542
Title Description Comments:

March 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 3/22/2011
Received Issue Date: 3/22/2011
Action: Technical Memos
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720541
Title Description Comments:

Report of Indoor Air, Soil, Soil Vapor, ad Soil Sampling at Adjacent Tenant Units

Action Type: Other Regulatory Actions
Action Date: 2/23/2011
Received Issue Date: 2/23/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6084131&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Work Plan for On-Site Residual Source Removal

Action Type: Other Regulatory Actions
Action Date: 1/20/2011
Received Issue Date: 1/20/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075144&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Work Plan for Indoor Air, Soil Vapor, and Soil Sampling at Adjacent Tenant Units

Action Type: Response Requested - Workplans
Action Date: 12/29/2010
Received Issue Date: 12/29/2010
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703709
Title Description Comments:

Work Plan for Indoor Air, Soil vapor, and Soil Sampling at Adjacent Tenant Units

Action Type: Other Regulatory Actions
Action Date: 11/30/2010
Received Issue Date: 11/30/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075141&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Report of OCtober 2010 Additional On-Site Investigation

Action Type: Response Requested - Reports
Action Date: 11/5/2010
Received Issue Date: 11/5/2010
Action: Site Investigation
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703710
Title Description Comments:

Report of October 2010 Additional On-Site Investigation

Action Type: Other Regulatory Actions
Action Date: 11/4/2010

Received Issue Date: 11/4/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6069249&temptable=ENFORCEMENT
Title Description Comments:

Comments on Work Plan for Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Response Requested - Reports
Action Date: 10/15/2010
Received Issue Date: 10/15/2010
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703711
Title Description Comments:

August 2010 Groundwater Monitoring Report

Action Type: Response Requested - Workplans
Action Date: 10/1/2010
Received Issue Date: 10/1/2010
Action: Pilot Study / Treatability Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699400
Title Description Comments:

Work Plan for Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Other Regulatory Actions
Action Date: 9/2/2010
Received Issue Date: 9/2/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062897&temptable=ENFORCEMENT
Title Description Comments:

Comments on Feasibility Study for Off-Site Area

Action Type: Other Regulatory Actions
Action Date: 9/2/2010
Received Issue Date: 9/2/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062896&temptable=ENFORCEMENT
Title Description Comments:

Comments on Work pLan for Additional On-Site Soil and Soil Vapor Sampling

Action Type: Response Requested - Workplans
Action Date: 7/22/2010
Received Issue Date: 7/22/2010
Action: Site Investigation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699405
Title Description Comments:

Work Plan for Additional On-Site Soil and Soil Vapor Sampling

Action Type: Response Requested - Reports
Action Date: 7/22/2010
Received Issue Date: 7/22/2010
Action: Feasibility Study Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699407
Title Description Comments:

Feasibility Study for Off-Site Area

Action Type: Response Requested - Reports
Action Date: 5/12/2010
Received Issue Date: 5/12/2010
Action: Technical Memos
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667741
Title Description Comments:

Focused Feasibility Study and Risk Based Target Concentration for Off-Site Groundwater Remediation - Reviewed the RBTC. Requested a stand alone FS document.

Action Type: Response Requested - Reports
Action Date: 4/15/2010
Received Issue Date: 4/15/2010
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667742
Title Description Comments:

March 2010 Groundwater Monitoring Report - Reviewed the report.

Action Type: Response Requested - Reports
Action Date: 3/31/2010
Received Issue Date: 3/31/2010
Action: Site Investigation
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667743
Title Description Comments:

Report of March 2010 Additional On-Site Investigation - Reviewed the report.

Action Type: Other Regulatory Actions
Action Date: 1/28/2010
Received Issue Date: 1/28/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045889&temptable=ENFORCEMENT
Title Description Comments:

Comments on Environ's December 14, 2009 Submittal

Action Type: Response Requested - Other
Action Date: 12/14/2009
Received Issue Date: 12/14/2009
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5663540
Title Description Comments:

Responses to Comments on the Report for Additional Investigation - Reviewed the response.

Action Type: Other Regulatory Actions
Action Date: 11/12/2009
Received Issue Date: 11/12/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045887&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Report for Additional Off-Site Investigation and September 2009 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 10/15/2009
Received Issue Date: 10/15/2009
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5663536
Title Description Comments:

September 2009 Groundwater Monitoring Report - Reviewed the report.

Action Type: Response Requested - Reports
Action Date: 9/15/2009
Received Issue Date: 9/15/2009
Action: Site Investigation
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5651165
Title Description Comments:

Report of Additional Off-Site Investigation 2009 - Reviewed the report and responded through e-mail requesting iso-concentraion contours for PCE.

Action Type: Other Regulatory Actions
Action Date: 6/18/2009
Received Issue Date: 6/18/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6027437&temptable=ENFORCEMENT
Title Description Comments:

Approval of the Work Plan for Additional Off-Site Investigation

Action Type: Response Requested - Workplans
Action Date: 5/1/2009
Received Issue Date: 5/1/2009
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5648522
Title Description Comments:

Work Plan for Additional Off-Site Investigation - Reviewed the work plan.

Action Type: Response Requested - Reports
Action Date: 4/15/2009
Received Issue Date: 4/15/2009
Action: Monitoring Report - Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5636631
Title Description Comments:

March 2009 Groundwater Monitoring Report - Reviewed the report and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 4/1/2009
Received Issue Date: 4/1/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6009352&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Responses to Comments for the March and June 2008 Groundwater Monitoring Report and Work Plan for Confirmation Soil Vapor Sampling

Action Type: Response Requested - Workplans
Action Date: 12/24/2008
Received Issue Date: 12/24/2008
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5627546
Title Description Comments:

March and June Groundwater Monitoring Report and Work Plan for Confirmation Soil Vapor Sampling - Reviewed the document and discussed with the consultant.

Action Type: Response Requested - Other
Action Date: 12/24/2008
Received Issue Date: 12/24/2008
Action: Other Report / Document

Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5627547
Title Description Comments:

Responses to Comments for the March and June 2008 Groundwater Monitoring Report and Work Plan for Confirmation Soil Sampling - Reviewed the document and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 10/14/2008
Received Issue Date: 10/14/2008
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=5997738&temptable=ENFORCEMENT
Title Description Comments:

Comments on the Work Plan for Confirmation Soil Vapor Sampling

Action Type: Leak Action
Action Date: 1/2/1965
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Cleanup Program Sites from GeoTracker Search - Deed Restrictions(as of Jan 18, 2019)

Date Recorded: 7/15/2015
Site Management Requirements: DAY CARE CENTER PROHIBITED, ELDER CARE CENTER PROHIBITED, HOSPITAL USE PROHIBITED, LAND USE COVENANT, NO EXCAVATION OF CONTAMINATED SOILS WITHOUT AGENCY REVIEW AND APPROVAL, NOTIFY PRIOR TO SUBSURFACE WORK, RESIDENCE USE PROHIBITED
Covenant Doc Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/8256808221/Land%20Use%20Covenant_recorded.pdf

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents ***Submitted:***
Document Date: 1/15/2019 ***Submitted By:*** MONA BEHROOZ (REGULATOR)
Size :
Title: RE REMEDIAL ACTION WORK PLAN ADDENDUM FOR OFF-SITE GROUNDWATER REMEDIATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6382201
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents ***Submitted:***
Document Date: 10/16/2018 ***Submitted By:*** RAY HANNON (AUTH_RP)
Size : 13,515 KB
Title: THIRD QUARTER 2018 WDR COMPLIANCE MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5542447030/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents ***Submitted:***
Document Date: 10/12/2018 ***Submitted By:*** RAY HANNON (AUTH_RP)
Size : 18,077 KB
Title: 2018-10-12 CPS RAW ADENDUM
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8474890589/SL208213876.PDF
Type: REMOVAL ACTION WORK PLAN

Document Type: Monitoring Reports ***Submitted:***
Document Date: 8/2/2018 ***Submitted By:*** RAY HANNON (AUTH_RP)
Size : 10,528 KB
Title: FIRST SEMI-ANNUAL 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7061856210/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents ***Submitted:***
Document Date: 7/31/2018 ***Submitted By:*** RAY HANNON (AUTH_RP)

Size : 17,338 KB
Title: SECOND QUARTER 2018 WDR COMPLIANCE MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6596285343/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents **Submitted:**
Document Date: 7/25/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: SOIL CONFIRMATION SAMPLING AT THE PROPOSED EXCAVATION AREA
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6364857
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/20/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: 2 ND ACCESS REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361765
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 6/6/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: THE SHOP AT LAKE FOREST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6360325
Type: ANNUAL ESTIMATION LETTER

Document Type: Site Documents **Submitted:**
Document Date: 5/24/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ACCESS REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361173
Type: ACCESS AGREEMENT

Document Type: Site Documents **Submitted:**
Document Date: 5/10/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: THE SECOND ACCESS REQUEST LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6357563
Type: ACCESS AGREEMENT

Document Type: Site Documents **Submitted:**
Document Date: 5/3/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: AMENDED WDR
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356809
Type: AMENDMENT TO ORDER

Document Type: Site Documents **Submitted:**
Document Date: 5/1/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: CONCURRENCE WITH THE PROPOSED EXCAVATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356813
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 4/19/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REQUEST FOR ACCESS TO CONDUCT GROUNDWATER INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356812
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/13/2018 **Submitted By:** RAY HANNON (AUTH_RP)
Size : 9,668 KB
Title: SHOPS AT LAKE FOREST_2SA17 GWMR_FINAL_0401218
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4508358895/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**

Document Date: 3/1/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: 2018-03-01 WDR APPLICATION - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5958598
Type: ELECTRONIC REPORTING SUBMITTAL DUE

Document Type: Site Documents **Submitted:**
Document Date: 1/11/2018 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6345513
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/20/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RESPONSE TO RWQCB COMMENTS REGARDING THE REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY, DATED DECEMBER 7, 2017 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5951863
Type: RESPONSE TO COMMENTS

Document Type: Site Documents **Submitted:**
Document Date: 12/7/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342747
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/7/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE WELL INSTALLATION TECHNICAL MEMORANDUM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342770
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/10/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REVISED PRE-DESIGN WORK PLAN_111017 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5948854
Type: PROPOSED PLAN

Document Type: Site Documents **Submitted:**
Document Date: 10/27/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RESPONSE TO RWQCB COMMENTS REGARDING THE PRE-DESIGN WORK PLAN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5948853
Type: PROPOSED PLAN

Document Type: Site Documents **Submitted:**
Document Date: 10/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RE PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6338716
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/14/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5946033
Type: OTHER WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 9/13/2017 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 16,760 KB
Title: 2017 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS AND OFF-SITE WELL INSTALLATION

Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1977012336/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 6/30/2017 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 649 KB
Title: RESPONSES TO COMMENTS ON THE REPORT OF THE ENHANCED IN-SITU REDUCTIVE DECHLORINATION PILOT STUDY
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9532172858/SL208213876.PDF
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 6/30/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: RESPONSES TO WATER BOARD COMMENTS JUNE 30 2017 - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5945222
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 6/8/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: THE_SHOPS_AT_THE_LAKE_FOREST_RE_PILOT_TEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6322444
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: ANNUAL COST ESTIMATE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6319789
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 4/13/2017 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 4,567 KB
Title: REPORT OF ENHANCED IN-SITU REDUCTIVE DECHLORINATION PILOT TEST
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8413244843/SL208213876.PDF
Type: PILOT STUDY/ TREATABILITY REPORT

Document Type: Monitoring Reports **Submitted:**
Document Date: 1/30/2017 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 21,861 KB
Title: 2016 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7231737136/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 1/12/2017 **Submitted By:** MONA BEHROOZ (REGULATOR)
Size :
Title: REQUEST FOR REPORTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6308394
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 11/18/2016 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 20,187 KB
Title: 2016 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS AND OFF-SITE WELL INSTALLATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4221620559/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 10/14/2016 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 20,959 KB
Title: SECOND QUARTER 2016 WDR REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5826239228/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents **Submitted:**

Document Date: 7/12/2016 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: NOTICE OF CHANGE OF CASE MANAGER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6291892
Type: LETTER - NOTICE

Document Type: Site Documents **Submitted:**
Document Date: 6/7/2016 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 12,435 KB
Title: FIRST QUARTER 2016 WDR REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2517206549/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/3/2016 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 9,404 KB
Title: 2015 GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2754457592/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 2/25/2016 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON WORK PLAN FOR INSTALLATION OF OFF-SITE WELLS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6277125
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 2/24/2016 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR THE INSTALLATION OF OFF-SITE GROUNDWATER MONITORING WELLS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5881131
Type: WELL INSTALLATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 2/1/2016 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 6,766 KB
Title: FOURTH QUARTER 2015 WDR REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9056807100/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents **Submitted:**
Document Date: 10/30/2015 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 9,914 KB
Title: THIRD QUARTER 2015 WDR REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7135847628/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents **Submitted:**
Document Date: 9/15/2015 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: CONDITIONAL DETERMINATION OF NO FURTHER ACTION FOR SOIL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6260531
Type: CLOSURE/NO FURTHER ACTION LETTER

Document Type: Site Documents **Submitted:**
Document Date: 8/1/2015 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 17,600 KB
Title: SECOND QUARTER 2015 WDR REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7721351325/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents **Submitted:**
Document Date: 7/15/2015 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: LAND USE COVENANT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6255157
Type: DEED RESTRICTION / LAND USE RESTRICTION / COVENANT

Document Type: Site Documents **Submitted:**
Document Date: 12/22/2014 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 16,354 KB
Title: SIXTH POST-REMEDIAL GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2832185864/SL208213876.PDF
Type: REQUEST FOR CLOSURE

Document Type: Monitoring Reports **Submitted:**
Document Date: 9/11/2014 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 7,264 KB
Title: FIFTH POST-REMEDIAL GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9704102993/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/28/2014 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 8,690 KB
Title: FOURTH POST-REMEDIAL MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3373312413/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/20/2014 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: DISCHARGE AUTHORIZATION AND MONITORING AND REPORTING PROGRAM NO. R8-2013-0029-016
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6210816
Type: WASTE DISCHARGE REQUIREMENTS

Document Type: Site Documents **Submitted:**
Document Date: 4/28/2014 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE ROWD APPLICATION PACKAGE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6201213
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/17/2014 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 6,978 KB
Title: THIRD POST-REMEDIAL MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3715335905/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 4/11/2014 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WASTE DISCHARGE REQUIREMENT (WDR) PERMIT APPLICATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803155
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 12/18/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: SECOND ADDENDUM TO REVISED REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803149
Type: CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN - ADDENDUM

Document Type: Monitoring Reports **Submitted:**
Document Date: 12/12/2013 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 9,060 KB
Title: SECOND POST-REMEDIAL MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8559633374/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/6/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: AMENDED FEASIBILITY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803150
Type: FEASIBILITY STUDY REPORT

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/11/2013 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 7,513 KB
Title: POST-REMEDIAL MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3039618790/SL208213876.PDF
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/3/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: JOINT SAMPLING REQUIREMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803148
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 6/12/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: CHANGE OF GROUNDWATER MONITORING FREQUENCY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200872
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/12/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE ON-SITE RESIDUAL SOURCE REMOVAL REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200873
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/5/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION FOR GROUNDWATER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803147
Type: CORRESPONDENCE

Document Type: Monitoring Reports **Submitted:**
Document Date: 5/31/2013 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 8,252 KB
Title: 2013 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1620690524/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 5/16/2013 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 50,125 KB
Title: ON-SITE RESIDUAL SOURCE REMOVAL REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7633535802/SL208213876.PDF
Type: REMOVAL ACTION COMPLETE

Document Type: Site Documents **Submitted:**
Document Date: 2/25/2013 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: SVE-1 ABANDONMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200877
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/6/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON TH CONTINGENCY PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200867
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/4/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: CONTINGENCY PLAN TO CONTINUE THE MIGRATION PATTERN FOR THE VOCS IN THE DOWNGRADIENT AREA OF MW-13

Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803141
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 11/15/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: FACT SHEET - ENVIRONMENTAL CLEANUP PROGRAM PLANNED TO BEGIN JANUARY 2013
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803140
Type: FACT SHEETS - PUBLIC PARTICIPATION

Document Type: Monitoring Reports **Submitted:**
Document Date: 11/8/2012* **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 10,718 KB
Title: 2012 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4263691008/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 10/15/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: APPROVAL OF THE REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6142238
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 10/10/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: ADDENDUM TO REVISED REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5756961
Type: CAP/RAP - OTHER REPORT

Document Type: Site Documents **Submitted:**
Document Date: 9/27/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REVISED REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139320
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/14/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REVISED REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5753834
Type: CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 7/12/2012 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 11,258 KB
Title: 2012 1ST SEMI-ANNUAL GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4257642626/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 7/3/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON WORK PLAN FOR OFF-SITE PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139324
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/18/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR OFF-SITE PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5753835
Type: PILOT STUDY / TREATABILITY WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 5/7/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :

Title: COMMENTS ON THE REPORT OF OFF-SITE BIO-TRAP EXTENDED FIELD STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121151
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 4/10/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: SUMMARY OF THE MEETING FOR THE SHOPS AT LAKE FOREST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121154
Type: MEETING

Document Type: Site Documents **Submitted:**
Document Date: 2/29/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF OFF-SITE BIO-TRAP EXTENDED FIELD STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5736574
Type: PILOT STUDY/ TREATABILITY REPORT

Document Type: Site Documents **Submitted:**
Document Date: 1/10/2012 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6119120
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/9/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REMEDIAL ACTION WORK PLAN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5735511
Type: CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN

Document Type: Site Documents **Submitted:**
Document Date: 10/26/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE VAPOR INTRUSION AND HUMAN HEALTH RISK EVALUATION REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6105775
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/10/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size : 5,976 KB
Title: 2011 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/2149235367/2011%202nd%20Semiannual%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 8/1/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: VAPOR INTRUSION AND HUMAN HEALTH RISK EVALUATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5726820
Type: RISK ASSESSMENT REPORT

Document Type: Site Documents **Submitted:**
Document Date: 7/6/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON WORK PLAN FOR ADDITIONAL OFF-SITE MICROBIAL SUFFICIENCY FIELD STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097004
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 6/23/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR ADDITIONAL OFF-SITE MIVROBIAL SUFFICIENCY FIELD STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720537
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**

Document Date: 6/1/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REPORT OF INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT UNITS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097002
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/24/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REPORT OF OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096999
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/20/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: RESPONSE TO COMMENTS ON THE REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMVOAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720539
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 4/29/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720538
Type: PILOT STUDY/ TREATABILITY REPORT

Document Type: Site Documents **Submitted:**
Document Date: 4/21/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096998
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/14/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size : 5,292 KB
Title: MARCH 2011 GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/9594669938/March%202011%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 4/14/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720540
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 3/22/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF INDOOR AIR, SOIL, SOIL VAPOR, AD SOIL SAMPLING AT ADJACENT TENANT UNITS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720541
Type: TECHNICAL MEMOS

Document Type: Site Documents **Submitted:**
Document Date: 2/23/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6084131
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 1/20/2011 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE WORK PLAN FOR INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT TENANT UNITS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075144

Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/29/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT TENANT UNITS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5703709
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 11/30/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REPORT OF OCTOBER 2010 ADDITIONAL ON-SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075141
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 11/5/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF OCTOBER 2010 ADDITIONAL ON-SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5703710
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 11/4/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON WORK PLAN FOR OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6069249
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/15/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size : 5,318 KB
Title: AUGUST 2010 GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3290067374/August%202010%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/15/2010 **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 5,318 KB
Title: AUGUST 2010 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9097871184/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 10/1/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699400
Type: PILOT STUDY / TREATABILITY WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 9/2/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON WORK PLAN FOR ADDITIONAL ON-SITE SOIL AND SOIL VAPOR SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062896
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 9/2/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON FEASIBILITY STUDY FOR OFF-SITE AREA
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062897
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 7/22/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :

Title: WORK PLAN FOR ADDITIONAL ON-SITE SOIL AND SOIL VAPOR SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699405
Type: SITE INVESTIGATION WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 7/22/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: FEASIBILITY STUDY FOR OFF-SITE AREA
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699407
Type: FEASIBILITY STUDY REPORT

Document Type: Site Documents **Submitted:**
Document Date: 5/12/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: FOCUSED FEASIBILITY STUDY AND RISK BASED TARGET CONCENTRATION FOR OFF-SITE GROUNDWATER REMEDIATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5667741
Type: TECHNICAL MEMOS

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/15/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size : 4,478 KB
Title: MARCH 2010 GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3157132804/March%202010%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 3/31/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF MARCH 2010 ADDITIONAL ON-SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5667743
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 1/28/2010 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON ENVIRON'S DECEMBER 14, 2009 SUBMITTAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045889
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/14/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: RESPONSES TO COMMENTS ON THE REPORT FOR ADDITIONAL INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5663540
Type: CORRESPONDENCE

Document Type: Site Documents **Submitted:**
Document Date: 11/12/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE REPORT FOR ADDITIONAL OFF-SITE INVESTIGATION AND SEPTEMBER 2009 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045887
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Monitoring Reports **Submitted:**
Document Date: 10/15/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size : 4,815 KB
Title: SEPTEMBER 2009 GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3572553336/September%202009%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents **Submitted:**
Document Date: 9/15/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: REPORT OF ADDITIONAL OFF-SITE INVESTIGATION 2009
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5651165

Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 6/18/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: APPROVAL OF THE WORK PLAN FOR ADDITIONAL OFF-SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6027437
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 5/1/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: WORK PLAN FOR ADDITIONAL OFF-SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5648522
Type: OTHER WORKPLAN

Document Type: Monitoring Reports **Submitted:**
Document Date: 4/15/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size : 4,171 KB
Title: MARCH 2009 GROUNDWATER MONITORING REPORT -
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/1778211295/March%202009%20GW%20Monitoring%20Report%20Final%2Epdf
Type: MONITORING REPORT - OTHER

Document Type: Site Documents **Submitted:**
Document Date: 4/1/2009 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE RESPONSES TO COMMENTS FOR THE MARCH AND JUNE 2008 GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6009352
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents **Submitted:**
Document Date: 12/24/2008 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: MARCH AND JUNE GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5627546
Type: OTHER WORKPLAN

Document Type: Site Documents **Submitted:**
Document Date: 12/24/2008 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: RESPONSES TO COMMENTS FOR THE MARCH AND JUNE 2008 GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5627547
Type: OTHER REPORT / DOCUMENT

Document Type: Site Documents **Submitted:**
Document Date: 10/14/2008 **Submitted By:** NICK AMINI (REGULATOR)
Size :
Title: COMMENTS ON THE WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=5997738
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 214 KB **Submitted:** 9/14/2017
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2328241169/SL208213876.PDF

Title: GEO_MAP **Submitted By:** RAMBOLL ENVIRON (AUTH_RP)
Size : 3,777 KB **Submitted:** 8/4/2015
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/4297811925/SL208213876.PDF

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Status: Open - Remediation
Date : 1/14/2013

Status: Open - Site Assessment
Date : 4/1/2012

Status: Open - Assessment & Interim Remedial Action
Date : 6/18/2009

Status: Open - Remediation
Date : 6/18/2009

Status: Open
Date : 1/1/1996

Status: Open - Case Begin Date
Date : 1/1/1996

39	1 of 4	SSW	0.49 / 2,583.88	373.59 / -27	EXXON 23852 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0002476
Case ID: 88UT067
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 8/19/2004
Type of Closure: Closure certification issued

39	2 of 4	SSW	0.49 / 2,583.88	373.59 / -27	USA PETROLEUM #825 23852 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0003205
Case ID: 03UT024
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Diesel fuel oil and additives, Nos.1-D, 2-D, 2-4
Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Case Closed Date: 12/14/2005
Type of Closure: Closure certification issued

39	3 of 4	SSW	0.49 / 2,583.88	373.59 / -27	EXXON 23852 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605900965
Status: COMPLETED - CASE CLOSED
Status Date: 2004-09-20 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.6157689
Longitude: -117.7060684

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083001244T
Local Case Number: 88UT067
Begin Date: 1988-04-06 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Potential COC: Gasoline
How Discovered: Other Means
Stop Method: Other Means
Stop Description:
Case Worker: KL
File Location: Local Agency Warehouse

Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2004-09-20 00:00:00
Action: Closure/No Further Action Letter

Action Type: RESPONSE
Date : 2003-09-22 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2003-05-28 00:00:00
Action: * Historical Enforcement

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: In Situ Physical/Chemical Treatment (other than SVE)

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: Excavation

Action Type: Other
Date : 1988-04-06 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1988-04-06 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Contact Type: Regional Board Caseworker
Contact Name: CARL BERNHARDT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: carl.bernhardt@waterboards.ca.gov
Phone Number: 9517824495

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Status History

Status: Completed - Case Closed
Status Date: 2004-09-20 00:00:00

Status: Open - Verification Monitoring
Status Date: 1998-08-01 00:00:00

Status: Open - Remediation
Status Date: 1996-02-01 00:00:00

Status: Open - Site Assessment

Status Date: 1993-07-22 00:00:00

Status: Open - Case Begin Date
Status Date: 1988-04-06 00:00:00

Status: Open - Site Assessment
Status Date: 1988-04-06 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: EXXON
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 23852 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim: 14466
CUF Priority Assig: D
CUF Amount Paid:
File Location: LOCAL AGENCY WAREHOUSE
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900965
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 9/20/2004
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900965&tabname=regulatoryhistory
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 88UT067
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083001244T
CASEWORKER: CARL BERNHARDT
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 9/20/2004

Status: Open - Verification Monitoring
Date : 8/1/1998

Status: Open - Remediation
Date : 2/1/1996

Status: Open - Site Assessment
Date : 7/22/1993

Status: Open - Site Assessment
Date : 4/6/1988

Status: Open - Case Begin Date
Date : 4/6/1988

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:
Begin Date: 2/1/1996
End Date: 8/1/1998

Action Type: IN SITU PHYSICAL/CHEMICAL TREATMENT (OTHER THAN SVE) **Begin Date:** 2/1/1996
Phase: **End Date:** 8/1/1998
Contaminant Mass Removed:
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) **Begin Date:** 2/1/1996
Phase: **End Date:** 8/1/1998
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 9/20/2004
Received Issue Date: 9/20/2004
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900965&enforcement_id=5979130&temptable=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 9/22/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Report
Doc Link:

Action Type: Enforcement/Orders
Action Date: 5/28/2003
Received Issue Date: 5/28/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: In Situ Physical/Chemical Treatment (other than SVE)
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:

Action Type: Leak Action
Action Date: 4/6/1988
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 4/6/1988
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1906888663/T0605900965.pdf

Size : 47 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/21/2002

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 9/20/2004 **Submitted By:** PAMELA YBARRA (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: CLOSURE LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900965&enforcement_id=5979130

Document Type: Site Documents **Size :** 134 KB
Document Date: 9/17/2004 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: REMEDIAL ACTION COMPLETION CERTIFICATION
Title Link: http://geotracker.waterboards.ca.gov/site_documents/3744214713/88UT067%2Epdf

Document Type: Site Documents **Size :** 4,529 KB
Document Date: 9/17/2004 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/site_documents/7522412955/88UT067%2Epdf

Document Type: Site Documents **Size :** 587 KB
Document Date: 7/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2004 QUARTERLY REPORT DATED 07-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6131286859/T0605900965.PDF

Document Type: Site Documents **Size :** 245 KB
Document Date: 5/18/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - REVISED DEGREDATION ESTIMATE DATED 05-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9769904017/T0605900965.PDF

Document Type: Site Documents **Size :** 3,395 KB
Document Date: 4/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2004 QUARTERLY REPORT DATED 04-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4911813557/T0605900965.PDF

Document Type: Site Documents **Size :** 5,296 KB
Document Date: 4/6/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - STATISTICAL EVALUATION OF FUEL CONSTITUENTS DATED 04-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6834851205/T0605900965.PDF

Document Type: Site Documents **Size :** 389 KB
Document Date: 1/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 2003 QUARTERLY REPORT DATED 01-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2050991952/T0605900965.PDF

Document Type: Site Documents **Size :** 10,884 KB
Document Date: 11/24/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TRANSMITTAL OF THE CONFIRMATION SOIL SAMPLING DATED 11-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7722876429/T0605900965.PDF

Document Type: Site Documents **Size :** 2,496 KB
Document Date: 10/30/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 2003 QUARTERLY REPORT DATED 10-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2627554774/T0605900965.PDF

Document Type: Site Documents **Size :** 229 KB
Document Date: 9/24/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)

Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - NOTIFICATION OF PROPOSED WELL RELOCATION DATED 09-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8577872931/T0605900965.PDF

Document Type: Site Documents **Size :** 394 KB
Document Date: 7/30/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2003 QUARTERLY REPORT DATED 07-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5100631952/T0605900965.PDF

Document Type: Site Documents **Size :** 57 KB
Document Date: 5/28/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY CONDITIONAL APPROVAL OF WORKPLAN FOR ADDITIONAL ASSESSMENT DATED 05-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7673163294/T0605900965.PDF

Document Type: Site Documents **Size :** 108 KB
Document Date: 4/29/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2003 QUARTERLY STATUS REPORT DATED 04-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3757376313/T0605900965.PDF

Document Type: Site Documents **Size :** 4,821 KB
Document Date: 4/8/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TRANSMITTAL OF WORK PLAN FOR ADDITIONAL CONFIRMATION DATED 04-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5757147669/T0605900965.PDF

Document Type: Site Documents **Size :** 382 KB
Document Date: 1/30/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 2002 QUARTERLY REPORT DATED 01-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1519098103/T0605900965.PDF

Document Type: Site Documents **Size :** 394 KB
Document Date: 7/26/2002* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2002 QUARTERLY REPORT DATED 07-2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8609967172/T0605900965.PDF

Document Type: Site Documents **Size :** 102 KB
Document Date: 3/29/2002* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2002 QUARTERLY REPORT DATED 03-2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3645227253/T0605900965.PDF

Document Type: Site Documents **Size :** 921 KB
Document Date: 2/25/2002* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - MODIFIED GROUNDWATER SAMPLING PROGRAM DATED 02-2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4261990487/T0605900965.PDF

Document Type: Site Documents **Size :** 103 KB
Document Date: 1/30/2002* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 2001 QUARTERLY REPORT DATED 01-2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7717299044/T0605900965.PDF

Document Type: Site Documents **Size :** 72 KB
Document Date: 1/17/2002* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY REQUEST FOR ADDITIONAL INFORMATION DATED 01-2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8605709969/T0605900965.PDF

Document Type: Site Documents **Size :** 3,766 KB
Document Date: 10/17/2001* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TRANSMITTAL OF STATISTICAL EVALUATION OF MTBE DATED 10-2001

Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4941082894/T0605900965.PDF

Document Type: Site Documents **Size :** 103 KB
Document Date: 10/17/2001* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 2001 QUARTERLY REPORT DATED 10-2001
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5537887811/T0605900965.PDF

Document Type: Site Documents **Size :** 120 KB
Document Date: 7/15/2001* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2001 QUARTERLY REPORT DATED 07-2001
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6700049281/T0605900965.PDF

Document Type: Site Documents **Size :** 109 KB
Document Date: 4/10/2001* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2001 QUARTERLY REPORT DATED 04-2001
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3551613867/T0605900965.PDF

Document Type: Site Documents **Size :** 92 KB
Document Date: 12/29/2000* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 2000 QUARTERLY REPORT DATED 12-2000
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3290290534/T0605900965.PDF

Document Type: Site Documents **Size :** 88 KB
Document Date: 11/10/2000* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 2000 QUARTERLY REPORT DATED 11-2000
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8432510614/T0605900965.PDF

Document Type: Site Documents **Size :** 118 KB
Document Date: 6/30/2000* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2000 QUARTERLY REPORT DATED 06-2000
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9690939784/T0605900965.PDF

Document Type: Site Documents **Size :** 105 KB
Document Date: 3/31/2000* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2000 QUARTERLY REPORT DATED 03-2000
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6282238900/T0605900965.PDF

Document Type: Site Documents **Size :** 1,776 KB
Document Date: 3/16/2000* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TRANSMITTAL OF LETTER WORK PLAN FOR INSTALLATION DATED 03-2000
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7555536091/T0605900965.PDF

Document Type: Site Documents **Size :** 94 KB
Document Date: 12/31/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 1999 QUARTERLY REPORT DATED 12-1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4515280604/T0605900965.PDF

Document Type: Site Documents **Size :** 20,962 KB
Document Date: 10/12/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL 3Q 1999 QUARTERLY REPORT DATED 10/1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2258745670/T0605900965.PDF

Document Type: Site Documents **Size :** 2,104 KB
Document Date: 10/12/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - CASE CLOSURE SUMMARY DATED 10-1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2692181527/T0605900965.PDF

Document Type: Site Documents **Size :** 20,326 KB

Document Date: 10/4/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL SITE STATUS UPDATE REPORT FOR MTBE IMPACTED GROUNDWATER DATED 10/1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3944266200/T0605900965.PDF

Document Type: Site Documents **Size :** 22,313 KB
Document Date: 6/30/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL 2Q 1999 QUARTERLY REPORT DATED 06/1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7379747867/T0605900965.PDF

Document Type: Site Documents **Size :** 19,202 KB
Document Date: 3/31/1999* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL 1Q 1999 QUARTERLY REPORT DATED 03/1999
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5668927133/T0605900965.PDF

Document Type: Site Documents **Size :** 20,440 KB
Document Date: 12/31/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL 4Q 1998 QUARTERLY REPORT DATED 12/1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9652276813/T0605900965.PDF

Document Type: Site Documents **Size :** 56 KB
Document Date: 12/7/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY DENIAL OF CLOSURE REQUEST DATED 12-1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4561820685/T0605900965.PDF

Document Type: Site Documents **Size :** 50,420 KB
Document Date: 10/27/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL CONFIRMATION SOIL SAMPLING AND CLOSURE REQUEST LETTER REPORT DATED 10/1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6542862176/T0605900965.PDF

Document Type: Site Documents **Size :** 43,801 KB
Document Date: 9/30/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL 3Q 1998 QUARTERLY REPORT DATED 09/1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4472772419/T0605900965.PDF

Document Type: Site Documents **Size :** 67 KB
Document Date: 6/30/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1998 QUARTERLY REPORT DATED 06-1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2069449305/T0605900965.PDF

Document Type: Site Documents **Size :** 51 KB
Document Date: 6/23/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY APPROVAL OF LETTER WORK PLAN FOR CONFIRMATION SOIL BORINGS DATED 06-1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4529370248/T0605900965.PDF

Document Type: Site Documents **Size :** 4,764 KB
Document Date: 6/11/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - LETTER WORK PLAN FOR DRILLING & SAMPLING DATED 06-1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9501068353/T0605900965.PDF

Document Type: Site Documents **Size :** 72 KB
Document Date: 3/20/1998* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1998 QUARTERLY REPORT DATED 03-1998
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4968255817/T0605900965.PDF

Document Type: Site Documents **Size :** 71 KB
Document Date: 12/31/1997* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**

Title: HISTORICAL - 4Q 1997 QUARTERLY REPORT DATED 12-1997
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2604895472/T0605900965.PDF

Document Type: Site Documents **Size :** 69 KB
Document Date: 9/26/1997* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 1997 QUARTERLY REPORT DATED 09-1997
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2022152841/T0605900965.PDF

Document Type: Site Documents **Size :** 64 KB
Document Date: 7/1/1997* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1997 QUARTERLY REPORT DATED 07-1997
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9808877050/T0605900965.PDF

Document Type: Site Documents **Size :** 71 KB
Document Date: 3/13/1997* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1997 QUARTERLY REPORT DATED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9192498981/T0605900965.PDF

Document Type: Site Documents **Size :** 68 KB
Document Date: 12/5/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 1996 QUARTERLY REPORT DATED 12-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8810096442/T0605900965.PDF

Document Type: Site Documents **Size :** 66 KB
Document Date: 10/1/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 1996 QUARTERLY REPORT DATED 10-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8013958871/T0605900965.PDF

Document Type: Site Documents **Size :** 70 KB
Document Date: 7/1/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1996 QUARTERLY REPORT DATED 07-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2816299676/T0605900965.PDF

Document Type: Site Documents **Size :** 172 KB
Document Date: 5/7/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - MANIFEST FOR SOIL GENERATED DATED 05-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1688580453/T0605900965.PDF

Document Type: Site Documents **Size :** 1,469 KB
Document Date: 4/29/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - SUBSURFACE INVESTIGATION RESULTS DATED 04-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5181160986/T0605900965.PDF

Document Type: Site Documents **Size :** 2,085 KB
Document Date: 4/1/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1996 QUARTERLY REPORT DATED 04-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8838950037/T0605900965.PDF

Document Type: Site Documents **Size :** 41 KB
Document Date: 3/7/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - WRITTEN NOTIFICATION FOR INSTALLATION OF GWM WELL DATED 03-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9228386938/T0605900965.PDF

Document Type: Site Documents **Size :** 47 KB
Document Date: 1/19/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY APPROVAL OF WORK PLAN FOR DOWNGRADIENT WELL INSTALLATION DATED
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2817892909/T0605900965.PDF

Document Type: Site Documents **Size :** 593 KB
Document Date: 1/3/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - LETTER WORK PLAN FOR INSTALLATION OF ONE ADDITIONAL OFF SITE DOWNGRADIENT GROUNDWATER MONITORING WELL DATED 01-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4772690057/T0605900965.PDF

Document Type: Site Documents **Size :** 77 KB
Document Date: 1/2/1996* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 1995 QUARTERLY REPORT DATED 01-1996
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1040634393/T0605900965.PDF

Document Type: Site Documents **Size :** 69 KB
Document Date: 10/15/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 1995 QUARTERLY REPORT DATED 10-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1730172932/T0605900965.PDF

Document Type: Site Documents **Size :** 58 KB
Document Date: 8/29/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TENTATIVE SCHEDULE FOR REMEDIATION ACTIVITIES DATED 08-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4317664027/T0605900965.PDF

Document Type: Site Documents **Size :** 67 KB
Document Date: 7/15/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1995 QUARTERLY REPORT DATED 07-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9278329670/T0605900965.PDF

Document Type: Site Documents **Size :** 101 KB
Document Date: 6/2/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY CONDITIONAL APPROVAL OF CAP DATED 06-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6062347650/T0605900965.PDF

Document Type: Site Documents **Size :** 7,931 KB
Document Date: 5/18/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - CORRECTIVE ACTION PLAN DATED 05-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5921750009/T0605900965.PDF

Document Type: Site Documents **Size :** 60 KB
Document Date: 4/14/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1995 QUARTERLY REPORT DATED 04-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4690567255/T0605900965.PDF

Document Type: Site Documents **Size :** 134 KB
Document Date: 3/15/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - NOTIFICATION OF AS-SVE WELL INSTALLATION DATED 03-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7365765511/T0605900965.PDF

Document Type: Site Documents **Size :** 56 KB
Document Date: 1/13/1995* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 1994 QUARTERLY REPORT DATED 01-1995
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8556683480/T0605900965.PDF

Document Type: Site Documents **Size :** 61 KB
Document Date: 10/12/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 1994 QUARTERLY REPORT DATED 10-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3164497077/T0605900965.PDF

Document Type: Site Documents **Size :** 42 KB
Document Date: 10/3/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)

Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - WORK SCHEDULE FOR REMEDIATION ACTIVITIES DATED 10-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4621911823/T0605900965.PDF

Document Type: Site Documents **Size :** 52 KB
Document Date: 7/13/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY REQUEST FOR SCHEDULE OF REMEDIATION ACTIVITIES DATED 07-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7515152215/T0605900965.PDF

Document Type: Site Documents **Size :** 6,274 KB
Document Date: 6/29/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - ADDITIONAL SUBSURFACE INVESTIGATION AND GROUNDWATER MONITORING REPORT DATED 06-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7270087897/T0605900965.PDF

Document Type: Site Documents **Size :** 81 KB
Document Date: 6/24/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1994 QUARTERLY REPORT DATED 06-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4605658173/T0605900965.PDF

Document Type: Site Documents **Size :** 50 KB
Document Date: 5/13/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY CONDITIONAL APPROVAL OF WORK PLAN DATED 05-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2242867529/T0605900965.PDF

Document Type: Site Documents **Size :** 66 KB
Document Date: 5/9/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY REQUIREMENT FOR SAMPLING DATED 05-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2585321247/T0605900965.PDF

Document Type: Site Documents **Size :** 2,487 KB
Document Date: 5/2/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - WORK PLAN AND SITE SAFETY PLAN DATED 05-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4622186481/T0605900965.PDF

Document Type: Site Documents **Size :** 75 KB
Document Date: 4/15/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1994 QUARTERLY REPORT DATED 04-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6881707251/T0605900965.PDF

Document Type: Site Documents **Size :** 3,271 KB
Document Date: 4/11/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - SUBSURFACE ENVIRONMENTAL INVESTIGATION REPORT DATED 04-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2154166877/T0605900965.PDF

Document Type: Site Documents **Size :** 69 KB
Document Date: 1/12/1994* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 1993 QUARTERLY REPORT DATED 01-1994
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8653939306/T0605900965.PDF

Document Type: Site Documents **Size :** 44 KB
Document Date: 12/14/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY APPROVAL OF WORKPLAN FOR ADDITIONAL SUBSURFACE INVESTIGATION DATED 12-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2858665168/T0605900965.PDF

Document Type: Site Documents **Size :** 2,393 KB
Document Date: 12/7/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**

Title: HISTORICAL - WORK PLAN FOR ADDITIONAL SUBSURFACE INVESTIGATION DATED 12-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1243292450/T0605900965.PDF

Document Type: Site Documents **Size :** 47 KB
Document Date: 10/6/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY REQUEST FOR WORKPLAN FOR FURTHER SITE ASSESSMENT DATED 10-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6639001667/T0605900965.PDF

Document Type: Site Documents **Size :** 127 KB
Document Date: 10/6/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 1993 QUARTERLY REPORT DATED 10-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7406524896/T0605900965.PDF

Document Type: Site Documents **Size :** 2,772 KB
Document Date: 9/29/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - ADDITIONAL SITE ASSESSMENT REPORT DATED 09-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1840603768/T0605900965.PDF

Document Type: Site Documents **Size :** 452 KB
Document Date: 6/22/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 1993 QUARTERLY REPORT DATED 06-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2063196003/T0605900965.PDF

Document Type: Site Documents **Size :** 43 KB
Document Date: 6/3/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY APPROVAL OF WORKPLAN DATED 06-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4966818690/T0605900965.PDF

Document Type: Site Documents **Size :** 214 KB
Document Date: 5/24/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - WORKPLAN AMENDMENT DATED 05-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6596557855/T0605900965.PDF

Document Type: Site Documents **Size :** 88 KB
Document Date: 5/14/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY DIRECTIVE TO SUBMIT WORKPLAN DATED 05-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1002044916/T0605900965.PDF

Document Type: Site Documents **Size :** 137 KB
Document Date: 4/8/1993* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 1993 QUARTERLY REPORT DATED 04-1993
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5203500568/T0605900965.PDF

Document Type: Site Documents **Size :** 60 KB
Document Date: 12/2/1992* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - AGENCY REQUEST FOR WORKPLAN FOR FURTHER SITE INVESTIGATION DATED 12-1992
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6551430761/T0605900965.PDF

Document Type: Site Documents **Size :** 135 KB
Document Date: 10/5/1992* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - REQUEST FOR TEMPORARY TANK CLOSURE STATUS DATED 10-1992
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6481750726/T0605900965.PDF

Document Type: Site Documents **Size :** 134 KB
Document Date: 7/9/1992* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - SUBSURFACE SITE INVESTIGATION REPORT AND REQUEST FOR NO FURTHER ACTION DATED 07-1992
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4774475336/T0605900965.PDF

Document Type: Site Documents
Size : 1,185 KB
Document Date: 6/10/1992*
Submitted By: PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT
Submitted:
Title: HISTORICAL - SUBSURFACE INVESTIGATION REPORT DATED 06-1992
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7109579682/T0605900965.PDF

39	4 of 4	SSW	0.49 / 2,583.88	373.59 / -27	USA PETROLEUM #825 23852 EL TORO LAKE FOREST CA 92630	LUST

Global ID: T0605936712
County: ORANGE
Status: COMPLETED - CASE CLOSED
Latitude: 33.615446
Status Date: 2005-12-14 00:00:00
Longitude: -117.706086
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:
Potential COC: Diesel, Gasoline
Local Case Number: 03UT024
How Discovered: UST System Modification
Begin Date: 2003-06-11 00:00:00
Stop Method: Replace product piping
Lead Agency: ORANGE COUNTY LOP
Stop Description:
Local Agency: ORANGE COUNTY LOP
Case Worker: KL
CUF Case: NO
File Location: Local Agency
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2005-12-14 00:00:00
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 2004-05-14 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-09-29 00:00:00
Action: Soil and Water Investigation Workplan

Action Type: RESPONSE
Date : 2003-07-14 00:00:00
Action: Other Report / Document

Action Type: REMEDIATION
Date : 2003-06-19 00:00:00
Action: Excavation

Action Type: ENFORCEMENT
Date : 2003-06-18 00:00:00
Action: Notice of Responsibility

Action Type: ENFORCEMENT
Date : 2003-06-18 00:00:00
Action: * Corrective Action Orders

Action Type: Other
Date : 2003-06-11 00:00:00

Action: Leak Discovery

Action Type: Other
Date : 2003-06-11 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP
Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Status History

Status: Completed - Case Closed
Status Date: 2005-12-14 00:00:00

Status: Open - Site Assessment
Status Date: 2003-06-17 00:00:00

Status: Open - Case Begin Date
Status Date: 2003-06-11 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: USA PETROLEUM #825
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: DIESEL, GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 23852 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605936712
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 12/14/2005
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605936712&tabname=regulatoryhistory
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
User Defined Beneficial Use:
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 03UT024
CASEWORKER: JAMES STROZIER
CASEWORKER: KEVIN LAMBERT
SAN DIEGO RWQCB (REGION 9)
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 12/14/2005

Status: Open - Site Assessment
Date : 6/17/2003

Status: Open - Case Begin Date
Date : 6/11/2003

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:
Begin Date: 6/19/2003
End Date: 9/9/9999

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 12/14/2005
Received Issue Date: 12/14/2005
Action: Closure/No Further Action Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 5/14/2004
Received Issue Date: 5/14/2004
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 9/29/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Workplan
Doc Link:

Action Type: Response Requested - Other
Action Date: 7/14/2003
Received Issue Date: 1/1/1965
Action: Other Report / Document
Doc Link:

Action Type: Cleanup Action
Action Date: 6/19/2003
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Notices
Action Date: 6/18/2003
Received Issue Date: 6/18/2003
Action: Notice of Responsibility
Doc Link:

Action Type: Enforcement/Orders
Action Date: 6/18/2003
Received Issue Date: 6/18/2003
Action: * Corrective Action Orders
Doc Link:

Action Type: Leak Action
Action Date: 6/11/2003
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 6/11/2003
Received Issue Date:
Action: Leak Discovery

Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2703397452/T0605936712.pdf
Size : 254 KB
Submitted By: ES ENGINEERING SERVICES, LLC (AUTH_RP)
Submitted: 10/14/2005

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :** 2,507 KB
Document Date: 1/13/2006 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/site_documents/7755283951/03UT024%2Epdf

Document Type: Site Documents **Size :** 134 KB
Document Date: 1/13/2006 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: REMEDIAL ACTION COMPLETION CERTIFICATION
Title Link: http://geotracker.waterboards.ca.gov/site_documents/9243107438/03UT024%2Epdf

Document Type: Site Documents **Size :** 6,386 KB
Document Date: 7/20/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SHALLOW SUBSURFACE INVESTIGAT ION RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8649472892/T0605936712.PDF

Document Type: Site Documents **Size :** 6,611 KB
Document Date: 7/20/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - CLOSURE RPT. **Submitted:**
Title: PRODUCT DISTRIBUTION PIPING CLOSURE RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8956226944/T0605936712.PDF

Document Type: Site Documents **Size :** 6,386 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SUBSURFACE INVESTIGATION RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6358823478/T0605936712.PDF

Document Type: Site Documents **Size :** 5,678 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SHALLOW SUBSURFACE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9783261954/T0605936712.PDF

Document Type: Site Documents **Size :** 6,611 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: DISTRIBUTION PIPING RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3680494010/T0605936712.PDF

40	1 of 1	NNW	0.92 / 4,856.83	342.77 / -58	LAKE FOREST TOWN CENTER / DRY CLEANER 22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	ENVIROSTOR

Estor/EPA ID: 60002373 **Permit Renewal Lead:**
Site Code: 401751 **Project Manager:** CHRISTINE CHIU

Nat Priority List:	NO	***Supervisor:***	YOLANDA GARZA
Acres:	0.05 ACRES	***Public Partici Spclst:***	PHILIP MCPHAUL
Special Program:	VOLUNTARY CLEANUP PROGRAM	***Census Tract:***	6059052410
Funding:	SITE PROPONENT	***County:***	ORANGE
Assembly District:	, 68	***Latitude:***	33.634473
Senate District:	, 37	***Longitude:***	-117.71141
School District:			

APN: 617-493-01
Cleanup Status: ACTIVE AS OF 6/14/2016
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: DRY CLEANING
Potential Media Affected: OTHER GROUNDWATER AFFECTED (USES OTHER THAN DRINKING WATER), SOIL, SOIL VAPOR
Potential Contamin of Concern:

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site was a former (vacated Fall 2017) operating dry cleaner facility (approximately 2,000 square feet) within a multi-tenant commercial shopping center (approximately 8.7 acres) constructed in 1993. The shopping center is surrounded by commercial buildings to the northwest and southwest, Lake Forest Drive to the southeast, and Muirlands Boulevard to the northeast; residential areas are located across the streets. Prior to DTSC's involvement, environmental investigations were conducted, including the collection of soil, soil gas, and groundwater samples.

A Voluntary Cleanup Agreement (VCA) to investigate and remediate the Site under DTSC oversight was fully executed on August 17, 2016. On June 30, 2017, DTSC approved a workplan for investigation activities which, focusing on the dry cleaning facility, proposed soil and soil vapor sampling and a vapor intrusion assessment (sub-slab and indoor air sampling). Fieldwork activities were conducted from August through November 2017, and a Data Gap Assessment Report with the results was submitted. In January 2018, DTSC provided a response with comments on the report and indicated that additional investigation activities to address impacts to soil vapor and groundwater and a risk evaluation are necessary. In February 2018, a letter (workplan addendum) proposed additional subslab soil vapor sampling and the installation and sampling of three groundwater monitoring wells; and DTSC determined the Letter acceptable for implementation. Fieldwork activities were completed in early April 2018; and a revised Data Gap Assessment Report, which included the sampling results, was submitted to DTSC. In August 2018, DTSC determined that, based on the qualitative nature of the soil vapor data and the project status (i.e., anticipated implementation of a Soil Vapor Extraction (SVE) pilot test), site characterization was adequate to move the project forward.

In May 2018, a SVE Pilot Test Workplan was submitted proposing five SVE wells to operate for four weeks; the purpose of the SVE pilot test is to evaluate an environmental cleanup method. In June 2018, DTSC approved a SVE Pilot Test Workplan. A Work Notice for the SVE Pilot Test was distributed to occupants of nearby buildings on July 20, 2018. The SVE system was installed and the pilot test commenced in mid-December 2018.

Status: ACTIVE
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 66-70%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002373

Completed Activities

Title: Addendum to the Data Gap Assessment Work Plan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441372
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Workplan
Date Completed: 2/22/2018
Comments: In a letter, dated February 22, 2018, DTSC determined the Letter (Addendum to Data Gap Assessment Workplan), dated February 14, 2018, acceptable for implementation, noting specific comments for compliance. DTSC also provided comments on the project schedule and requested such be addressed in the future.

Title: Modified Sampling Proposal (Unit B.12)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60434486
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Technical Workplan
Date Completed: 9/6/2017
Comments: Via email on September 6, 2017, DTSC determined the proposal for modified sampling regarding HV Pharmacy

(Unit B.12) to be acceptable and requested an updated schedule of fieldwork activities and report submittal.

Title: Data Gap Assessment Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416503
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 8/30/2018
Comments: In a letter, dated August 30, 2018, DTSC provided a response to the revised Data Gap Assessment Report. DTSC requested a response to three specific DTSC recommendations by September 12, 2018 and that the other DTSC comments on the Report be incorporated in future activities and documents, accordingly.

Title: Fieldwork
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416508
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 11/6/2017
Comments: Via email on November 5, 2017, DTSC was provided notification indicating that fieldwork activities would be completed on November 6, 2017.

Title: Existing Documents & Scoping Meeting
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60414094
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 10/20/2016
Comments: On October 20, 2016, DTSC and the Proponent held a Scoping Meeting regarding the next steps based on the existing environmental documents regarding the project.

Title: Annual Oversight Cost Estimate Fiscal Year 2017-2018
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60433633
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 9/11/2017
Comments: In a letter, dated September 11, 2017, DTSC transmitted a project cost estimate for Fiscal Year 2017 - 2018.
In a letter, dated May 24, 2018, DTSC transmitted an updated project cost estimate for Fiscal Year 2017 - 2018.

Title: Data Gap Assessment Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416501
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Workplan
Date Completed: 6/30/2017
Comments: In a letter, dated June 30, 2017, DTSC approved the Data Gap Assessment Work Plan for implementation.

Title: Updated Project Schedule
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60455412
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 12/11/2018
Comments: Via email on December 11, 2018, DTSC received an updated Project Schedule, dated December 11, 2018.

Title: Fieldwork
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441914

Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 4/2/2018
Comments: Via email on April 12, 2018, DTSC was provided notification that fieldwork activities were completed on April 2, 2018.

Title: Site Visit
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60420020
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 12/27/2016
Comments: On December 27, 2016, the Site Visit Report was finalized; the SVR pertained to the first time Site visit by DTSC on December 5, 2016.

Title: Voluntary Cleanup Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60410280
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 8/17/2016
Comments: VCA fully executed.

Title: Request to Extend SVE Pilot Test
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60456140
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Pilot Study/Treatability Workplan
Date Completed: 1/16/2019
Comments: Via email response on January 16, 2019, DTSC found it acceptable to extend the SVE pilot test to operate for a duration of nine months (scheduled to end on September 23, 2019). In addition, DTSC indicated the other proposed activities and updated project schedule, dated January 15, 2019, are acceptable.

Title: Work Notice for SVE Pilot Test
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441920
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Work Notice
Date Completed: 7/20/2018
Comments: Via email on July 23, 2018, DTSC received confirmation that the Work Notice for the Soil Vapor Extraction Pilot Test was distributed to occupants of nearby buildings on July 20, 2018 (26 copies were distributed).

Title: Annual Oversight Cost Estimate Fiscal Year 2018-2019
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60446801
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 9/5/2018
Comments: FY 1819 Estimate: $52,554

Title: SVE Pilot Test Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441916
Area Name:
Area Link:
Sub Area:
Sub Area Link:

Document Type: Pilot Study/Treatability Workplan
Date Completed: 6/8/2018
Comments: In a letter, dated June 8, 2018, DTSC approved the SVE Pilot Test Workplan for implementation. DTSC requested submittal of a revised Project Schedule by June 22, 2018.

41	1 of 2	E	0.96 / 5,076.66	451.16 / 51	SILVERADO CONTINUATION HIGH SCHOOL 25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	ENVIROSTOR

Estor/EPA ID: 70000058
Site Code: 404653
Nat Priority List: NO
Acres: 1.9 ACRES
Special Program:
Funding: SCHOOL DISTRICT
Assembly District: 73
Senate District: 36
Permit Renewal Lead:
Project Manager:
Supervisor: JAVIER HINOJOSA
Public Partici Spclst:
Census Tract: 6059032028
County: ORANGE
Latitude: 33.621197284796
Longitude: -117.682694251946
School District: SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT
APN: 809-312-01, 809-312-02, 809-312-03
Cleanup Status: NO ACTION REQUIRED AS OF 11/1/2005
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: SCHOOL
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: NONE
Potential Media Affected: NO MEDIA AFFECTED
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

The proposed school site is located in the foothills of the Santa Ana Mountains, in the northern part of the Peninsular Ranges. The site consists of portions of the existing Silverado Continuation High School.

Status: NO ACTION REQUIRED
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 36-40%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=70000058

Completed Activities

Title: Phase 1 Silverado Continuation School Site
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=70000058&doc_id=6008014
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 10/26/2005
Comments: No Action

41	2 of 2	E	0.96 / 5,076.66	451.16 / 51	SILVERADO CONTINUATION HIGH SCHOOL 25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	SCH

Estor/EPA ID: 70000058
Site Code: 404653
Nat Priority List: NO
Acres: 1.9 ACRES
Special Program:
Funding: SCHOOL DISTRICT
Assembly District: 73
Senate District: 36
Permit Renewal Lead:
Project Manager:
Supervisor: JAVIER HINOJOSA
Public Partici Spclst:
Census Tract: 6059032028
County: ORANGE
Latitude: 33.621197284796
Longitude: -117.682694251946
School District: SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT

APN:	809-312-01, 809-312-02, 809-312-03
Cleanup Status:	NO ACTION REQUIRED AS OF 11/1/2005
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type:	SCHOOL
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam:	NONE
Potential Media Affected:	NO MEDIA AFFECTED
Potential Contamin of Concern:	

NO CONTAMINANTS FOUND

SITE HISTORY:

The proposed school site is located in the foothills of the Santa Ana Mountains, in the northern part of the Peninsular Ranges. The site consists of portions of the existing Silverado Continuation High School.

Status:	NO ACTION REQUIRED
Program Type:	SCHOOL EVALUATION
CalEnviroScreen Score:	36-40%
Summary Link:	http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=70000058

Completed Activities

Title:	Phase 1 Silverado Continuation School Site
Title Link:	http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=70000058&doc_id=6008014
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Phase 1
Date Completed:	10/26/2005
Comments:	No Action

Unplottable Summary

Total: 6 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		EL TORO RD	RIVERSIDE CA		820123823
FINDS/FRS	GW CLEANUP-L.HILLSNAEL TORO RD	EL TORO ROAD	LAGUNA HILLS CA	92356	840086502
HIST TANK	GUIDO MARX	EL TORO ROAD	CA		865086922
RCRA CORRACTS	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO ***EPA Handler ID:*** CA6170023208	EL TORO CA	92709	810472189
RCRA SQG	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO ***EPA Handler ID:*** CA6170023208	EL TORO CA	92709	810723213
RCRA TSD	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO ***EPA Handler ID:*** CA6170023208	EL TORO CA	92709	810459659

Unplottable Report

Site:
EL TORO RD RIVERSIDE CA CDL

Clue:	1996-12-090
Date:	12/20/1996
County:	RIVERSIDE
Lab Type:	A
Lab Type Description:	Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site: ***GW CLEANUP-L.HILLSNAEL TORO RD***
EL TORO ROAD LAGUNA HILLS CA 92356 FINDS/FRS

Registry ID:	110065993394
FIPS Code:	
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	14-OCT-2015 09:23:11
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	4959
SIC Code Descriptions:	SANITARY SERVICES, NOT ELSEWHERE CLASSIFIED
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	
Census Block Code:	
EPA Region Code:	09
County Name:	ORANGE COUNTY
US/Mexico Border Ind:	
Latitude:	
Longitude:	
Reference Point:	
Coord Collection Method:	
Accuracy Value:	
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110065993394
Program Acronyms:	

CA-ENVIROVIEW:350961

Site: ***GUIDO MARX***
EL TORO ROAD CA HIST TANK

Owner Name:	GUID MARX	***No of Containers:***	3
Owner Street:	335 MONARCH BAY	***County:***	RIVERSIDE
Owner City:	SOUTH LAGUNA	***Facility State:***	CA
Owner State:	CA	***Facility Zip:***	92677
Owner Zip:	92677		

EPA Handler ID:	CA6170023208
Gen Status Universe:	Small Quantity Generator
Contact Name:	EDWARD L NUNN
Contact Address:	US
Contact Phone No and Ext:	619-572-1404
Contact Email:	
Contact Country:	US
County Name:	ORANGE
EPA Region:	09
Land Type:	Federal
Receive Date:	20020129

Event/Area Details

Area Name:	OU2A - VADOSE ZONE SOILS
Event Code:	CA150
Corrective Action Event Descri:	INVESTIGATION WORKPLAN APPROVED
Actual Date of Event:	19970123
Orig Sched Event Date:	
New Sched Event Date:	
Best Date:	19970123
Groundwater Release Indicator:	
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Area Name:	OU2A - VADOSE ZONE SOILS
Event Code:	CA200
Corrective Action Event Descri:	INVESTIGATION COMPLETE
Actual Date of Event:	19970123
Orig Sched Event Date:	
New Sched Event Date:	
Best Date:	19970123
Groundwater Release Indicator:	
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Area Name:	ENTIRE FACILITY
Event Code:	CA750NO
Corrective Action Event Descri:	RELEASE TO GW CONTROLLED DETERMINATION-FACILITY DOES NOT MEET DEFINITION
Actual Date of Event:	19980617
Orig Sched Event Date:	19980617
New Sched Event Date:	
Best Date:	19980617
Groundwater Release Indicator:	
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Area Name:	ENTIRE FACILITY
Event Code:	CA400
Corrective Action Event Descri:	REMEDY DECISION
Actual Date of Event:	19970930
Orig Sched Event Date:	19970930
New Sched Event Date:	
Best Date:	19970930
Groundwater Release Indicator:	
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA300
Corrective Action Event Descri: CMS WORKPLAN APPROVED
Actual Date of Event: 19970123
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: FOST 1
Event Code: CA999RM
Corrective Action Event Descri: CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE
Actual Date of Event: 20040723
Orig Sched Event Date: 20040723
New Sched Event Date:
Best Date: 20040723
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA050
Corrective Action Event Descri: RFA COMPLETED
Actual Date of Event: 19960501
Orig Sched Event Date: 19960501
New Sched Event Date:
Best Date: 19960501
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA070YE
Corrective Action Event Descri: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date of Event: 19960501
Orig Sched Event Date: 19960501
New Sched Event Date:
Best Date: 19960501
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA725NO
Corrective Action Event Descri: HUMAN EXPOSURES CONTROLLED DETERMINATION-FACILITY DOES NOT MEET DEFINITION
Actual Date of Event: 19980617
Orig Sched Event Date: 19980617
New Sched Event Date:
Best Date: 19980617
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA350
Corrective Action Event Descri: CMS COMPLETE
Actual Date of Event: 19970123
Orig Sched Event Date:

New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General

Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926

Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500

Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation:	FR - 270
Violation Short Description:	TSD - General
Violation Type:	264.A
Violation Determined Date:	19921005
Scheduled Compliance Date:	19931229
Return to Compliance:	Observed
Actual Return to Compl:	19921209
Violation Responsible Agency:	EPA

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19921009
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	EPA
Proposed Penalty Amount:	
Final Amount:	
Paid Amount:	

Violation Details

Citation:	FR - 264.170-177.I
Violation Short Description:	TSD - General
Violation Type:	264.A
Violation Determined Date:	19921005
Scheduled Compliance Date:	19931229
Return to Compliance:	Observed
Actual Return to Compl:	19921209
Violation Responsible Agency:	EPA

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19921009
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	EPA
Proposed Penalty Amount:	
Final Amount:	
Paid Amount:	

Violation Details

Citation:	FR - 270
Violation Short Description:	TSD - General
Violation Type:	264.A
Violation Determined Date:	19910930
Scheduled Compliance Date:	
Return to Compliance:	Observed
Actual Return to Compl:	19911125
Violation Responsible Agency:	EPA

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19911021

Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210

Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817

Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner: No
Smelting, Melting and Refining: No
Underground Injection Control: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHLORETHYLENE

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990415
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19960131
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940330
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19931026
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19920229
Handler Name: MCAS EL TORO FMD 1JG B.368
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Annual/Biennial Report
Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Operator
Type: Federal
Name: MCAS EL TORO
Date Became Current:
Date Ended Current:
Phone: 714-726-2821
Source Type: Implementer
Street No:
Street 1: FACILITIES MGMT DEPT 1JG
Street 2:
City: SANTA ANA
State: CA
Country:
Zip Code: 92709

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Implementer
Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Owner
Type: Federal
Name: USMC AIR STATION EL TORO
Street No:
Street 1: PO BOX 95001
Street 2:

Date Became Current:		***City:***	SANTA ANA
Date Ended Current:		***State:***	CA
Phone:	714-726-3705	***Country:***	
Source Type:	Notification	***Zip Code:***	92709-5001

Site: ***MARINE CORPS AIR STATION, EL TORO***
MCAS EL TORO EL TORO CA 92709

RCRA SQG

EPA Handler ID:	CA6170023208
Gen Status Universe:	Small Quantity Generator
Contact Name:	EDWARD L NUNN
Contact Address:	US
Contact Phone No and Ext:	619-572-1404
Contact Email:	
Contact Country:	US
County Name:	ORANGE
EPA Region:	09
Land Type:	Federal
Receive Date:	20020129

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation:	FR - 264.170-177.I
Violation Short Description:	TSD - General
Violation Type:	264.A
Violation Determined Date:	19970520
Scheduled Compliance Date:	
Return to Compliance:	Observed
Actual Return to Compl:	19980114
Violation Responsible Agency:	State

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19970520
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	State
Proposed Penalty Amount:	
Final Amount:	
Paid Amount:	

Violation Details

Citation:	FR - 262.30-34.C
Violation Short Description:	Generators - General
Violation Type:	262.A
Violation Determined Date:	19970520
Scheduled Compliance Date:	
Return to Compliance:	Observed
Actual Return to Compl:	19980114
Violation Responsible Agency:	State

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19970520
Enf Disposition Status:	
Disposition Status Date:	

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL

Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224

Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER

Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A

Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General

Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117

Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General

Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHLORETHYLENE

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No:	4
Receive Date:	19990415
Handler Name:	MCAS EL TORO
Generator Status Universe:	Small Quantity Generator
Source Type:	Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19960901
Handler Name:	USMC AIR STATION EL TORO
Generator Status Universe:	Small Quantity Generator
Source Type:	Implementer

Hazardous Waste Handler Details

Sequence No:	3
Receive Date:	19960131
Handler Name:	USMC MCAS EL TORO
Generator Status Universe:	Small Quantity Generator
Source Type:	Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No:	2
Receive Date:	19940330
Handler Name:	USMC MCAS EL TORO
Generator Status Universe:	Small Quantity Generator
Source Type:	Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19931026
Handler Name:	USMC AIR STATION EL TORO
Generator Status Universe:	Small Quantity Generator
Source Type:	Notification

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19920229
Handler Name:	MCAS EL TORO FMD 1JG B.368
Generator Status Universe:	Small Quantity Generator
Source Type:	Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Federal	***Street 1:***	FACILITIES MGMT DEPT 1JG
Name:	MCAS EL TORO	***Street 2:***	
Date Became Current:		***City:***	SANTA ANA
Date Ended Current:		***State:***	CA
Phone:	714-726-2821	***Country:***	
Source Type:	Implementer	***Zip Code:***	92709

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	
Name:	U.S. MARINE CORPS	***Street 2:***	
Date Became Current:	19430317	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	US

Source Type:	Implementer	***Zip Code:***	
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	
Name:	U.S. MARINE CORPS	***Street 2:***	
Date Became Current:	19430317	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	US
Source Type:	Annual/Biennial Report	***Zip Code:***	
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	PO BOX 95001
Name:	USMC AIR STATION EL TORO	***Street 2:***	
Date Became Current:		***City:***	SANTA ANA
Date Ended Current:		***State:***	CA
Phone:	714-726-3705	***Country:***	
Source Type:	Notification	***Zip Code:***	92709-5001

Site: ***MARINE CORPS AIR STATION, EL TORO***
MCAS EL TORO EL TORO CA 92709

RCRA TSD

EPA Handler ID:	CA6170023208
Gen Status Universe:	Small Quantity Generator
Contact Name:	EDWARD L NUNN
Contact Address:	US
Contact Phone No and Ext:	619-572-1404
Contact Email:	
Contact Country:	US
Land Type:	Federal
County Name:	ORANGE
EPA Region:	09
Receive Date:	20020129

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation:	FR - 264.10-18.B
Violation Short Description:	TSD - General
Violation Type:	264.A
Violation Determined Date:	19970520
Scheduled Compliance Date:	
Return to Compliance:	Observed
Actual Return to Compl:	19980114
Violation Responsible Agency:	State

Enforcement Details

Enforcement Type:	120
Enforcement Type Description:	WRITTEN INFORMAL
Enforcement Action Date:	19970520
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	State
Proposed Penalty Amount:	
Final Amount:	
Paid Amount:	

Violation Details

Citation:	FR - 262.30-34.C
Violation Short Description:	Generators - General
Violation Type:	262.A
Violation Determined Date:	19970520

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D

Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL

Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210

Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817

Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General

Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE

Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Smelting, Melting and Refining: No
Underground Injection Control: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHLORETHYLENE

Hazardous Waste Handler Details

Sequence No: 2

Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990415
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19960131
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940330
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19931026
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19920229
Handler Name: MCAS EL TORO FMD 1JG B.368
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind: Current Operator ***Street No:***

Type:	Federal	***Street 1:***	FACILITIES MGMT DEPT 1JG
Name:	MCAS EL TORO	***Street 2:***	
Date Became Current:		***City:***	SANTA ANA
Date Ended Current:		***State:***	CA
Phone:	714-726-2821	***Country:***	
Source Type:	Implementer	***Zip Code:***	92709

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	
Name:	U.S. MARINE CORPS	***Street 2:***	
Date Became Current:	19430317	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	US
Source Type:	Implementer	***Zip Code:***	

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	PO BOX 95001
Name:	USMC AIR STATION EL TORO	***Street 2:***	
Date Became Current:		***City:***	SANTA ANA
Date Ended Current:		***State:***	CA
Phone:	714-726-3705	***Country:***	
Source Type:	Notification	***Zip Code:***	92709-5001

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Federal	***Street 1:***	
Name:	U.S. MARINE CORPS	***Street 2:***	
Date Became Current:	19430317	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	US
Source Type:	Annual/Biennial Report	***Zip Code:***	

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Apr 11, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Apr 11, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Apr 11, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Apr 11, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Apr 11, 2019

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Mar 4, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Mar 4, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Mar 4, 2019

RCRA Conditionally Exempt Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Mar 4, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 20, 2018

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Sep 20, 2018

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 11, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 17, 2018

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Apr 11, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Apr 11, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Mar 11, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Mar 11, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Mar 11, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: May 13, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Mar 11, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Apr 10, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Apr 10, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Apr 10, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: May 1, 2019

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Mar 11, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: May 1, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Mar 11, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Apr 17, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Apr 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Mar 11, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Apr 17, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: May 6, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

County

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jun 1, 2019

Orange County - Anaheim City UST Cleanup Cases: UST CLEANUP

A list of UST Cleanup Cases in the City of Anaheim in Orange County. As part of its Groundwater Protection Program, the City of Anaheim managed the UST Cleanup Oversight Program from April 1991 to June 2014. This list is published by the City of Anaheim Underground Storage Tank Cleanup Program.

Government Publication Date: May 26, 2015

Orange County - Anaheim City AST List: ANAHEIM AST

List of Aboveground Storage Tanks (ASTs) in Anaheim City, Orange County made available by Anaheim Fire & Rescue.

Government Publication Date: Mar 7, 2019

Orange County - Anaheim City UST List: ANAHEIM UST

A list of Underground Storage Tanks in Anaheim City, Orange County. This list is made available by Anaheim Fire & Rescue Department.

Government Publication Date: Mar 7, 2019

Orange County - Aboveground Petroleum Storage Tank Listing: ORANGE AST

A list of Aboveground Petroleum Storage Tank (APST) facilities inspected by Orange County Certified Unified Program Agency (CUPA) Under the Aboveground Petroleum Storage Act (APSA). This list is made available by the Environmental Health Division of Orange County Health Care Agency.

Government Publication Date: May 1, 2019

Orange County - LOP Lead Cases List: ORANGE LOP

The Local Oversight Program of the County of Orange provides regulatory cleanup oversight for cleanup of leaking underground storage tanks (USTs). This dataset is provided by the Orange County Health Care Agency.

Government Publication Date: May 1, 2019

Orange County - Underground Storage Tanks Listing: UST ORANGE CNTY

A list of registered Underground Storage Tank (UST) sites in Orange County. This list is made available by Orange County Health Care Agency (OCHCA), Environmental Health Division which oversees the underground storage tank inspection program in most of the cities of Orange County, with the exception of Anaheim, Fullerton, and Orange.

Government Publication Date: May 7, 2019

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Apr 23, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 18, 2018

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Dec 20, 2018

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 30, 2018

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Apr 8, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Sep 1, 2018

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Apr 23, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 19, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Mar 11, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Apr 2, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.
Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS
A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).
Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST
A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.
Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE
List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.
Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO
The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.
Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.
Government Publication Date: May 6, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ
This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.
Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER
GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.
Government Publication Date: Apr 17, 2019

Waste Discharge Requirements: WASTE DISCHG
List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.
Government Publication Date: Apr 10, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS
A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Dec 31, 2017

Tribal

No Tribal additional environmental record sources available for this State.

County

Orange County - Industrial Cleanup Program Cases Listing: ORANGE ICP

Orange County Health Care Agency's Environmental Health Division has an Industrial Cleanup (IC) program which oversees the voluntary cleanup of contaminated property. This is a list of cases (by city) which the IC program has overseen in the past, or is currently overseeing.

Government Publication Date: May 1, 2019

Orange County - Hazardous Waste Facilities: ORANGE HW

A list of Hazardous Waste Facilities in Orange County. This list is made available by Orange County Environmental Health Department.

Government Publication Date: May 1, 2019

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix G - Dry Cleaner Reports

Appendix F

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C. JAMES & ASSOCIATES, INC.
"Protecting America's Resources"

Mailing Address
PO Box 4832
Oceanside, California 92052

760.722.0050

April 15, 2019

Mr. Rod Valverde
Milan Capital Management/Pelican Investments, LLC
681 South Parker Street, Suite 270
Orange, California 92868

RE: 1st QTR 2019 Groundwater Monitoring Report
FORMER CROWN CLEANERS SITE
24601 Raymond Way
Lake Forest, California
SARWQCB Case No. 2080155
Global ID: T10000009409

Dear Mr. Valverde:

As requested, C. James and Associates, Inc (CJA) is pleased to present this *Quarterly Monitoring Report* for the above referenced site. CJA was contracted to conduct the groundwater monitoring and sampling at the site as required by Santa Ana Regional Water Quality Control Board (SARWQCB).

Background

The subject site is a former dry cleaning establishment known as Crown Cleaners that was located in a tenant suite in the Carlen Plaza shopping center from the 1970s through 2010, when the suite was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply. Environmental investigations initiated in 2009 identified subsurface impacts from PCE, a common dry cleaning solvent. Results of these investigations indicated soil was impacted with PCE below the approximate groundwater interface located at about 22-24 feet below grade (recently dropping to about 25-26 feet below grade).

The plume of impacted groundwater is centered near the removed dry cleaning equipment and extends radially from the release zone. Typically the near-source wells located inside the structure have greater than 100 µg/L dissolved PCE, with maximum concentrations frequently greater than 500 µg/L. In May 2017, a series of in-situ groundwater samples were obtained in plume-perimeter locations outside the building to attempt to define the lateral and vertical extents of groundwater contamination. Results indicated none of the samples collected north, south or west of the building had significant concentrations of VOC, essentially defining the extent of dissolved contamination in these directions. One sample (GW9), located east of the heart of the plume had 33 µg/L PCE from a

depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE.

Interim remedial action operations were conducted at the property in an attempt to reduce PCE concentrations in soil, soil vapor, and groundwater near the release zone. A vapor extraction/dual phase extraction system operated at the site from July 2014 to May 2017, when the system was shut down pending a soil gas testing event. The system was not restarted until February 2018, after installation of well VE1 and preliminary pilot testing indicated the system could be operated with improved effectiveness. Operation, sampling, and reporting on the dual phase extraction system performance are conducted by CJA and submitted under separate cover.

The current work presents the results of quarterly groundwater monitoring and sampling at the site. Results indicate the groundwater conditions are similar to previous results and additional treatment will be required to reduce the dissolved concentrations to acceptable levels.

Groundwater Monitoring and Sampling

On March 20, 2019, eleven of the 12 groundwater monitoring wells were purged and sampled under the supervision of CJA personnel. Well MW10 was dry at the time of sampling. Groundwater levels in the wells ranged from 19.82 to 25.93 feet bgs. Groundwater monitoring and sampling of the wells was conducted by Blaine Tech Services, Inc. The groundwater sampling event was performed using low-flow purging techniques, as required by SARWQCB for this site.

The depth to groundwater measurements were obtained using an electronic water level probe recorded to the nearest 0.01-foot, and groundwater elevations were determined relative to the North American Vertical Datum of 1988 (NAVD 88). All submerged portions of the water level probe(s) were washed in a detergent solution and rinsed with water between measurements. The wells were prepared and sampled using low-flow (minimal drawdown) sampling procedures are described in USEPA's "Ground Water Issue, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures" (Puls & Barcelona, April 1996). The wells were purged with a variable flow rate pump at a rate of approximately 0.1 liters per minute. Groundwater temperature, pH, conductivity, turbidity, dissolved oxygen, and oxygen-reduction potential were monitored during purging. Upon reaching parameter stability as defined in Section G of USEPA's "Ground Water Issue, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures," groundwater samples were recovered and placed in laboratory supplied containers appropriate for the required analyses. The sample containers were immediately sealed, labeled, and stored on ice pending delivery to a State certified analytical laboratory. All pumping and sampling equipment was washed in a detergent solution and rinsed with water between purging/sampling events. The Field Data Sheets from the well sampling activities are presented in Appendix A.

Results of groundwater monitoring indicated the groundwater levels are generally consistent with the historical record. The groundwater gradient was measured to be approximately 0.008 to the northeast (Figure 1).

The groundwater samples were delivered under proper chain-of custody procedures to Advanced Technology Laboratories, a State-certified laboratory. The samples were analyzed for volatile organics by EPA Method 8260B.

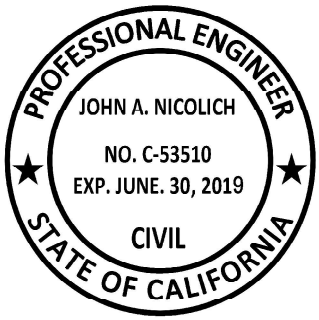
The results indicated that 4 of the 11 wells available for sampling (MW2, MW4, MW5, and MW8) had greater than 100 µg/L PCE with a maximum of 420 µg/L detected in wells MW4 and MW5. The remaining wells had a maximum of 93 µg/L PCE as found in well MW1. Upgradient wells MW11 and MW12 had less than detectable levels of PCE. The current groundwater sampling data is summarized in Table 1. The historical groundwater monitoring and sampling data are presented in Table 2. The distribution of dissolved PCE in groundwater is shown on Figure 2. The current laboratory report and chain-of-custody are presented in Appendix B.

Should you have any questions, please do not hesitate to contact C. James & Associates, Inc..

Sincerely,
C. James & Associates, Inc.

Michael Anselmo
Engineering Manager

John Nicolich P.E.



TABLES

TABLE 1
Summary of Current Groundwater Sampling Results (µg/L)

Sample ID	DTW	PCE	TCE	Other VOC
Sampled March 20,2019				
MW1	25.21	93	ND<0.5	ND
MW2	25.12	240	ND<0.5	ND
MW3	25.48	74	ND<0.5	ND
MW4	24.92	420	ND<0.5	ND
MW5	25.93	420	ND<0.5	ND
MW6	25.30	85	ND<0.5	ND
MW7	24.11	40	ND<0.5	ND
MW8	25.14	390	0.64	ND
MW9	25.82	20	ND<0.5	ND
MW10	Dry	--	--	--
MW11	19.98	ND<0.5	ND<0.5	ND
MW12	19.82	ND<0.5	ND<0.5	ND
MCL		***5***	***5***	***--***

Notes: Please refer to laboratory report for complete results.

TABLE 2
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW1	07/07/11	21.23	381.64	39.50	13	<0.5	ND
402.87	12/30/11	21.27	381.60	39.50	17	<0.5	ND
	03/22/12	22.47	380.40	39.50	510	<0.5	ND
	06/27/12	22.56	380.31	39.50	770	<0.5	ND
	09/28/12	22.54	380.33	39.50	310	<0.5	ND
	12/20/12	22.77	380.10	39.50	590	<0.5	ND
	03/19/13	23.03	379.84	39.50	310	1.2	ND
	06/12/13	22.52	380.35	39.50	210	<0.5	ND
	09/25/13	Not	Sampled		Inaccessible		
	03/21/14	23.41	379.46	39.50	300	<0.5	ND
	06/16/14	24.12	378.75	39.50	530	<0.5	ND
	09/26/14	23.78	379.09	39.50	340	<0.5	ND
	12/29/14	24.08	378.79	39.48	150	<0.5	ND
	03/26/15	24.10	378.77	39.50	200	<0.5	ND
	06/30/15	24.35	378.52	39.46	170	<0.5	ND
	09/29/15	24.67	378.2	39.45	150	0.51	ND
	12/29/15	24.22	378.65	39.46	300	<0.5	ND
	03/22/16	25.12	377.75	39.48	160	<0.5	ND
	06/21/16	25.20	377.67	39.45	200	<0.5	ND
	09/27/16	25.06	377.81	39.45	1.4	<0.5	ND
	12/29/16	25.70	377.17	39.45	84	<0.5	ND
	3/20/17	24.12	378.75	37.47	100	<0.5	ND
	6/20/17	24.43	378.44	38.04	77	<0.5	ND
	9/29/17	24.22	378.65	37.45	70	<0.5	ND
	12/28/17	24.74	378.13	40.17	57	<0.5	ND
	3/09/18	25.12	377.75	37.45	200	<0.5	ND
	6/27/18	25.86	377.01	39.80	33	<0.5	ND
	9/13/18	25.95	376.92	39.86	67	<0.5	ND
	12/26/18	26.17	376.70	39.75	110	<0.5	ND
	3/20/19	25.21	377.66	40.14	93	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW2	07/07/11	21.45	381.66	39.78	140	<0.5	ND
403.11	12/30/11	21.52	381.59	39.75	160	<0.5	ND
	03/22/12	22.71	380.40	39.74	880	<0.5	ND
	06/27/12	22.78	380.33	39.74	680	<0.5	ND
	09/28/12	Not	Sampled		Inaccessible		
	12/20/12	23.02	380.09	39.75	1800	<0.5	ND
	03/19/13	23.39	379.72	39.75	1400	2.5	ND
	06/12/13	23.65	379.46	39.75	1200	1.2	ND
	09/25/13	23.36	379.75	39.75	1100	1.6	ND
	03/21/14	23.64	379.47	39.74	1400	<0.5	ND
	06/16/14	23.87	379.24	39.75	990	<0.5	ND
	09/26/14	23.42	379.69	39.73	720	<0.5	ND
	12/29/14	Not	Sampled		Inaccessible	---	
	03/26/15	24.31	378.80	39.75	440	<0.5	ND
	06/30/15	24.50	378.61	39.72	470	<0.5	ND
	09/29/15	24.25	378.86	39.72	410	<1	ND
	12/29/15	24.08	379.03	39.71	370	<0.5	ND
	03/22/16	25.19	377.92	39.74	550	0.50	ND
	06/21/16	25.20	377.91	39.72	470	<1.0	ND
	09/27/16	25.01	378.10	39.70	270	<1.0	ND
	12/29/16	26.01	377.10	39.70	230	<1.0	ND
	3/20/17	24.34	378.77	39.20	84	<1.0	ND
	6/20/17	24.09	379.02	39.05	520	<0.5	ND
	9/29/17	24.37	378.74	37.20	600	<0.5	ND
	12/28/17	25.38	377.73	37.17	500	<0.5	ND
	3/09/18	25.19	377.92	37.18	530	<0.5	ND
	6/27/18	25.98	377.13	36.98	14	<0.5	ND
	9/13/18	26.15	376.96	36.76	140	<0.5	ND
	12/26/18	26.47	376.64	37.15	130	<0.5	ND
	3/20/19	25.12	377.99	35.61	240	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW3	07/07/11	21.83	381.64	30.99	1200	1.2	ND
403.47	12/30/11	21.94	381.53	30.05	1400	2.4	ND
	03/22/12	23.08	380.39	30.05	2100	8.8	ND
	06/27/12	23.14	380.33	30.06	1900	8.8	ND
	09/28/12	Not	Sampled		inaccessible		--
	12/20/12	23.38	380.09	30.05	2000	8.8	ND
	03/19/13	23.79	379.68	30.05	790	2.4	ND
	06/12/13	23.81	379.66	30.05	1300	3.8	ND
	09/25/13	23.45	380.02	30.06	2000	7.6	ND
	03/21/14	24.12	379.35	30.02	1100	5.2	ND
	06/16/14	24.37	379.10	30.00	2200	5.2	ND
	09/26/14	24.53	378.94	30.02	960	3.1	ND
	12/29/14	Not	Sampled	---	inaccessible	---	--
	03/26/15	24.60	378.87	30.00	590	<0.5	ND
	06/30/15	25.00	378.47	30.00	1600	1.5	ND
	09/29/15	24.40	379.07	30.00	1700	<2.5	ND
	12/29/15	24.47	379.00	30.00	1000	<2.5	ND
	03/22/16	25.61	377.86	30.00	950	<0.5	ND
	06/21/16	25.68	377.79	30.00	1200	<2.5	ND
	09/27/16	25.11	378.36	30.01	310	<1.0	ND
	12/29/16	26.25	377.22	30.00	540	<1.0	ND
	3/20/17	24.80	378.67	28.48	630	1.0	ND
	6/20/17	24.27	379.20	28.47	430	<1.0	ND
	9/29/17	24.84	378.63	28.43	100	0.57	ND
	12/28/17	25.48	377.99	28.59	290	0.52	ND
	3/09/18	25.66	377.81	28.45	350	<0.5	ND
	6/27/18	26.17	377.30	28.34	37	<0.5	ND
	9/13/18	26.52	376.95	28.58	340	<0.5	ND
	12/26/18	26.79	376.68	28.42	560	<0.5	ND
	3/20/19	25.48	377.99	28.31	74	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW4	07/07/11	21.35	381.64	33.11	1300	<0.5	ND
402.99	12/30/11	21.47	381.52	33.10	1600	6.4	ND
	03/22/12	22.58	380.41	33.12	3800	8.3	ND
	06/27/12	22.84	380.15	33.10	2400	2.6	ND
	09/28/12	22.58	380.41	33.11	970	1.2	ND
	12/20/12	22.90	380.09	33.10	3200	2.6	ND
	03/19/13	23.10	379.89	33.10	3800	3.2	ND
	06/12/13	23.15	379.84	33.10	3400	1.0	ND
	09/25/13	23.23	379.76	33.12	3300	1.6	ND
	03/21/14	23.40	379.59	33.10	4000	<0.5	ND
	06/16/14	23.78	379.21	33.09	4100	<0.5	ND
	09/26/14	24.01	378.98	33.08	3000	<0.5	ND
	12/29/14	Not	Sampled	---	Inaccessible	---	--
	03/26/15	24.10	378.89	33.10	3400	<0.5	ND
	06/30/15	24.35	378.64	33.08	1500	<0.5	ND
	09/29/15	24.24	378.75	33.05	1400	<2	ND
	12/29/15	24.17	378.82	33.09	1600	<2.5	ND
	03/22/16	24.15	378.84	33.09	1100	<0.5	ND
	06/21/16	24.28	378.71	33.05	1500	<2.5	ND
	09/27/16	24.18	378.81	33.06	490	<1.0	ND
	12/29/16	25.65	377.34	33.01	470	<1.0	ND
	3/20/17	24.11	378.88	30.37	280	<1.0	ND
	6/20/17	23.91	379.08	30.50	680	<1.0	ND
	9/29/17	24.18	378.81	29.83	270	<0.5	ND
	12/28/17	24.76	378.23	29.77	260	<0.5	ND
	3/09/18	25.06	377.93	30.35	470	<0.5	ND
	6/27/18	25.80	377.19	29.91	32	<0.5	ND
	9/13/18	25.98	377.01	29.63	180	<0.5	ND
	12/26/18	26.29	376.70	29.97	320	<0.5	ND
	3/20/19	24.92	378.07	29.55	420	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW5	01/26/12	22.85	380.51	29.85	841	<0.5	ND
403.36	03/22/12	22.96	380.40	29.85	1100	<0.5	ND
	06/27/12	23.01	380.35	29.85	1400	<0.5	ND
	09/28/12	23.00	380.36	29.84	510	2.2	ND
	12/20/12	23.29	380.07	29.85	820	<0.5	ND
	03/19/13	23.68	379.68	29.85	740	<0.5	ND
	06/12/13	23.78	379.58	29.83	780	4.7	ND
	09/25/13	23.89	379.47	29.81	620	5.1	ND
	03/21/14	23.96	379.40	29.80	790	4.4	ND
	06/16/14	23.90	379.46	29.80	830	4.4	ND
	09/26/14	23.98	379.38	27.54	610	2.7	ND
	12/29/14	24.62	378.74	28.56	520	1.7	ND
	03/26/15	24.54	378.82	28.60	300	<0.5	ND
	06/30/15	24.98	378.38	28.58	1400	<0.5	ND
	09/29/15	24.75	378.61	28.60	330	<0.5	ND
	12/29/15	24.68	378.68	28.75	390	<0.5	ND
	03/22/16	24.88	378.48	28.70	360	<0.5	ND
	06/21/16	25.01	378.35	28.75	390	<0.5	ND
	09/27/16	24.86	378.50	28.74	450	<0.5	ND
	12/29/16	24.98	378.38	28.73	170	<0.5	ND
	3/20/17	24.77	378.59	28.60	620	<0.5	ND
	6/20/17	24.48	378.88	27.76	470	<1.0	Chl-ethane=21
	9/29/17	24.79	378.57	27.70	100	<0.5	ND
	12/28/17	25.32	378.04	27.78	640	<0.5	ND
	3/09/18	25.50	377.86	27.60	180	<0.5	ND
	6/27/18	26.15	377.21	27.73	14	<0.5	ND
	9/13/18	26.58	376.78	27.95	150	<0.5	Chlorfm=2.5
	12/26/18	26.80	376.56	27.42	120	<0.5	ND
	3/20/19	25.93	377.43	27.49	420	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW6	03/26/12	22.97	380.43	29.90	1400	1.8	ND
403.40	03/22/12	22.99	380.41	29.91	2400	<0.5	ND
	06/27/12	23.02	380.38	29.90	2000	<0.5	ND
	09/28/12	23.10	380.30	29.89	260	4.0	ND
	12/20/12	23.41	379.99	29.90	1100	<0.5	ND
	03/19/13	23.69	379.71	29.90	710	20	ND
	06/13/13	23.70	379.70	29.89	810	36	ND
	09/25/13	23.81	379.59	29.90	770	61	ND
	03/21/14	23.93	379.47	29.75	1200	63	ND
	06/16/14	23.85	379.55	29.78	1400	63	ND
	09/26/14	23.75	379.65	29.70	1100	52	ND
	12/29/14	24.48	378.92	29.70	960	14	ND
	03/26/15	24.56	378.84	29.74	1200	2.5	ND
	06/30/15	24.70	378.70	29.75	1100	<0.5	ND
	09/29/15	24.67	378.73	29.75	530	<1	ND
	12/29/15	24.51	378.89	29.76	35	<0.5	ND
	03/22/16	---	---	25.80	Dry	---	--
	06/21/16	24.75	378.65	28.74	3.7	<0.5	ND
	09/27/16	24.66	378.74	28.77	<0.5	<0.5	ND
	12/29/16	24.80	378.60	28.75	0.61	<0.5	ND
	3/20/17	25.31	378.09	25.53	--	--	--
	6/20/17	24.34	379.06	25.47	140	<0.5	ND
	9/29/17	--	--	25.51	Dry	--	--
	12/28/17	25.22	378.18	28.60	140	<0.5	ND
	3/09/18	25.53	377.87	28.60	210	<0.5	ND
	6/27/18	26.15	377.25	28.79	11	<0.5	ND
	9/13/18	26.41	376.99	28.69	42	<0.5	ND
	12/26/18	26.65	376.75	28.25	190	<0.5	ND
	3/20/19	25.30	378.10	28.32	85	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW7	03/22/12	22.05	380.44	34.75	63	<0.5	ND
402.49	06/27/12	22.06	380.43	34.75	120	<0.5	ND
	09/28/12	22.01	380.48	34.75	190	<0.5	ND
	12/20/12	22.27	380.22	34.75	340	<0.5	ND
	03/19/13	22.58	379.91	34.75	140	<0.5	ND
	06/12/13	23.52	378.97	34.75	270	<0.5	ND
	09/25/13	22.61	379.88	34.75	270	<0.5	ND
	03/21/14	22.89	379.60	34.75	310	<0.5	ND
	06/16/14	23.16	379.33	34.73	460	<0.5	ND
	09/26/14	23.39	379.10	34.75	270	<0.5	ND
	12/29/14	23.44	379.05	34.75	170	<0.5	ND
	03/26/15	23.42	379.07	34.75	85	<0.5	ND
	06/30/15	23.65	378.84	34.75	76	<0.5	ND
	09/29/15	23.92	378.57	34.75	72	<0.5	ND
	12/29/15	23.52	378.97	34.72	86	<0.5	ND
	03/22/16	24.38	378.11	37.75	71	<0.5	ND
	06/21/16	24.70	377.79	37.72	730	0.52	ND
	09/27/16	24.59	377.90	37.70	41	<0.5	ND
	12/29/16	25.06	377.43	37.70	43	<0.5	ND
	3/20/17	23.46	379.03	35.14	36	<0.5	ND
	6/20/17	23.26	379.23	35.15	57	<0.5	ND
	9/29/17	23.64	378.85	35.18	36	<0.5	ND
	12/28/17	24.11	378.38	35.11	34	<0.5	ND
	3/09/18	24.53	377.96	35.13	56	<0.5	ND
	6/27/18	25.21	377.28	35.16	17	<0.5	ND
	9/13/18	25.38	377.11	35.00	17	<0.5	ND
	12/26/18	25.67	376.82	35.14	38	<0.5	ND
	3/20/19	24.11	378.38	35.11	40	<0.5	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW8	03/22/12	22.98	380.37	34.84	20	<0.5	ND
403.35	06/27/12	23.06	380.29	34.85	21	<0.5	ND
	09/28/12	23.02	380.33	34.85	55	<0.5	ND
	12/20/12	23.30	380.05	34.85	110	<0.5	ND
	03/19/13	23.52	379.83	34.85	71	<0.5	ND
	06/12/13	23.62	379.73	34.85	110	<0.5	ND
	09/25/13	23.70	379.65	34.82	180	1.3	ND
	03/21/14	23.91	379.44	34.80	150	<0.5	ND
	06/16/14	24.19	379.16	34.80	270	<0.5	ND
	09/26/14	24.44	378.91	34.79	160	6.3	ND
	12/29/14	24.60	378.75	34.75	75	<0.5	ND
	03/26/15	24.64	378.71	34.77	35	<0.5	ND
	06/30/15	24.55	378.80	34.74	32	<0.5	ND
	09/29/15	25.25	378.10	34.77	30	<0.5	ND
	12/29/15	24.77	378.58	34.75	470	<1	ND
	03/22/16	25.68	377.67	34.72	230	0.52	ND
	06/21/16	25.85	377.50	34.75	87	<0.5	ND
	09/27/16	25.44	377.91	34.70	97	<0.5	ND
	12/29/16	26.12	377.23	34.72	97	<0.5	ND
	3/20/17	24.79	378.56	34.92	120	<0.5	ND
	6/20/17	24.52	378.83	34.87	190	<0.5	ND
	9/29/17	24.88	378.47	34.90	69	<0.5	ND
	12/28/17	25.37	377.98	34.95	83	<0.5	ND
	3/09/18	25.57	377.78	34.90	170	<0.5	ND
	6/27/18	26.30	377.05	34.38	320	0.51	ND
	9/13/18	26.55	376.80	34.90	190	<0.5	ND
	12/26/18	26.92	376.43	34.51	600	0.66	ND
	3/20/19	25.14	378.21	34.49	390	0.64	ND

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW9	03/22/12	23.19	380.33	29.71	650	<0.5	ND
403.52	06/27/12	23.22	380.30	29.70	430	<0.5	ND
	09/28/12	23.35	380.17	29.71	49	<0.5	ND
	12/20/12	23.62	379.90	29.70	270	<0.5	ND
	03/19/13	23.84	379.68	29.70	160	1.8	ND
	06/12/13	23.46	380.06	29.69	250	2.9	ND
	09/25/13	23.88	379.64	29.68	290	4.7	ND
	03/21/14	23.59	379.93	29.68	320	3.2	ND
	06/16/14	24.52	379.00	29.70	590	<0.5	ND
	09/26/14	24.69	378.83	29.68	330	14	ND
	12/29/14	24.85	378.67	29.65	190	2.9	ND
	03/26/15	24.82	378.70	29.66	110	<0.5	ND
	06/30/15	25.08	378.44	29.64	110	1.5	ND
	09/29/15	24.98	378.54	29.70	94	2.7	ND
	12/29/15	24.92	378.60	29.69	61	0.77	ND
	03/22/16	25.78	377.74	29.70	53	1.5	ND
	06/21/16	24.98	378.54	29.70	65	<0.5	ND
	09/27/16	24.74	378.78	29.71	20	<0.5	ND
	12/29/16	26.54	376.98	29.70	9.6	<0.5	ND
	3/20/17	25.00	378.52	27.33	<0.5	<0.5	ND
	6/20/17	24.79	378.73	27.28	63	<0.5	ND
	9/29/17	24.97	378.55	27.39	12	<0.5	ND
	12/28/17	25.61	377.91	27.40	14	<0.5	ND
	3/09/18	25.51	378.01	27.33	21	<0.5	ND
	6/27/18	26.91	376,61	27.40	18	<0.5	ND
	9/13/18	26.60	376.92	27.64	43	1.5	ND
	12/26/18	26.98	376.54	27.15	Dry	---	---
	3/20/19	25.82	377.70	27.30	20	<0.5	ND

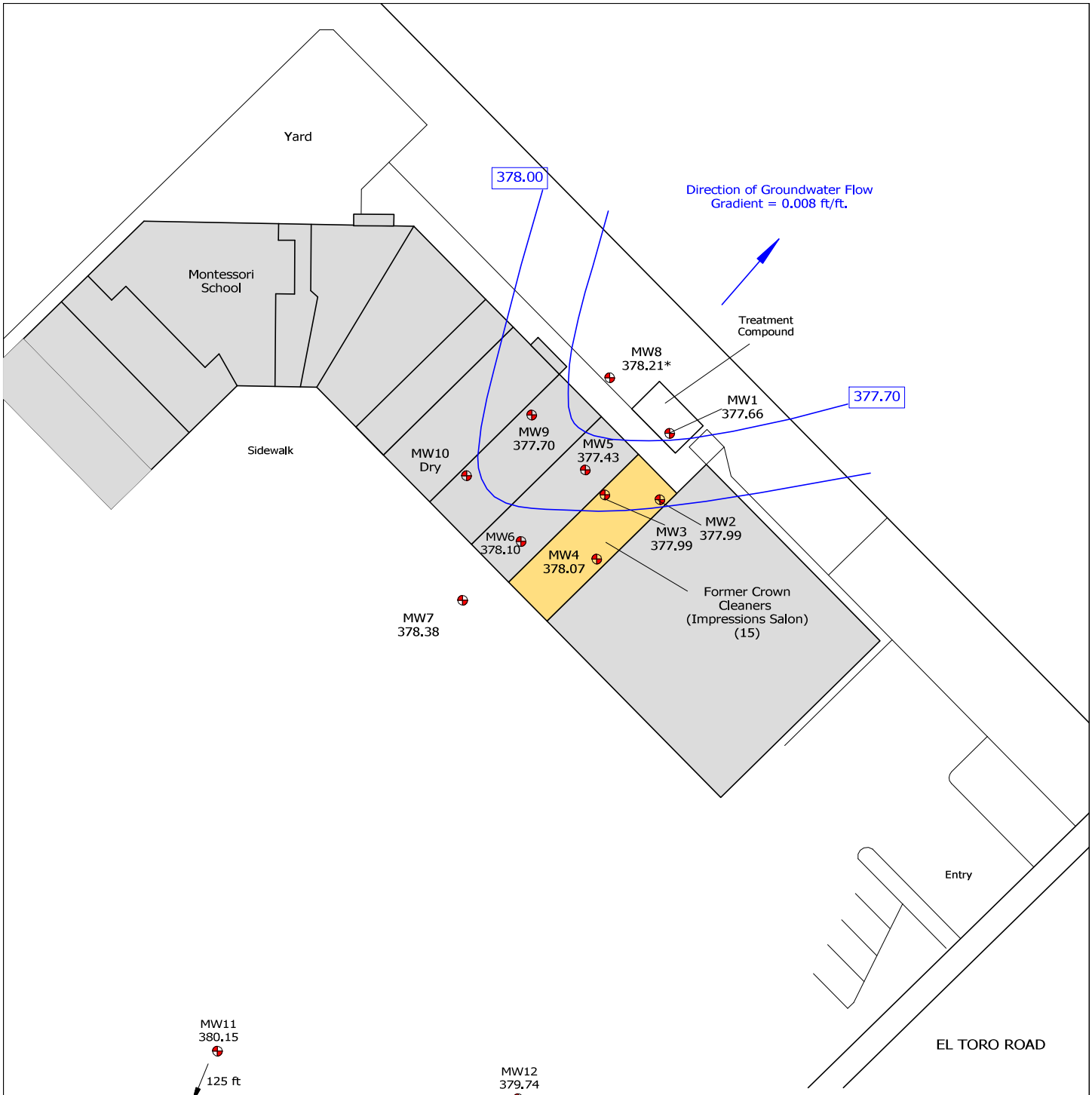
TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW10	03/22/12	23.13	380.46	29.16	240	<0.5	ND
403.59	06/27/12	23.24	380.35	29.15	1500	<0.5	ND
	09/28/12	23.26	380.33	29.15	840	<0.5	ND
	12/20/12	---	---	21.44	Dry	---	---
	03/19/13	---	---	21.48	Dry	---	---
	06/12/13	---	---	19.45	Dry	---	---
	09/25/13	---	---	19.48	Dry	---	---
	03/21/14	---	---	19.40	Dry	---	---
	06/16/14	---	---	21.51	Dry	---	---
	09/26/14	---	---	21.55	Dry	---	---
	12/29/14	---	---	21.53	Dry	---	---
	03/26/15	---	---	21.50	Dry	---	---
	06/30/15	---	---	21.48	Dry	---	---
	09/29/15	---	---	21.17	Dry	---	---
	12/29/15	---	---	21.20	Dry	---	---
	03/22/16	---	---	21.20	Dry	---	---
	06/21/16	---	---	21.18	Dry	---	---
	09/27/16	---	---	21.20	Dry	---	---
	12/29/16	---	---	21.20	Dry	---	---
	3/20/17	---	---	24.80	Dry	---	---
	6/20/17	---	---	24.62	Dry	---	---
	9/29/17	---	---	24.82	Dry	---	---
	12/28/17	25.51	378.08	27.74	560	1.1	ND
	3/09/18	25.70	377.89	27.60	990	1.5	ND
	6/27/18	26.50	377.09	27.73	59	<0.5	ND
	9/13/18	26.69	376.90	27.70	160	<0.5	Chlofm=33
	12/26/18	Dry	---	27.23	Dry	---	---
	3/20/19	Dry	---		Dry	---	---

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW11	12/28/17	21.50	378.63	29.81	0.68	<0.5	ND
400.13	3/09/18	21.84	378.29	29.79	<0.5	<0.5	ND
	6/27/18	22.25	377.88	29.58	<0.5	<0.5	ND
	9/13/18	22.38	377.75	29.70	<0.5	<0.5	ND
	12/26/18	22.33	377.80	29.23	<0.5	<0.5	ND
	3/20/19	19.98	380.15	29.83	<0.5	<0.5	ND
MW12	12/28/17	21.17	378.39	29.90	ND<0.5	<0.5	MTBE=1.2
399.56	3/09/18	21.52	378.04	29.81	<0.5	<0.5	MTBE=0.72
	6/27/18	22.01	377.55	29.73	<0.5	<0.5	ND
	9/13/18	22.13	377.43	29.84	<0.5	<0.5	Chlorfm=0.5
	12/26/18	22.20	377.36	29.80	<0.5	<0.5	MTBE=1.2
	3/20/19	19.82	379.74	29.97	<0.5	<0.5	ND

FIGURES



LEGEND

Groundwater Monitoring Wells

Note: Wells MW11 and MW12 Not to Scale for Clarity on Local Gradient. Actual Distance to Wells Indicated.

FIGURE 1
GROUNDWATER GRADIENT MAP
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

Groundwater Elevations Measured in Feet Above MSL (3/20/19).
*=Anomalous Data Not Contoured.

CJA
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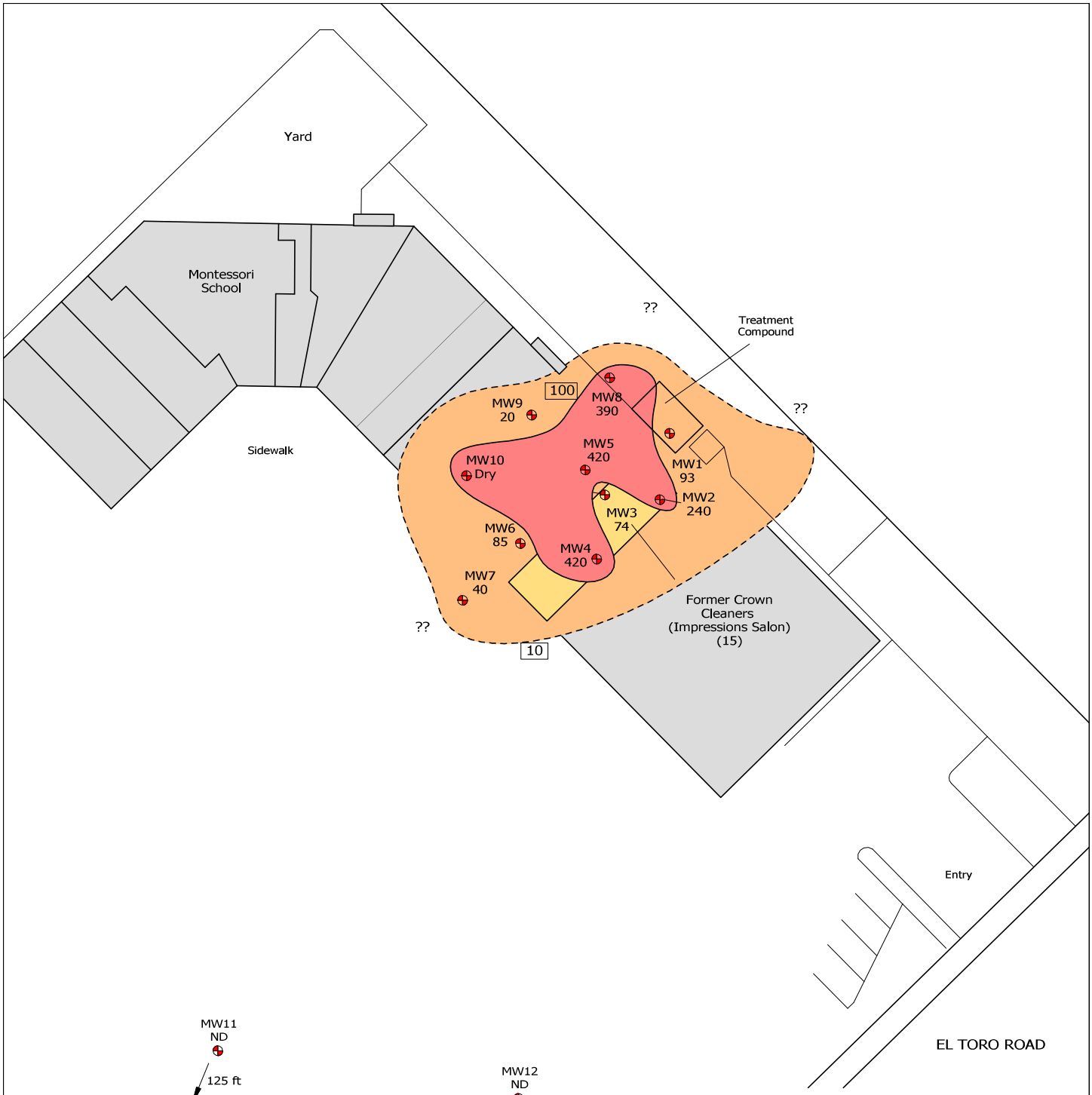
Environmental Consultants

N

APPROXIMATE SCALE IN FEET
0 50 100



MW11
ND
125 ft

MW12
ND
106 ft

LEGEND

Groundwater Monitoring Wells

Note: Wells MW11 and MW12 Not to Scale for Clarity on Local Conditions. Actual Distance to Wells Indicated.

FIGURE 2
DISTRIBUTION OF PCE IN GROUNDWATER
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

Dissolved PCE Levels Shown in ug/L (3/20/19).

CJA
C. JAMES & ASSOCIATES
Environmental Consultants

N

APPROXIMATE SCALE IN FEET
0 50 100

APPENDIX A

GROUNDWATER ELEVATION DATA FORM

PROJECT: Former Crown Cleaners

LOCATION: 24601 Raymond Way, Lake Forest, CA

DATE: March 20, 2019

MONITORING WELLS

ID	DTW	SWE	ELEV-W	TD	COMMENTS
MW1	-25.21	402.87	377.66	40.14	
MW2	-25.12	403.11	377.99	35.61	
MW3	-25.48	403.47	377.99	28.31	
MW4	-24.92	402.99	378.07	29.55	
MW5	-25.93	403.36	377.43	27.49	
MW6	-25.30	403.40	378.10	28.32	
MW7	-24.11	402.49	378.38	35.11	
MW8	-25.14	403.35	378.21	34.49	
MW9	-25.82	403.52	377.70	27.30	
MW10	Dry	403.59	403.59	27.23	
MW11	-19.98	400.13	380.15	29.83	
MW12	-19.82	399.56	379.74	29.97	

EXPLANATION

DTW - Depth to Water from Surface
ELEV-W - Relative Elevation of Water
SWE - Surveyed Wellhead Elevation

REMARKS: Elevations Measured in Feet Above MSL.

DATA RECORDED BY: Blaine Tech

WELL GAUGING DATA

Project # 190320-RT1 Date 3·20·19 Client JSA

Site 24601 Raymond Way, Lake Forest

Well ID	Well Size (in.)	Time Gauged	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW1	2	0819					25.21	40.14	
MW2	2	1210					25.12	35.61	
MW3	2	1333					25.48	28.31	
MW4	2	1234					24.92	29.55	
MW5	2	1146					25.43	27.49	
MW6	2	1109					25.30	28.32	
MW7	2	0922					24.11	35.11	
MW8	2	0851					25.14	34.49	
MW9	2	1001					25.82	27.30	
MW10	2	0957					25.58	27.23	
MW11	2	0718					19.98	29.83	
MW12	2	0751					19.82	29.97	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-1	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 40.14	Depth to Water (ft.): 25.21
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing (New Tubing) Other ____

Start Purge Time: 0830 Flow Rate: 200 mL/min Pump Depth: 27.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0833	20.2	6.75	3888	9	4.41	17.9	600	25.19
0836	20.1	6.74	3932	5	4.16	19.9	1200	25.19
0839	20.2	6.73	3957	5	4.09	21.1	1800	25.19
0842	20.3	6.72	3966	5	4.04	23.2	2400	25.19

Did well dewater? Yes (No)	Amount actually evacuated: 2400 mL
Sampling Time: 0843	Sampling Date: 3/20/19
Sample I.D.: MW-1	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	(Other): See COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-2	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 35.61	Depth to Water (ft.): 25.12
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: (Dedicated) Tubing New Tubing Other_____

Start Purge Time: 1215 Flow Rate: 300 mL/min Pump Depth:_____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1218	22.5	6.90	3175	143	3.16	16.8	900	25.18
1221	22.6	6.89	3180	65	2.97	18.0	1800	25.18
1224	22.8	6.88	3183	61	2.95	18.7	2700	25.18
1227	22.9	6.87	3189	61	2.93	19.3	3600	25.18

Did well dewater? Yes (No)	Amount actually evacuated: 3600 mL
Sampling Time: 1228	Sampling Date: 3/20/19
Sample I.D.: MW-2	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see coc
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LSA
Sampler: RL	Gauging Date: 3/20/19
Well I.D.: MW-3	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 28.31	Depth to Water (ft.): 25.48
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO DQS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump

Sampling Method: (Dedicated Tubing) New Tubing Other_____

Start Purge Time: 1332 Flow Rate: 100 mL/min Pump Depth:_____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1335	22.3	6.79	2887	>1000	2.32	19.3	300	25.50
1338	22.4	6.82	2876	>1000	1.15	20.2	600	↓
1341	22.6	6.83	2865	>1000	1.18	21.3	900	↓
1344	22.7	6.84	2853	>1000	1.19	21.8	1200	↓

Did well dewater? Yes (No)	Amount actually evacuated: 1000 mL
Sampling Time: 1345	Sampling Date: 3/20/19
Sample I.D.: MW-3	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RA	Client: USA
Sampler: RO	Gauging Date: 3/20/19
Well I.D.: MW-4	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 29.55	Depth to Water (ft.): 24.92
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic) Pump Bladder Pump
Sampling Method: (Dedicated) Tubing New Tubing Other ___

Start Purge Time: 1306 Flow Rate: 300 ml/min Pump Depth: ___

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1309	22.6	6.71	3360	>1000	5.87	32.3	900	24.94
1312	22.8	6.70	3354	>1000	4.23	31.0	1800	24.94
1315	22.8	6.68	3345	>1000	4.22	30.9	2700	24.94
1318	22.9	6.66	3338	>1000	4.19	30.9	3600	24.94

Did well dewater? Yes (No) Amount actually evacuated: 3600 mL

Sampling Time: 1319 Sampling Date: 3/20/19

Sample I.D.: MW-4 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: ~~MW-5~~ MW-5	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 27.49	Depth to Water (ft.): 25.43
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing (New Tubing) Other_____

Start Purge Time: 1152 Flow Rate: 200 mL/min Pump Depth:_____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1155	22.7	7.15	5979	624	1.01	22.1	600	25.46
1158	22.8	7.13	5989	434	1.05	22.3	1200	25.46
1201	22.9	7.11	5976	430	1.07	22.8	1800	25.46
1204	22.9	7.10	5988	428	1.11	23.2	2400	25.46

Did well dewater? Yes (No)	Amount actually evacuated: 2400 mL
Sampling Time: 1205	Sampling Date: 3/20/19
Sample I.D.: MW-5	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: SEE COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-6	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 28.32	Depth to Water (ft.): 25.30
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other_____

Start Purge Time: 1113 Flow Rate: 100 mL/min Pump Depth:_____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1116	23.4	7.16	4637	51	6.89	19.2	300	25.33
1119	23.5	7.13	4645	32	6.80	19.3	600	25.33
1122	23.8	7.12	4688	33	6.77	19.8	900	25.33
1125	23.9	7.10	4693	30	6.73	20.3	1200	25.33

Did well dewater? Yes (No)	Amount actually evacuated: 1200 mL
Sampling Time: 1126	Sampling Date: 3/20/19
Sample I.D.: MW-6	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	(Other) 500 COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-7	Well Diameter (in.) : (2) 3 4 6 8 ____
Total Well Depth (ft.) : 35.11	Depth to Water (ft.) : 24.11
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other_____

Start Purge Time: 0928 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0931	23.6	6.87	5170	49	4.26	13.2	600	24.13
0934	23.9	6.76	5241	41	4.24	14.0	1200	24.13
0937	24.1	6.79	5263	43	4.14	15.7	1800	24.13
0940	24.2	6.80	5269	49	4.09	17.3	2400	24.13

Did well dewater? Yes (No)	Amount actually evacuated: 2400 mL
Sampling Time: 0941	Sampling Date: 3/20/19
Sample I.D.: MW-7	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see coc
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190328 -RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-8	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 34.49	Depth to Water (ft.): 25.14
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ____

Start Purge Time: 0900 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0903	22.0	6.65	4055	40	1.31	14.5	600	25.18
0906	21.8	6.69	4066	42	1.16	14.9	1200	25.18
0909	21.6	6.67	4070	40	1.10	14.5	1800	25.18
0912	21.6	6.65	4069	39	1.09	14.6	2400	25.18

Did well dewater? Yes (No)	Amount actually evacuated: 2400 mL
Sampling Time: 0913	Sampling Date: 3/20/19
Sample I.D.: MW-8	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	(Other): see COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190820-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-9	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.):	Depth to Water (ft.): 25.82
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump
Sampling Method: Dedicated Tubing (New Tubing) Other_____

Start Purge Time: 1017 Flow Rate: 100mL/min Pump Depth: 22.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1020	22.6	7.37	1228	>1000	1.02	-77.1	300	25.83
1023	22.7	7.36	1217	>1000	0.92	-71.5	600	25.84
1026	22.8	7.34	1231	>1000	0.90	-70.8	900	25.84
1029	22.7	7.37	1247	>1000	0.91	-69.8	1200	25.84

Did well dewater? Yes (No)	Amount actually evacuated: 1200 mL
Sampling Time: 1030	Sampling Date: 3/20/19
Sample I.D.: MW-9	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-10	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.):	Depth to Water (ft.): 25.58
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other_____

Start Purge Time:_____ Flow Rate: _____ Pump Depth:_____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
—	attempted to purge with peri pump unsuccessful							—
		—	no sample taken		—			

Did well dewater? Yes No	Amount actually evacuated:
Sampling Time:	Sampling Date:
Sample I.D.: MW-10	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3·20·19
Well I.D.: MW-11	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 29.83	Depth to Water (ft.): 19.98
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ____

Start Purge Time: 0725 Flow Rate: 300 mL/min Pump Depth: 22.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0728	23.2	6.76	5406	12	1.24	32.8	900	19.99
0731	23.4	6.75	5403	13	0.94	38.4	1800	20.03
0734	23.9	6.68	5450	13	0.86	42.7	2700	20.03
0737	23.8	6.66	5486	13	0.80	52.0	3600	20.03

Did well dewater? Yes (No) Amount actually evacuated: 3600 mL

Sampling Time: 0738 Sampling Date: 3·20·19

Sample I.D.: MW-11 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D (Other): see COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320 - RS1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-12	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 29.97	Depth to Water (ft.): 19.82
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI ORO PLUS

Purge Method: 2" Grundfos Pump (Peristaltic Pump) Bladder Pump

Sampling Method: Dedicated (Tubing) New Tubing Other ____

Start Purge Time: 0755 Flow Rate: 300 mL/min Pump Depth: 22.5'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0758	23.2	7.24	1976	72	1.30	24.7	900	20.01
0801	23.3	7.02	1864	~~48~~ 18	1.81	27.7	1800	20.05
0804	23.0	7.01	1826	~~44~~ 17	1.83	28.7	2700	20.05
0807	23.1	7.00	1765	17	1.86	29.1	3600	20.05

Did well dewater? Yes (No) Amount actually evacuated: 3600 mL

Sampling Time: 0808 Sampling Date: 3/20/19

Sample I.D.: MW-12 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D (Other) see COC

Equipment Blank I.D.: @ Time Duplicate I.D.:

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180321

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C: 5.8		
☐ Other:	4. SEALED	☐	☑	10		

CUSTOMER

Company: C. JAMES & ASSOCIATES INC
Address: Tel:
City: State: Zip: Fax:

SEND REPORT TO:
Attn: M ANSELMO Email: cjamesc@gmail.com
Company:
Address: P.O. BOX 4852
City: OCEANSIDE State: CA Zip: 92052

SEND INVOICE TO: same as SEND REPORT TO
Attn: Email:
Company:
Address:
City: State: Zip:

EDD: ☐ Excel ☑ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: CAGLEN PLAZA
Project No.: 01915
Sampler: FLAME TECH
Quote #:
PO #:
Special Instructions/Comments:

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)	8270 (Semi-volatiles)	6010 / 7000 (Title 22 Metals)	TO-15	Sample Matrix: SOIL	SOLID	GROUNDWATER	WASTEWATER	OIL	Turnaround Time (TAT)	Container: Quantity	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NAZS2O3	Remarks
1		MW-1	3/20/19	08:45	X										X			5	3	2	1	1	
2		MW-2		12:08																			
3		MW-3		12:45																			
4		MW-4		15:19																			
5		MW-5		12:05																			
6		MW-6		11:36																			
7		MW-7		09:41																			
8		MW-8		11:13																			
9		MW-9		10:50																			
10																							

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
[illegible]	3/20/2019	1600	MFR [illegible]	3/20/19	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
			[illegible]		
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

SAM GREEN — Printed Name
[illegible] — Signature

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 ● Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180321

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: C. JAMES & ASSOCIATES INC.
Address:
Tel:
City:
State:
Zip:
Fax:

SEND REPORT TO:
Attn: M. ANSELMO
Email: CJAMES@reagan.com
Company:
Address: P.O. BOX 4055
City: OCEANSIDE
State: CA
Zip: 92052

SEND INVOICE TO: same as SEND REPORT TO
Attn:
Email:
Company:
Address:
City:
State:
Zip:

EDD: ☐ Excel ☒ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: CALLEN PLAZA
Project No.: 01915
Sampler: PLAINE TECH
Quote #:
PO #:
Special Instructions/Comments:

ITEM	Laboratory ID (For Lab Use Only)	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)	8270 (Semi-volatiles)	6010 / 7000 (Title 22 Metals)	TO-15	SOIL	SOLID	GROUNDWATER	WASTEWATER	OIL	Turnaround Time (TAT)	Quantity	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NA2S2O3	Remarks
1		MW-11	3/20/19	07:50	X										X			5	3	2	1	1	
2		MW-12	"	08:08	X										X			5	3	2	1	1	
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work --- ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
[illegible]	3/20/19	1600	[illegible]	3/20/19	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

SCOTT CHEEL
Printed Name

Signature

WELLHEAD INSPECTION CHECKLIST

Client: LSA Date: 3-20-19

Site Address: 24601 Raymond Way, Lake Forest

Job Number: 190320-RT1 Technician: RD

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	X	stinger ext. pump in well								
MW2	X									
MW 3	X	ext. pump								
MW4	X									
MW5		2/2	bolts missing							
MW6		2/2	bolts missing							
MW7	~~X~~ RT	1/2 bolts missing								
MW8	X	ext. pump								
MW9	X									
MW10	X									
MW11		1/2	tabs broken							
MW12	X									

NOTES:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	CJA @ Former Crown Cleaners	PROJECT NUMBER	190320-RT1

EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI PRO PLUS		07/20/19 0530	pH 7.00 10.00 4.00	7.0 10.07 4.05	✓ ✓ ✓	18.7°C	[illegible]
			COND 3K-0 DO 100% ORP 240	3952 99.3% 242.7	✓ ✓ ✓	[illegible]	[illegible]

APPENDIX B

March 28, 2019

Michael Anselmo
C. James & Associates Inc.
PO Box 4832
Oceanside, CA 92052
Tel: (760) 722-0050
Fax:(760) 722-0150

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1901088
Client Reference : CARLEN PLAZA, 01915

Enclosed are the results for sample(s) received on March 20, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	1901088-01	Groundwater	3/20/19 8:43	3/20/19 16:00
MW-2	1901088-02	Groundwater	3/20/19 12:28	3/20/19 16:00
MW-3	1901088-03	Groundwater	3/20/19 13:45	3/20/19 16:00
MW-4	1901088-04	Groundwater	3/20/19 13:19	3/20/19 16:00
MW-5	1901088-05	Groundwater	3/20/19 12:05	3/20/19 16:00
MW-6	1901088-06	Groundwater	3/20/19 11:26	3/20/19 16:00
MW-7	1901088-07	Groundwater	3/20/19 9:41	3/20/19 16:00
MW-8	1901088-08	Groundwater	3/20/19 9:13	3/20/19 16:00
MW-9	1901088-09	Groundwater	3/20/19 10:30	3/20/19 16:00
MW-11	1901088-10	Groundwater	3/20/19 7:38	3/20/19 16:00
MW-12	1901088-11	Groundwater	3/20/19 8:08	3/20/19 16:00

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-1
Lab ID: 1901088-01

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-1
Lab ID: 1901088-01

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Tetrachloroethene	**93**	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 18:15*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 18:15*	
Surrogate: Dibromofluoromethane	*118 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 18:15*	
Surrogate: Toluene-d8	*107 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 18:15*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-2
Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-2
Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Tetrachloroethene	**240**	5.0	10	B9C0674	03/25/2019	03/25/19 13:50	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*57 - 152*		B9C0674	03/25/2019	*03/25/19 13:50*	
Surrogate: 1,2-Dichloroethane-d4	*117 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 18:38*	
Surrogate: 4-Bromofluorobenzene	*99.8 %*	*62 - 134*		B9C0674	03/25/2019	*03/25/19 13:50*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 18:38*	
Surrogate: Dibromofluoromethane	*118 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 18:38*	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-2

Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*114 %*	*56 - 167*		B9C0674	03/25/2019	*03/25/19 13:50*	
Surrogate: Toluene-d8	*120 %*	*33 - 170*		B9C0674	03/25/2019	*03/25/19 13:50*	
Surrogate: Toluene-d8	*110 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 18:38*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-3
Lab ID: 1901088-03

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,1-Trichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,2-Trichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,3-Trichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dibromoethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,4-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
2,2-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
2-Chlorotoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
4-Chlorotoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
4-Isopropyltoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Benzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromochloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromodichloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromoform	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromomethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Carbon disulfide	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
Carbon tetrachloride	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloroform	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-3
Lab ID: 1901088-03

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Di-isopropyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dibromochloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dibromomethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dichlorodifluoromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl Acetate	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl Ether	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl tert-butyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Freon-113	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Hexachlorobutadiene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Isopropylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
m,p-Xylene	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
Methylene chloride	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
MTBE	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
n-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
n-Propylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Naphthalene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
o-Xylene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
sec-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Styrene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Amyl methyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Butanol	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Tetrachloroethene	**74**	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Toluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Trichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Trichlorofluoromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Vinyl acetate	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Vinyl chloride	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*57 - 152*		B9C0674	03/25/2019	*03/25/19 13:27*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*62 - 134*		B9C0674	03/25/2019	*03/25/19 13:27*	
Surrogate: Dibromofluoromethane	*112 %*	*56 - 167*		B9C0674	03/25/2019	*03/25/19 13:27*	
Surrogate: Toluene-d8	*111 %*	*33 - 170*		B9C0674	03/25/2019	*03/25/19 13:27*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-4
Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-4
Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Tetrachloroethene	**420**	5.0	10	B9C0674	03/25/2019	03/25/19 14:14	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*57 - 152*		B9C0674	03/25/2019	*03/25/19 14:14*	
Surrogate: 1,2-Dichloroethane-d4	*116 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 19:01*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*62 - 134*		B9C0674	03/25/2019	*03/25/19 14:14*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 19:01*	
Surrogate: Dibromofluoromethane	*106 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 19:01*	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-4

Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*111 %*	*56 - 167*		B9C0674	03/25/2019	*03/25/19 14:14*	
Surrogate: Toluene-d8	*119 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 19:01*	
Surrogate: Toluene-d8	*113 %*	*33 - 170*		B9C0674	03/25/2019	*03/25/19 14:14*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-5
Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-5
Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Tetrachloroethene	**420**	10	20	B9C0674	03/25/2019	03/25/19 15:00	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Surrogate: 1,2-Dichloroethane-d4	*118 %*	*57 - 152*		B9C0674	03/25/2019	*03/25/19 15:00*	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 19:25*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*62 - 134*		B9C0674	03/25/2019	*03/25/19 15:00*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 19:25*	
Surrogate: Dibromofluoromethane	*113 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 19:25*	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-5
Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*118 %*	*56 - 167*		B9C0674	03/25/2019	*03/25/19 15:00*	
Surrogate: Toluene-d8	*122 %*	*33 - 170*		B9C0674	03/25/2019	*03/25/19 15:00*	
Surrogate: Toluene-d8	*109 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 19:25*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-6
Lab ID: 1901088-06

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-6
Lab ID: 1901088-06

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Tetrachloroethene	**85**	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Surrogate: 1,2-Dichloroethane-d4	*120 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 19:48*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 19:48*	
Surrogate: Dibromofluoromethane	*117 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 19:48*	
Surrogate: Toluene-d8	*118 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 19:48*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-7

Lab ID: 1901088-07

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-7
Lab ID: 1901088-07

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Tetrachloroethene	**40**	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 16:19*	
Surrogate: 4-Bromofluorobenzene	*96.1 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 16:19*	
Surrogate: Dibromofluoromethane	*110 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 16:19*	
Surrogate: Toluene-d8	*118 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 16:19*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-8
Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,1-Trichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,2-Trichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,3-Trichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dibromoethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,4-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
2,2-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
2-Chlorotoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
4-Chlorotoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
4-Isopropyltoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Benzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromochloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromodichloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromoform	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromomethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Carbon disulfide	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
Carbon tetrachloride	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloroform	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-8
Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Di-isopropyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dibromochloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dibromomethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dichlorodifluoromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl Acetate	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl Ether	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl tert-butyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Freon-113	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Hexachlorobutadiene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Isopropylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
m,p-Xylene	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
Methylene chloride	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
MTBE	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
n-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
n-Propylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Naphthalene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
o-Xylene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
sec-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Styrene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Amyl methyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Butanol	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Tetrachloroethene	**390**	5.0	10	B9C0674	03/25/2019	03/25/19 14:37	
Toluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Trichloroethene	**0.64**	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Trichlorofluoromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Vinyl acetate	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Vinyl chloride	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*57 - 152*		B9C0674	03/25/2019	*03/25/19 14:37*	
Surrogate: 1,2-Dichloroethane-d4	*115 %*	*57 - 152*		B9C0769	03/27/2019	*03/27/19 14:50*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*62 - 134*		B9C0674	03/25/2019	*03/25/19 14:37*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*62 - 134*		B9C0769	03/27/2019	*03/27/19 14:50*	
Surrogate: Dibromofluoromethane	*120 %*	*56 - 167*		B9C0769	03/27/2019	*03/27/19 14:50*	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-8
Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*116 %*	*56 - 167*		B9C0674	03/25/2019	*03/25/19 14:37*	
Surrogate: Toluene-d8	*116 %*	*33 - 170*		B9C0674	03/25/2019	*03/25/19 14:37*	
Surrogate: Toluene-d8	*116 %*	*33 - 170*		B9C0769	03/27/2019	*03/27/19 14:50*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-9
Lab ID: 1901088-09

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,1-Trichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,2-Trichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,3-Trichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dibromoethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,4-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
2,2-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
2-Chlorotoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
4-Chlorotoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
4-Isopropyltoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Benzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromochloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromodichloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromoform	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromomethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Carbon disulfide	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
Carbon tetrachloride	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloroform	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-9
Lab ID: 1901088-09

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Di-isopropyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dibromochloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dibromomethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dichlorodifluoromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl Acetate	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl Ether	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl tert-butyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Freon-113	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Hexachlorobutadiene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Isopropylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
m,p-Xylene	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
Methylene chloride	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
MTBE	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
n-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
n-Propylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Naphthalene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
o-Xylene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
sec-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Styrene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Amyl methyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Butanol	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Tetrachloroethene	**20**	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Toluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Trichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Trichlorofluoromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Vinyl acetate	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Vinyl chloride	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*57 - 152*		B9C0716	03/26/2019	*03/26/19 12:56*	
Surrogate: 4-Bromofluorobenzene	*99.2 %*	*62 - 134*		B9C0716	03/26/2019	*03/26/19 12:56*	
Surrogate: Dibromofluoromethane	*125 %*	*56 - 167*		B9C0716	03/26/2019	*03/26/19 12:56*	
Surrogate: Toluene-d8	*122 %*	*33 - 170*		B9C0716	03/26/2019	*03/26/19 12:56*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-11
Lab ID: 1901088-10

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Client Sample ID MW-11
Lab ID: 1901088-10

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Tetrachloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Surrogate: 1,2-Dichloroethane-d4	*119 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 16:42*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 16:42*	
Surrogate: Dibromofluoromethane	*116 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 16:42*	
Surrogate: Toluene-d8	*122 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 16:42*	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-12
Lab ID: 1901088-11

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Client Sample ID MW-12
Lab ID: 1901088-11

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Tetrachloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*57 - 152*		B9C0637	03/22/2019	*03/22/19 17:05*	
Surrogate: 4-Bromofluorobenzene	*94.0 %*	*62 - 134*		B9C0637	03/22/2019	*03/22/19 17:05*	
Surrogate: Dibromofluoromethane	*112 %*	*56 - 167*		B9C0637	03/22/2019	*03/22/19 17:05*	
Surrogate: Toluene-d8	*109 %*	*33 - 170*		B9C0637	03/22/2019	*03/22/19 17:05*	

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W										
Blank (B9C0637-BLK1)							Prepared: 3/22/2019 Analyzed: 3/22/2019			
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.18							
1,1,2,2-Tetrachloroethane	ND	0.50	0.17							
1,1,2-Trichloroethane	ND	0.50	0.12							
1,1-Dichloroethane	ND	0.50	0.16							
1,1-Dichloroethene	ND	0.50	0.09							
1,1-Dichloropropene	ND	0.50	0.21							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trimethylbenzene	ND	0.50	0.08							
1,2-Dibromo-3-chloropropane	ND	0.50	0.24							
1,2-Dibromoethane	ND	0.50	0.11							
1,2-Dichlorobenzene	ND	0.50	0.09							
1,2-Dichloroethane	ND	0.50	0.19							
1,2-Dichloropropane	ND	0.50	0.36							
1,3,5-Trimethylbenzene	ND	0.50	0.05							
1,3-Dichlorobenzene	ND	0.50	0.10							
1,3-Dichloropropane	ND	0.50	0.07							
1,4-Dichlorobenzene	ND	0.50	0.07							
2,2-Dichloropropane	ND	0.50	0.16							
2-Chlorotoluene	ND	0.50	0.08							
4-Chlorotoluene	ND	0.50	0.08							
4-Isopropyltoluene	ND	0.50	0.06							
Benzene	ND	0.50	0.03							
Bromobenzene	ND	0.50	0.09							
Bromochloromethane	ND	0.50	0.24							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.13							
Bromomethane	ND	0.50	0.42							
Carbon disulfide	ND	1.0	0.12							
Carbon tetrachloride	ND	0.50	0.19							
Chlorobenzene	ND	0.50	0.07							
Chloroethane	ND	0.50	0.40							
Chloroform	ND	0.50	0.17							
Chloromethane	ND	0.50	0.08							
cis-1,2-Dichloroethene	ND	0.50	0.13							
cis-1,3-Dichloropropene	ND	0.50	0.05							
Di-isopropyl ether	ND	0.50	0.12							

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W (continued)										
Blank (B9C0637-BLK1) - Continued					Prepared: 3/22/2019 Analyzed: 3/22/2019					
Dibromochloromethane	ND	0.50	0.14							
Dibromomethane	ND	0.50	0.10							
Dichlorodifluoromethane	ND	0.50	0.10							
Ethyl Acetate	ND	10	1.8							
Ethyl Ether	ND	10	1.3							
Ethyl tert-butyl ether	ND	0.50	0.11							
Ethylbenzene	ND	0.50	0.07							
Freon-113	ND	0.50	0.17							
Hexachlorobutadiene	ND	0.50	0.14							
Isopropylbenzene	ND	0.50	0.05							
m,p-Xylene	ND	1.0	0.08							
Methylene chloride	ND	1.0	0.46							
MTBE	ND	0.50	0.12							
n-Butylbenzene	ND	0.50	0.05							
n-Propylbenzene	ND	0.50	0.07							
Naphthalene	ND	0.50	0.15							
o-Xylene	ND	0.50	0.05							
sec-Butylbenzene	ND	0.50	0.04							
Styrene	ND	0.50	0.06							
tert-Amyl methyl ether	ND	0.50	0.11							
tert-Butanol	ND	10	2.9							
tert-Butylbenzene	ND	0.50	0.06							
Tetrachloroethene	ND	0.50	0.07							
Toluene	ND	0.50	0.07							
trans-1,2-Dichloroethene	ND	0.50	0.11							
trans-1,3-Dichloropropene	ND	0.50	0.04							
Trichloroethene	ND	0.50	0.05							
Trichlorofluoromethane	ND	0.50	0.14							
Vinyl acetate	ND	10	1.3							
Vinyl chloride	ND	0.50	0.05							
Surrogate: 1,2-Dichloroethane-d4	*25.38*			*25.0000*		*102*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*23.26*			*25.0000*		*93.0*	*62 - 134*			
Surrogate: Dibromofluoromethan	*24.72*			*25.0000*		*98.9*	*56 - 167*			
Surrogate: Toluene-d8	*28.33*			*25.0000*		*113*	*33 - 170*			
LCS (B9C0637-BS1)					Prepared: 3/22/2019 Analyzed: 3/22/2019					
1,1,1,2-Tetrachloroethane	19.1800	0.50	0.11	20.0000		95.9	80 - 137			
1,1,1-Trichloroethane	18.8700	0.50	0.18	20.0000		94.4	75 - 148			
1,1,2,2-Tetrachloroethane	15.6700	0.50	0.17	20.0000		78.4	64 - 118			
1,1,2-Trichloroethane	19.1900	0.50	0.12	20.0000		96.0	77 - 113			
1,1-Dichloroethane	18.2900	0.50	0.16	20.0000		91.4	72 - 131			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W (continued)										
LCS (B9C0637-BS1) - Continued					Prepared: 3/22/2019 Analyzed: 3/22/2019					
1,1-Dichloroethene	18.3600	0.50	0.09	20.0000		91.8	75 - 132			
1,1-Dichloropropene	21.1400	0.50	0.21	20.0000		106	84 - 141			
1,2,3-Trichloropropane	17.6400	0.50	0.16	20.0000		88.2	65 - 111			
1,2,3-Trichlorobenzene	18.5200	0.50	0.12	20.0000		92.6	79 - 117			
1,2,4-Trichlorobenzene	19.1000	0.50	0.12	20.0000		95.5	78 - 121			
1,2,4-Trimethylbenzene	19.2400	0.50	0.08	20.0000		96.2	83 - 125			
1,2-Dibromo-3-chloropropane	16.6500	0.50	0.24	20.0000		83.2	54 - 116			
1,2-Dibromoethane	19.2700	0.50	0.11	20.0000		96.4	79 - 118			
1,2-Dichlorobenzene	18.6300	0.50	0.09	20.0000		93.2	82 - 115			
1,2-Dichloroethane	19.7000	0.50	0.19	20.0000		98.5	76 - 115			
1,2-Dichloropropane	17.4000	0.50	0.36	20.0000		87.0	74 - 113			
1,3,5-Trimethylbenzene	19.5400	0.50	0.05	20.0000		97.7	83 - 126			
1,3-Dichlorobenzene	18.7700	0.50	0.10	20.0000		93.8	84 - 118			
1,3-Dichloropropane	18.6600	0.50	0.07	20.0000		93.3	72 - 116			
1,4-Dichlorobenzene	18.2200	0.50	0.07	20.0000		91.1	83 - 112			
2,2-Dichloropropane	20.3500	0.50	0.16	20.0000		102	72 - 150			
2-Chlorotoluene	17.5700	0.50	0.08	20.0000		87.8	82 - 120			
4-Chlorotoluene	18.7500	0.50	0.08	20.0000		93.8	81 - 121			
4-Isopropyltoluene	18.5100	0.50	0.06	20.0000		92.6	86 - 124			
Benzene	37.2500	0.50	0.03	40.0000		93.1	81 - 118			
Bromobenzene	18.4700	0.50	0.09	20.0000		92.4	82 - 117			
Bromochloromethane	21.0200	0.50	0.24	20.0000		105	70 - 136			
Bromodichloromethane	19.3000	0.50	0.14	20.0000		96.5	80 - 122			
Bromoform	17.4500	0.50	0.13	20.0000		87.2	53 - 145			
Bromomethane	14.3000	0.50	0.42	20.0000		71.5	30 - 204			
Carbon disulfide	17.7600	1.0	0.12	20.0000		88.8	85 - 131			
Carbon tetrachloride	19.8500	0.50	0.19	20.0000		99.2	77 - 157			
Chlorobenzene	18.2500	0.50	0.07	20.0000		91.2	86 - 113			
Chloroethane	20.1000	0.50	0.40	20.0000		100	70 - 160			
Chloroform	18.0500	0.50	0.17	20.0000		90.2	66 - 136			
Chloromethane	15.7000	0.50	0.08	20.0000		78.5	52 - 138			
cis-1,2-Dichloroethene	20.3600	0.50	0.13	20.0000		102	71 - 128			
cis-1,3-Dichloropropene	22.3300	0.50	0.05	20.0000		112	71 - 123			
Di-isopropyl ether	18.1200	0.50	0.12	20.0000		90.6	64 - 123			
Dibromochloromethane	18.9600	0.50	0.14	20.0000		94.8	78 - 140			
Dibromomethane	18.1600	0.50	0.10	20.0000		90.8	78 - 109			
Dichlorodifluoromethane	16.6800	0.50	0.10	20.0000		83.4	64 - 144			
Ethyl Acetate	180.080	10	1.8	200.000		90.0	55 - 123			
Ethyl Ether	177.600	10	1.3	200.000		88.8	74 - 122			
Ethyl tert-butyl ether	20.6700	0.50	0.11	20.0000		103	72 - 120			
Ethylbenzene	36.8700	0.50	0.07	40.0000		92.2	90 - 116			
Freon-113	20.1500	0.50	0.17	20.0000		101	76 - 143			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W (continued)										
LCS (B9C0637-BS1) - Continued					Prepared: 3/22/2019 Analyzed: 3/22/2019					
Hexachlorobutadiene	17.1600	0.50	0.14	20.0000		85.8	81 - 129			
Isopropylbenzene	19.2800	0.50	0.05	20.0000		96.4	83 - 129			
m,p-Xylene	40.2800	1.0	0.08	40.0000		101	88 - 124			
Methylene chloride	21.3100	1.0	0.46	20.0000		107	76 - 137			
MTBE	20.0400	0.50	0.12	20.0000		100	67 - 121			
n-Butylbenzene	17.8700	0.50	0.05	20.0000		89.4	83 - 129			
n-Propylbenzene	17.1700	0.50	0.07	20.0000		85.8	85 - 124			
Naphthalene	16.2400	0.50	0.15	20.0000		81.2	67 - 113			
o-Xylene	40.6400	0.50	0.05	40.0000		102	82 - 129			
sec-Butylbenzene	18.9300	0.50	0.04	20.0000		94.6	86 - 127			
Styrene	20.6300	0.50	0.06	20.0000		103	83 - 122			
tert-Amyl methyl ether	19.3200	0.50	0.11	20.0000		96.6	61 - 114			
tert-Butanol	93.1600	10	2.9	100.000		93.2	45 - 121			
tert-Butylbenzene	19.4700	0.50	0.06	20.0000		97.4	84 - 130			
Tetrachloroethene	18.0800	0.50	0.07	20.0000		90.4	87 - 123			
Toluene	38.5500	0.50	0.07	40.0000		96.4	84 - 115			
trans-1,2-Dichloroethene	21.1200	0.50	0.11	20.0000		106	60 - 148			
trans-1,3-Dichloropropene	19.7200	0.50	0.04	20.0000		98.6	77 - 118			
Trichloroethene	19.8700	0.50	0.05	20.0000		99.4	79 - 129			
Trichlorofluoromethane	21.3000	0.50	0.14	20.0000		106	68 - 162			
Vinyl acetate	207.270	10	1.3	200.000		104	65 - 134			
Vinyl chloride	17.6400	0.50	0.05	20.0000		88.2	73 - 128			
Surrogate: 1,2-Dichloroethane-d4	*24.58*			*25.0000*		*98.3*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.50*			*25.0000*		*106*	*62 - 134*			
Surrogate: Dibromofluoromethan	*28.42*			*25.0000*		*114*	*56 - 167*			
Surrogate: Toluene-d8	*30.04*			*25.0000*		*120*	*33 - 170*			
LCS Dup (B9C0637-BSD1)					Prepared: 3/22/2019 Analyzed: 3/22/2019					
1,1,1,2-Tetrachloroethane	20.0600	0.50	0.11	20.0000		100	80 - 137	4.49	20	
1,1,1-Trichloroethane	18.9300	0.50	0.18	20.0000		94.6	75 - 148	0.317	20	
1,1,2,2-Tetrachloroethane	17.2500	0.50	0.17	20.0000		86.2	64 - 118	9.60	20	
1,1,2-Trichloroethane	21.2700	0.50	0.12	20.0000		106	77 - 113	10.3	20	
1,1-Dichloroethane	19.5700	0.50	0.16	20.0000		97.8	72 - 131	6.76	20	
1,1-Dichloroethene	18.8100	0.50	0.09	20.0000		94.0	75 - 132	2.42	20	
1,1-Dichloropropene	20.7300	0.50	0.21	20.0000		104	84 - 141	1.96	20	
1,2,3-Trichloropropane	17.7000	0.50	0.16	20.0000		88.5	65 - 111	0.340	20	
1,2,3-Trichlorobenzene	19.8900	0.50	0.12	20.0000		99.4	79 - 117	7.13	20	
1,2,4-Trichlorobenzene	20.5300	0.50	0.12	20.0000		103	78 - 121	7.22	20	
1,2,4-Trimethylbenzene	19.7300	0.50	0.08	20.0000		98.6	83 - 125	2.51	20	
1,2-Dibromo-3-chloropropane	17.2600	0.50	0.24	20.0000		86.3	54 - 116	3.60	20	
1,2-Dibromoethane	20.2500	0.50	0.11	20.0000		101	79 - 118	4.96	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W (continued)										
LCS Dup (B9C0637-BSD1) - Continued					Prepared: 3/22/2019 Analyzed: 3/22/2019					
1,2-Dichlorobenzene	18.5200	0.50	0.09	20.0000		92.6	82 - 115	0.592	20	
1,2-Dichloroethane	20.4100	0.50	0.19	20.0000		102	76 - 115	3.54	20	
1,2-Dichloropropane	18.1700	0.50	0.36	20.0000		90.8	74 - 113	4.33	20	
1,3,5-Trimethylbenzene	19.7600	0.50	0.05	20.0000		98.8	83 - 126	1.12	20	
1,3-Dichlorobenzene	18.8200	0.50	0.10	20.0000		94.1	84 - 118	0.266	20	
1,3-Dichloropropane	20.1700	0.50	0.07	20.0000		101	72 - 116	7.78	20	
1,4-Dichlorobenzene	18.5600	0.50	0.07	20.0000		92.8	83 - 112	1.85	20	
2,2-Dichloropropane	19.8300	0.50	0.16	20.0000		99.2	72 - 150	2.59	20	
2-Chlorotoluene	19.4000	0.50	0.08	20.0000		97.0	82 - 120	9.90	20	
4-Chlorotoluene	19.2000	0.50	0.08	20.0000		96.0	81 - 121	2.37	20	
4-Isopropyltoluene	19.3100	0.50	0.06	20.0000		96.6	86 - 124	4.23	20	
Benzene	37.1800	0.50	0.03	40.0000		93.0	81 - 118	0.188	20	
Bromobenzene	19.1600	0.50	0.09	20.0000		95.8	82 - 117	3.67	20	
Bromochloromethane	20.5000	0.50	0.24	20.0000		102	70 - 136	2.50	20	
Bromodichloromethane	20.0100	0.50	0.14	20.0000		100	80 - 122	3.61	20	
Bromoform	18.0700	0.50	0.13	20.0000		90.4	53 - 145	3.49	20	
Bromomethane	18.3300	0.50	0.42	20.0000		91.6	30 - 204	24.7	20	R
Carbon disulfide	17.3100	1.0	0.12	20.0000		86.6	85 - 131	2.57	20	
Carbon tetrachloride	19.5800	0.50	0.19	20.0000		97.9	77 - 157	1.37	20	
Chlorobenzene	19.0300	0.50	0.07	20.0000		95.2	86 - 113	4.18	20	
Chloroethane	20.5100	0.50	0.40	20.0000		103	70 - 160	2.02	20	
Chloroform	19.2000	0.50	0.17	20.0000		96.0	66 - 136	6.17	20	
Chloromethane	16.1400	0.50	0.08	20.0000		80.7	52 - 138	2.76	20	
cis-1,2-Dichloroethene	20.1700	0.50	0.13	20.0000		101	71 - 128	0.938	20	
cis-1,3-Dichloropropene	23.3800	0.50	0.05	20.0000		117	71 - 123	4.59	20	
Di-isopropyl ether	20.3600	0.50	0.12	20.0000		102	64 - 123	11.6	20	
Dibromochloromethane	18.9500	0.50	0.14	20.0000		94.8	78 - 140	0.0527	20	
Dibromomethane	17.8800	0.50	0.10	20.0000		89.4	78 - 109	1.55	20	
Dichlorodifluoromethane	16.7500	0.50	0.10	20.0000		83.8	64 - 144	0.419	20	
Ethyl Acetate	174.420	10	1.8	200.000		87.2	55 - 123	3.19	20	
Ethyl Ether	179.550	10	1.3	200.000		89.8	74 - 122	1.09	20	
Ethyl tert-butyl ether	21.2500	0.50	0.11	20.0000		106	72 - 120	2.77	20	
Ethylbenzene	38.0400	0.50	0.07	40.0000		95.1	90 - 116	3.12	20	
Freon-113	21.1800	0.50	0.17	20.0000		106	76 - 143	4.98	20	
Hexachlorobutadiene	18.1300	0.50	0.14	20.0000		90.6	81 - 129	5.50	20	
Isopropylbenzene	21.5600	0.50	0.05	20.0000		108	83 - 129	11.2	20	
m,p-Xylene	42.4100	1.0	0.08	40.0000		106	88 - 124	5.15	20	
Methylene chloride	20.2400	1.0	0.46	20.0000		101	76 - 137	5.15	20	
MTBE	20.2300	0.50	0.12	20.0000		101	67 - 121	0.944	20	
n-Butylbenzene	18.3500	0.50	0.05	20.0000		91.8	83 - 129	2.65	20	
n-Propylbenzene	19.5300	0.50	0.07	20.0000		97.6	85 - 124	12.9	20	
Naphthalene	16.5900	0.50	0.15	20.0000		83.0	67 - 113	2.13	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0637 - MSVOA_LL_W (continued)										
LCS Dup (B9C0637-BSD1) - Continued					Prepared: 3/22/2019 Analyzed: 3/22/2019					
o-Xylene	44.6200	0.50	0.05	40.0000		112	82 - 129	9.34	20	
sec-Butylbenzene	19.1500	0.50	0.04	20.0000		95.8	86 - 127	1.16	20	
Styrene	22.6600	0.50	0.06	20.0000		113	83 - 122	9.38	20	
tert-Amyl methyl ether	19.1300	0.50	0.11	20.0000		95.6	61 - 114	0.988	20	
tert-Butanol	95.8300	10	2.9	100.000		95.8	45 - 121	2.83	20	
tert-Butylbenzene	19.4300	0.50	0.06	20.0000		97.2	84 - 130	0.206	20	
Tetrachloroethene	19.2600	0.50	0.07	20.0000		96.3	87 - 123	6.32	20	
Toluene	40.3000	0.50	0.07	40.0000		101	84 - 115	4.44	20	
trans-1,2-Dichloroethene	21.0800	0.50	0.11	20.0000		105	60 - 148	0.190	20	
trans-1,3-Dichloropropene	20.1900	0.50	0.04	20.0000		101	77 - 118	2.36	20	
Trichloroethene	19.4200	0.50	0.05	20.0000		97.1	79 - 129	2.29	20	
Trichlorofluoromethane	22.7400	0.50	0.14	20.0000		114	68 - 162	6.54	20	
Vinyl acetate	215.000	10	1.3	200.000		108	65 - 134	3.66	20	
Vinyl chloride	18.0800	0.50	0.05	20.0000		90.4	73 - 128	2.46	20	
Surrogate: 1,2-Dichloroethane-d4	*25.98*			*25.0000*		*104*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*25.98*			*25.0000*		*104*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.57*			*25.0000*		*106*	*56 - 167*			
Surrogate: Toluene-d8	*28.97*			*25.0000*		*116*	*33 - 170*			

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W										
Blank (B9C0674-BLK1)					Prepared: 3/25/2019 Analyzed: 3/25/2019					
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.18							
1,1,2,2-Tetrachloroethane	ND	0.50	0.17							
1,1,2-Trichloroethane	ND	0.50	0.12							
1,1-Dichloroethane	ND	0.50	0.16							
1,1-Dichloroethene	ND	0.50	0.09							
1,1-Dichloropropene	ND	0.50	0.21							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trimethylbenzene	ND	0.50	0.08							
1,2-Dibromo-3-chloropropane	ND	0.50	0.24							
1,2-Dibromoethane	ND	0.50	0.11							
1,2-Dichlorobenzene	ND	0.50	0.09							
1,2-Dichloroethane	ND	0.50	0.19							
1,2-Dichloropropane	ND	0.50	0.36							
1,3,5-Trimethylbenzene	ND	0.50	0.05							
1,3-Dichlorobenzene	ND	0.50	0.10							
1,3-Dichloropropane	ND	0.50	0.07							
1,4-Dichlorobenzene	ND	0.50	0.07							
2,2-Dichloropropane	ND	0.50	0.16							
2-Chlorotoluene	ND	0.50	0.08							
4-Chlorotoluene	ND	0.50	0.08							
4-Isopropyltoluene	ND	0.50	0.06							
Benzene	ND	0.50	0.03							
Bromobenzene	ND	0.50	0.09							
Bromochloromethane	ND	0.50	0.24							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.13							
Bromomethane	ND	0.50	0.42							
Carbon disulfide	ND	1.0	0.12							
Carbon tetrachloride	ND	0.50	0.19							
Chlorobenzene	ND	0.50	0.07							
Chloroethane	ND	0.50	0.40							
Chloroform	ND	0.50	0.17							
Chloromethane	ND	0.50	0.08							
cis-1,2-Dichloroethene	ND	0.50	0.13							
cis-1,3-Dichloropropene	ND	0.50	0.05							
Di-isopropyl ether	ND	0.50	0.12							
Dibromochloromethane	ND	0.50	0.14							
Dibromomethane	ND	0.50	0.10							

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W (continued)										
Blank (B9C0674-BLK1) - Continued					Prepared: 3/25/2019 Analyzed: 3/25/2019					
Dichlorodifluoromethane	ND	0.50	0.10							
Ethyl Acetate	ND	10	1.8							
Ethyl Ether	ND	10	1.3							
Ethyl tert-butyl ether	ND	0.50	0.11							
Ethylbenzene	ND	0.50	0.07							
Freon-113	ND	0.50	0.17							
Hexachlorobutadiene	ND	0.50	0.14							
Isopropylbenzene	ND	0.50	0.05							
m,p-Xylene	ND	1.0	0.08							
Methylene chloride	ND	1.0	0.46							
MTBE	ND	0.50	0.12							
n-Butylbenzene	ND	0.50	0.05							
n-Propylbenzene	ND	0.50	0.07							
Naphthalene	ND	0.50	0.15							
o-Xylene	ND	0.50	0.05							
sec-Butylbenzene	ND	0.50	0.04							
Styrene	ND	0.50	0.06							
tert-Amyl methyl ether	ND	0.50	0.11							
tert-Butanol	ND	10	2.9							
tert-Butylbenzene	ND	0.50	0.06							
Tetrachloroethene	ND	0.50	0.07							
Toluene	ND	0.50	0.07							
trans-1,2-Dichloroethene	ND	0.50	0.11							
trans-1,3-Dichloropropene	ND	0.50	0.04							
Trichloroethene	ND	0.50	0.05							
Trichlorofluoromethane	ND	0.50	0.14							
Vinyl acetate	ND	10	1.3							
Vinyl chloride	ND	0.50	0.05							
Surrogate: 1,2-Dichloroethane-d4	*28.15*			*25.0000*		*113*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*25.15*			*25.0000*		*101*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.55*			*25.0000*		*106*	*56 - 167*			
Surrogate: Toluene-d8	*27.48*			*25.0000*		*110*	*33 - 170*			
LCS (B9C0674-BS1)					Prepared: 3/25/2019 Analyzed: 3/25/2019					
1,1,1,2-Tetrachloroethane	19.8800	0.50	0.11	20.0000		99.4	80 - 137			
1,1,1-Trichloroethane	18.8200	0.50	0.18	20.0000		94.1	75 - 148			
1,1,2,2-Tetrachloroethane	14.8500	0.50	0.17	20.0000		74.2	64 - 118			
1,1,2-Trichloroethane	20.0900	0.50	0.12	20.0000		100	77 - 113			
1,1-Dichloroethane	17.6300	0.50	0.16	20.0000		88.2	72 - 131			
1,1-Dichloroethene	17.9900	0.50	0.09	20.0000		90.0	75 - 132			
1,1-Dichloropropene	19.8700	0.50	0.21	20.0000		99.4	84 - 141			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W (continued)										
LCS (B9C0674-BS1) - Continued					Prepared: 3/25/2019 Analyzed: 3/25/2019					
1,2,3-Trichloropropane	17.0200	0.50	0.16	20.0000		85.1	65 - 111			
1,2,3-Trichlorobenzene	19.6800	0.50	0.12	20.0000		98.4	79 - 117			
1,2,4-Trichlorobenzene	20.1400	0.50	0.12	20.0000		101	78 - 121			
1,2,4-Trimethylbenzene	19.4900	0.50	0.08	20.0000		97.4	83 - 125			
1,2-Dibromo-3-chloropropane	16.9800	0.50	0.24	20.0000		84.9	54 - 116			
1,2-Dibromoethane	18.9900	0.50	0.11	20.0000		95.0	79 - 118			
1,2-Dichlorobenzene	18.7500	0.50	0.09	20.0000		93.8	82 - 115			
1,2-Dichloroethane	18.6400	0.50	0.19	20.0000		93.2	76 - 115			
1,2-Dichloropropane	17.3100	0.50	0.36	20.0000		86.6	74 - 113			
1,3,5-Trimethylbenzene	19.8600	0.50	0.05	20.0000		99.3	83 - 126			
1,3-Dichlorobenzene	19.0500	0.50	0.10	20.0000		95.2	84 - 118			
1,3-Dichloropropane	19.0800	0.50	0.07	20.0000		95.4	72 - 116			
1,4-Dichlorobenzene	19.1600	0.50	0.07	20.0000		95.8	83 - 112			
2,2-Dichloropropane	19.0500	0.50	0.16	20.0000		95.2	72 - 150			
2-Chlorotoluene	18.6100	0.50	0.08	20.0000		93.0	82 - 120			
4-Chlorotoluene	18.6800	0.50	0.08	20.0000		93.4	81 - 121			
4-Isopropyltoluene	19.7300	0.50	0.06	20.0000		98.6	86 - 124			
Benzene	36.4600	0.50	0.03	40.0000		91.2	81 - 118			
Bromobenzene	19.1500	0.50	0.09	20.0000		95.8	82 - 117			
Bromochloromethane	19.2600	0.50	0.24	20.0000		96.3	70 - 136			
Bromodichloromethane	17.8100	0.50	0.14	20.0000		89.0	80 - 122			
Bromoform	17.3200	0.50	0.13	20.0000		86.6	53 - 145			
Bromomethane	19.2200	0.50	0.42	20.0000		96.1	30 - 204			
Carbon disulfide	17.4000	1.0	0.12	20.0000		87.0	85 - 131			
Carbon tetrachloride	20.4200	0.50	0.19	20.0000		102	77 - 157			
Chlorobenzene	18.5600	0.50	0.07	20.0000		92.8	86 - 113			
Chloroethane	21.9900	0.50	0.40	20.0000		110	70 - 160			
Chloroform	17.5900	0.50	0.17	20.0000		88.0	66 - 136			
Chloromethane	15.0500	0.50	0.08	20.0000		75.2	52 - 138			
cis-1,2-Dichloroethene	18.9700	0.50	0.13	20.0000		94.8	71 - 128			
cis-1,3-Dichloropropene	22.4000	0.50	0.05	20.0000		112	71 - 123			
Di-isopropyl ether	17.3200	0.50	0.12	20.0000		86.6	64 - 123			
Dibromochloromethane	18.2100	0.50	0.14	20.0000		91.0	78 - 140			
Dibromomethane	18.0900	0.50	0.10	20.0000		90.4	78 - 109			
Dichlorodifluoromethane	14.2500	0.50	0.10	20.0000		71.2	64 - 144			
Ethyl Acetate	153.160	10	1.8	200.000		76.6	55 - 123			
Ethyl Ether	175.640	10	1.3	200.000		87.8	74 - 122			
Ethyl tert-butyl ether	18.9200	0.50	0.11	20.0000		94.6	72 - 120			
Ethylbenzene	37.6300	0.50	0.07	40.0000		94.1	90 - 116			
Freon-113	21.2900	0.50	0.17	20.0000		106	76 - 143			
Hexachlorobutadiene	18.0200	0.50	0.14	20.0000		90.1	81 - 129			
Isopropylbenzene	20.5700	0.50	0.05	20.0000		103	83 - 129			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W (continued)										
LCS (B9C0674-BS1) - Continued					Prepared: 3/25/2019 Analyzed: 3/25/2019					
m,p-Xylene	41.1000	1.0	0.08	40.0000		103	88 - 124			
Methylene chloride	20.6400	1.0	0.46	20.0000		103	76 - 137			
MTBE	19.6800	0.50	0.12	20.0000		98.4	67 - 121			
n-Butylbenzene	18.4800	0.50	0.05	20.0000		92.4	83 - 129			
n-Propylbenzene	18.8600	0.50	0.07	20.0000		94.3	85 - 124			
Naphthalene	16.6700	0.50	0.15	20.0000		83.4	67 - 113			
o-Xylene	40.9900	0.50	0.05	40.0000		102	82 - 129			
sec-Butylbenzene	19.0900	0.50	0.04	20.0000		95.4	86 - 127			
Styrene	20.8900	0.50	0.06	20.0000		104	83 - 122			
tert-Amyl methyl ether	18.2500	0.50	0.11	20.0000		91.2	61 - 114			
tert-Butanol	75.4500	10	2.9	100.000		75.4	45 - 121			
tert-Butylbenzene	19.6100	0.50	0.06	20.0000		98.0	84 - 130			
Tetrachloroethene	19.3900	0.50	0.07	20.0000		97.0	87 - 123			
Toluene	38.4000	0.50	0.07	40.0000		96.0	84 - 115			
trans-1,2-Dichloroethene	20.9000	0.50	0.11	20.0000		104	60 - 148			
trans-1,3-Dichloropropene	20.4800	0.50	0.04	20.0000		102	77 - 118			
Trichloroethene	19.4300	0.50	0.05	20.0000		97.2	79 - 129			
Trichlorofluoromethane	22.8100	0.50	0.14	20.0000		114	68 - 162			
Vinyl acetate	172.510	10	1.3	200.000		86.3	65 - 134			
Vinyl chloride	17.3800	0.50	0.05	20.0000		86.9	73 - 128			
Surrogate: 1,2-Dichloroethane-d4	*24.75*			*25.0000*		*99.0*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.01*			*25.0000*		*104*	*62 - 134*			
Surrogate: Dibromofluoromethan	*25.15*			*25.0000*		*101*	*56 - 167*			
Surrogate: Toluene-d8	*29.08*			*25.0000*		*116*	*33 - 170*			
LCS Dup (B9C0674-BSD1)					Prepared: 3/25/2019 Analyzed: 3/25/2019					
1,1,1,2-Tetrachloroethane	20.2600	0.50	0.11	20.0000		101	80 - 137	1.89	20	
1,1,1-Trichloroethane	18.7200	0.50	0.18	20.0000		93.6	75 - 148	0.533	20	
1,1,2,2-Tetrachloroethane	14.4500	0.50	0.17	20.0000		72.2	64 - 118	2.73	20	
1,1,2-Trichloroethane	19.0900	0.50	0.12	20.0000		95.4	77 - 113	5.10	20	
1,1-Dichloroethane	17.2300	0.50	0.16	20.0000		86.2	72 - 131	2.29	20	
1,1-Dichloroethene	18.2600	0.50	0.09	20.0000		91.3	75 - 132	1.49	20	
1,1-Dichloropropene	21.3200	0.50	0.21	20.0000		107	84 - 141	7.04	20	
1,2,3-Trichloropropane	16.7000	0.50	0.16	20.0000		83.5	65 - 111	1.90	20	
1,2,3-Trichlorobenzene	20.4200	0.50	0.12	20.0000		102	79 - 117	3.69	20	
1,2,4-Trichlorobenzene	21.2100	0.50	0.12	20.0000		106	78 - 121	5.18	20	
1,2,4-Trimethylbenzene	19.9000	0.50	0.08	20.0000		99.5	83 - 125	2.08	20	
1,2-Dibromo-3-chloropropane	17.0100	0.50	0.24	20.0000		85.0	54 - 116	0.177	20	
1,2-Dibromoethane	18.5500	0.50	0.11	20.0000		92.8	79 - 118	2.34	20	
1,2-Dichlorobenzene	18.8300	0.50	0.09	20.0000		94.2	82 - 115	0.426	20	
1,2-Dichloroethane	19.9100	0.50	0.19	20.0000		99.6	76 - 115	6.59	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W (continued)										
LCS Dup (B9C0674-BSD1) - Continued					Prepared: 3/25/2019 Analyzed: 3/25/2019					
1,2-Dichloropropane	17.4300	0.50	0.36	20.0000		87.2	74 - 113	0.691	20	
1,3,5-Trimethylbenzene	19.5300	0.50	0.05	20.0000		97.6	83 - 126	1.68	20	
1,3-Dichlorobenzene	18.7200	0.50	0.10	20.0000		93.6	84 - 118	1.75	20	
1,3-Dichloropropane	19.0900	0.50	0.07	20.0000		95.4	72 - 116	0.0524	20	
1,4-Dichlorobenzene	18.5900	0.50	0.07	20.0000		93.0	83 - 112	3.02	20	
2,2-Dichloropropane	18.8500	0.50	0.16	20.0000		94.2	72 - 150	1.06	20	
2-Chlorotoluene	18.1900	0.50	0.08	20.0000		91.0	82 - 120	2.28	20	
4-Chlorotoluene	18.8200	0.50	0.08	20.0000		94.1	81 - 121	0.747	20	
4-Isopropyltoluene	19.4400	0.50	0.06	20.0000		97.2	86 - 124	1.48	20	
Benzene	36.4100	0.50	0.03	40.0000		91.0	81 - 118	0.137	20	
Bromobenzene	18.4300	0.50	0.09	20.0000		92.2	82 - 117	3.83	20	
Bromochloromethane	19.3600	0.50	0.24	20.0000		96.8	70 - 136	0.518	20	
Bromodichloromethane	18.6900	0.50	0.14	20.0000		93.4	80 - 122	4.82	20	
Bromoform	18.7200	0.50	0.13	20.0000		93.6	53 - 145	7.77	20	
Bromomethane	18.5200	0.50	0.42	20.0000		92.6	30 - 204	3.71	20	
Carbon disulfide	16.9000	1.0	0.12	20.0000		84.5	85 - 131	2.92	20	L4
Carbon tetrachloride	20.3900	0.50	0.19	20.0000		102	77 - 157	0.147	20	
Chlorobenzene	19.5200	0.50	0.07	20.0000		97.6	86 - 113	5.04	20	
Chloroethane	21.7200	0.50	0.40	20.0000		109	70 - 160	1.24	20	
Chloroform	17.3800	0.50	0.17	20.0000		86.9	66 - 136	1.20	20	
Chloromethane	14.9900	0.50	0.08	20.0000		75.0	52 - 138	0.399	20	
cis-1,2-Dichloroethene	18.2100	0.50	0.13	20.0000		91.0	71 - 128	4.09	20	
cis-1,3-Dichloropropene	21.4700	0.50	0.05	20.0000		107	71 - 123	4.24	20	
Di-isopropyl ether	17.9800	0.50	0.12	20.0000		89.9	64 - 123	3.74	20	
Dibromochloromethane	18.9800	0.50	0.14	20.0000		94.9	78 - 140	4.14	20	
Dibromomethane	18.7500	0.50	0.10	20.0000		93.8	78 - 109	3.58	20	
Dichlorodifluoromethane	13.4800	0.50	0.10	20.0000		67.4	64 - 144	5.55	20	
Ethyl Acetate	157.400	10	1.8	200.000		78.7	55 - 123	2.73	20	
Ethyl Ether	169.710	10	1.3	200.000		84.9	74 - 122	3.43	20	
Ethyl tert-butyl ether	18.7200	0.50	0.11	20.0000		93.6	72 - 120	1.06	20	
Ethylbenzene	38.7000	0.50	0.07	40.0000		96.8	90 - 116	2.80	20	
Freon-113	20.7800	0.50	0.17	20.0000		104	76 - 143	2.42	20	
Hexachlorobutadiene	18.2600	0.50	0.14	20.0000		91.3	81 - 129	1.32	20	
Isopropylbenzene	20.2900	0.50	0.05	20.0000		101	83 - 129	1.37	20	
m,p-Xylene	41.9600	1.0	0.08	40.0000		105	88 - 124	2.07	20	
Methylene chloride	19.4100	1.0	0.46	20.0000		97.0	76 - 137	6.14	20	
MTBE	19.3100	0.50	0.12	20.0000		96.6	67 - 121	1.90	20	
n-Butylbenzene	18.1200	0.50	0.05	20.0000		90.6	83 - 129	1.97	20	
n-Propylbenzene	18.7700	0.50	0.07	20.0000		93.8	85 - 124	0.478	20	
Naphthalene	16.8700	0.50	0.15	20.0000		84.4	67 - 113	1.19	20	
o-Xylene	42.5700	0.50	0.05	40.0000		106	82 - 129	3.78	20	
sec-Butylbenzene	19.3400	0.50	0.04	20.0000		96.7	86 - 127	1.30	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0674 - MSVOA_W (continued)										
LCS Dup (B9C0674-BSD1) - Continued					Prepared: 3/25/2019 Analyzed: 3/25/2019					
Styrene	21.4800	0.50	0.06	20.0000		107	83 - 122	2.78	20	
tert-Amyl methyl ether	18.8500	0.50	0.11	20.0000		94.2	61 - 114	3.23	20	
tert-Butanol	86.1700	10	2.9	100.000		86.2	45 - 121	13.3	20	
tert-Butylbenzene	19.4800	0.50	0.06	20.0000		97.4	84 - 130	0.665	20	
Tetrachloroethene	19.4800	0.50	0.07	20.0000		97.4	87 - 123	0.463	20	
Toluene	37.4700	0.50	0.07	40.0000		93.7	84 - 115	2.45	20	
trans-1,2-Dichloroethene	20.9300	0.50	0.11	20.0000		105	60 - 148	0.143	20	
trans-1,3-Dichloropropene	19.6400	0.50	0.04	20.0000		98.2	77 - 118	4.19	20	
Trichloroethene	20.5300	0.50	0.05	20.0000		103	79 - 129	5.51	20	
Trichlorofluoromethane	20.9100	0.50	0.14	20.0000		105	68 - 162	8.69	20	
Vinyl acetate	162.010	10	1.3	200.000		81.0	65 - 134	6.28	20	
Vinyl chloride	17.0700	0.50	0.05	20.0000		85.4	73 - 128	1.80	20	
Surrogate: 1,2-Dichloroethane-d4	*25.31*			*25.0000*		*101*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.36*			*25.0000*		*105*	*62 - 134*			
Surrogate: Dibromofluoromethan	*25.00*			*25.0000*		*100*	*56 - 167*			
Surrogate: Toluene-d8	*27.27*			*25.0000*		*109*	*33 - 170*			

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W										
Blank (B9C0716-BLK1)					Prepared: 3/26/2019 Analyzed: 3/26/2019					
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.18							
1,1,2,2-Tetrachloroethane	ND	0.50	0.17							
1,1,2-Trichloroethane	ND	0.50	0.12							
1,1-Dichloroethane	ND	0.50	0.16							
1,1-Dichloroethene	ND	0.50	0.09							
1,1-Dichloropropene	ND	0.50	0.21							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trimethylbenzene	ND	0.50	0.08							
1,2-Dibromo-3-chloropropane	ND	0.50	0.24							
1,2-Dibromoethane	ND	0.50	0.11							
1,2-Dichlorobenzene	ND	0.50	0.09							
1,2-Dichloroethane	ND	0.50	0.19							
1,2-Dichloropropane	ND	0.50	0.36							
1,3,5-Trimethylbenzene	ND	0.50	0.05							
1,3-Dichlorobenzene	ND	0.50	0.10							
1,3-Dichloropropane	ND	0.50	0.07							
1,4-Dichlorobenzene	ND	0.50	0.07							
2,2-Dichloropropane	ND	0.50	0.16							
2-Chlorotoluene	ND	0.50	0.08							
4-Chlorotoluene	ND	0.50	0.08							
4-Isopropyltoluene	ND	0.50	0.06							
Benzene	ND	0.50	0.03							
Bromobenzene	ND	0.50	0.09							
Bromochloromethane	ND	0.50	0.24							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.13							
Bromomethane	ND	0.50	0.42							
Carbon disulfide	ND	1.0	0.12							
Carbon tetrachloride	ND	0.50	0.19							
Chlorobenzene	ND	0.50	0.07							
Chloroethane	ND	0.50	0.40							
Chloroform	ND	0.50	0.17							
Chloromethane	ND	0.50	0.08							
cis-1,2-Dichloroethene	ND	0.50	0.13							
cis-1,3-Dichloropropene	ND	0.50	0.05							
Di-isopropyl ether	ND	0.50	0.12							
Dibromochloromethane	ND	0.50	0.14							
Dibromomethane	ND	0.50	0.10							

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W (continued)										
Blank (B9C0716-BLK1) - Continued					Prepared: 3/26/2019 Analyzed: 3/26/2019					
Dichlorodifluoromethane	ND	0.50	0.10							
Ethyl Acetate	ND	10	1.8							
Ethyl Ether	ND	10	1.3							
Ethyl tert-butyl ether	ND	0.50	0.11							
Ethylbenzene	ND	0.50	0.07							
Freon-113	ND	0.50	0.17							
Hexachlorobutadiene	ND	0.50	0.14							
Isopropylbenzene	ND	0.50	0.05							
m,p-Xylene	ND	1.0	0.08							
Methylene chloride	ND	1.0	0.46							
MTBE	ND	0.50	0.12							
n-Butylbenzene	ND	0.50	0.05							
n-Propylbenzene	ND	0.50	0.07							
Naphthalene	ND	0.50	0.15							
o-Xylene	ND	0.50	0.05							
sec-Butylbenzene	ND	0.50	0.04							
Styrene	ND	0.50	0.06							
tert-Amyl methyl ether	ND	0.50	0.11							
tert-Butanol	ND	10	2.9							
tert-Butylbenzene	ND	0.50	0.06							
Tetrachloroethene	ND	0.50	0.07							
Toluene	ND	0.50	0.07							
trans-1,2-Dichloroethene	ND	0.50	0.11							
trans-1,3-Dichloropropene	ND	0.50	0.04							
Trichloroethene	ND	0.50	0.05							
Trichlorofluoromethane	ND	0.50	0.14							
Vinyl acetate	ND	10	1.3							
Vinyl chloride	ND	0.50	0.05							
Surrogate: 1,2-Dichloroethane-d4	*28.38*			*25.0000*		*114*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.56*			*25.0000*		*106*	*62 - 134*			
Surrogate: Dibromofluoromethan	*28.48*			*25.0000*		*114*	*56 - 167*			
Surrogate: Toluene-d8	*29.41*			*25.0000*		*118*	*33 - 170*			
LCS (B9C0716-BS1)					Prepared: 3/26/2019 Analyzed: 3/26/2019					
1,1,1,2-Tetrachloroethane	19.8400	0.50	0.11	20.0000		99.2	80 - 137			
1,1,1-Trichloroethane	18.9400	0.50	0.18	20.0000		94.7	75 - 148			
1,1,2,2-Tetrachloroethane	15.0600	0.50	0.17	20.0000		75.3	64 - 118			
1,1,2-Trichloroethane	19.2900	0.50	0.12	20.0000		96.4	77 - 113			
1,1-Dichloroethane	18.4000	0.50	0.16	20.0000		92.0	72 - 131			
1,1-Dichloroethene	19.1900	0.50	0.09	20.0000		96.0	75 - 132			
1,1-Dichloropropene	20.8500	0.50	0.21	20.0000		104	84 - 141			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W (continued)										
LCS (B9C0716-BS1) - Continued					Prepared: 3/26/2019 Analyzed: 3/26/2019					
1,2,3-Trichloropropane	17.5100	0.50	0.16	20.0000		87.6	65 - 111			
1,2,3-Trichlorobenzene	21.0000	0.50	0.12	20.0000		105	79 - 117			
1,2,4-Trichlorobenzene	20.3700	0.50	0.12	20.0000		102	78 - 121			
1,2,4-Trimethylbenzene	18.9800	0.50	0.08	20.0000		94.9	83 - 125			
1,2-Dibromo-3-chloropropane	16.8500	0.50	0.24	20.0000		84.2	54 - 116			
1,2-Dibromoethane	18.5800	0.50	0.11	20.0000		92.9	79 - 118			
1,2-Dichlorobenzene	18.8600	0.50	0.09	20.0000		94.3	82 - 115			
1,2-Dichloroethane	19.5100	0.50	0.19	20.0000		97.6	76 - 115			
1,2-Dichloropropane	17.3500	0.50	0.36	20.0000		86.8	74 - 113			
1,3,5-Trimethylbenzene	19.4100	0.50	0.05	20.0000		97.0	83 - 126			
1,3-Dichlorobenzene	19.6400	0.50	0.10	20.0000		98.2	84 - 118			
1,3-Dichloropropane	20.1800	0.50	0.07	20.0000		101	72 - 116			
1,4-Dichlorobenzene	18.6700	0.50	0.07	20.0000		93.4	83 - 112			
2,2-Dichloropropane	20.0700	0.50	0.16	20.0000		100	72 - 150			
2-Chlorotoluene	17.9300	0.50	0.08	20.0000		89.6	82 - 120			
4-Chlorotoluene	18.3400	0.50	0.08	20.0000		91.7	81 - 121			
4-Isopropyltoluene	19.1300	0.50	0.06	20.0000		95.6	86 - 124			
Benzene	37.5700	0.50	0.03	40.0000		93.9	81 - 118			
Bromobenzene	18.5200	0.50	0.09	20.0000		92.6	82 - 117			
Bromochloromethane	21.5900	0.50	0.24	20.0000		108	70 - 136			
Bromodichloromethane	19.3100	0.50	0.14	20.0000		96.6	80 - 122			
Bromoform	19.3000	0.50	0.13	20.0000		96.5	53 - 145			
Bromomethane	19.4200	0.50	0.42	20.0000		97.1	30 - 204			
Carbon disulfide	17.6000	1.0	0.12	20.0000		88.0	85 - 131			
Carbon tetrachloride	20.0900	0.50	0.19	20.0000		100	77 - 157			
Chlorobenzene	18.9300	0.50	0.07	20.0000		94.6	86 - 113			
Chloroethane	20.9500	0.50	0.40	20.0000		105	70 - 160			
Chloroform	18.6900	0.50	0.17	20.0000		93.4	66 - 136			
Chloromethane	14.0000	0.50	0.08	20.0000		70.0	52 - 138			
cis-1,2-Dichloroethene	19.3400	0.50	0.13	20.0000		96.7	71 - 128			
cis-1,3-Dichloropropene	22.7800	0.50	0.05	20.0000		114	71 - 123			
Di-isopropyl ether	15.0800	0.50	0.12	20.0000		75.4	64 - 123			
Dibromochloromethane	20.1800	0.50	0.14	20.0000		101	78 - 140			
Dibromomethane	18.1600	0.50	0.10	20.0000		90.8	78 - 109			
Dichlorodifluoromethane	12.6300	0.50	0.10	20.0000		63.2	64 - 144			L4
Ethyl Acetate	167.530	10	1.8	200.000		83.8	55 - 123			
Ethyl Ether	183.390	10	1.3	200.000		91.7	74 - 122			
Ethyl tert-butyl ether	19.3200	0.50	0.11	20.0000		96.6	72 - 120			
Ethylbenzene	38.3100	0.50	0.07	40.0000		95.8	90 - 116			
Freon-113	21.4900	0.50	0.17	20.0000		107	76 - 143			
Hexachlorobutadiene	17.9600	0.50	0.14	20.0000		89.8	81 - 129			
Isopropylbenzene	19.9800	0.50	0.05	20.0000		99.9	83 - 129			

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W (continued)										
LCS (B9C0716-BS1) - Continued					Prepared: 3/26/2019 Analyzed: 3/26/2019					
m,p-Xylene	41.2600	1.0	0.08	40.0000		103	88 - 124			
Methylene chloride	20.9700	1.0	0.46	20.0000		105	76 - 137			
MTBE	20.2700	0.50	0.12	20.0000		101	67 - 121			
n-Butylbenzene	17.8800	0.50	0.05	20.0000		89.4	83 - 129			
n-Propylbenzene	18.1300	0.50	0.07	20.0000		90.6	85 - 124			
Naphthalene	16.7200	0.50	0.15	20.0000		83.6	67 - 113			
o-Xylene	42.2500	0.50	0.05	40.0000		106	82 - 129			
sec-Butylbenzene	18.8900	0.50	0.04	20.0000		94.4	86 - 127			
Styrene	21.5400	0.50	0.06	20.0000		108	83 - 122			
tert-Amyl methyl ether	18.4600	0.50	0.11	20.0000		92.3	61 - 114			
tert-Butanol	89.1900	10	2.9	100.000		89.2	45 - 121			
tert-Butylbenzene	19.4900	0.50	0.06	20.0000		97.4	84 - 130			
Tetrachloroethene	20.6000	0.50	0.07	20.0000		103	87 - 123			
Toluene	38.2700	0.50	0.07	40.0000		95.7	84 - 115			
trans-1,2-Dichloroethene	21.8400	0.50	0.11	20.0000		109	60 - 148			
trans-1,3-Dichloropropene	19.9400	0.50	0.04	20.0000		99.7	77 - 118			
Trichloroethene	20.4600	0.50	0.05	20.0000		102	79 - 129			
Trichlorofluoromethane	22.1200	0.50	0.14	20.0000		111	68 - 162			
Vinyl acetate	186.810	10	1.3	200.000		93.4	65 - 134			
Vinyl chloride	17.1200	0.50	0.05	20.0000		85.6	73 - 128			
Surrogate: 1,2-Dichloroethane-d4	*26.43*			*25.0000*		*106*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.97*			*25.0000*		*108*	*62 - 134*			
Surrogate: Dibromofluoromethan	*27.04*			*25.0000*		*108*	*56 - 167*			
Surrogate: Toluene-d8	*28.55*			*25.0000*		*114*	*33 - 170*			
LCS Dup (B9C0716-BSD1)					Prepared: 3/26/2019 Analyzed: 3/26/2019					
1,1,1,2-Tetrachloroethane	20.9400	0.50	0.11	20.0000		105	80 - 137	5.39	20	
1,1,1-Trichloroethane	19.1700	0.50	0.18	20.0000		95.8	75 - 148	1.21	20	
1,1,2,2-Tetrachloroethane	16.5800	0.50	0.17	20.0000		82.9	64 - 118	9.61	20	
1,1,2-Trichloroethane	19.5800	0.50	0.12	20.0000		97.9	77 - 113	1.49	20	
1,1-Dichloroethane	18.4700	0.50	0.16	20.0000		92.4	72 - 131	0.380	20	
1,1-Dichloroethene	19.3700	0.50	0.09	20.0000		96.8	75 - 132	0.934	20	
1,1-Dichloropropene	22.4000	0.50	0.21	20.0000		112	84 - 141	7.17	20	
1,2,3-Trichloropropane	17.6300	0.50	0.16	20.0000		88.2	65 - 111	0.683	20	
1,2,3-Trichlorobenzene	21.0600	0.50	0.12	20.0000		105	79 - 117	0.285	20	
1,2,4-Trichlorobenzene	22.2400	0.50	0.12	20.0000		111	78 - 121	8.78	20	
1,2,4-Trimethylbenzene	20.3600	0.50	0.08	20.0000		102	83 - 125	7.02	20	
1,2-Dibromo-3-chloropropane	18.8900	0.50	0.24	20.0000		94.4	54 - 116	11.4	20	
1,2-Dibromoethane	19.7900	0.50	0.11	20.0000		99.0	79 - 118	6.31	20	
1,2-Dichlorobenzene	19.5100	0.50	0.09	20.0000		97.6	82 - 115	3.39	20	
1,2-Dichloroethane	20.5000	0.50	0.19	20.0000		102	76 - 115	4.95	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W (continued)										
LCS Dup (B9C0716-BSD1) - Continued					Prepared: 3/26/2019 Analyzed: 3/26/2019					
1,2-Dichloropropane	17.1300	0.50	0.36	20.0000		85.6	74 - 113	1.28	20	
1,3,5-Trimethylbenzene	20.3400	0.50	0.05	20.0000		102	83 - 126	4.68	20	
1,3-Dichlorobenzene	19.5500	0.50	0.10	20.0000		97.8	84 - 118	0.459	20	
1,3-Dichloropropane	19.9000	0.50	0.07	20.0000		99.5	72 - 116	1.40	20	
1,4-Dichlorobenzene	19.3500	0.50	0.07	20.0000		96.8	83 - 112	3.58	20	
2,2-Dichloropropane	19.8000	0.50	0.16	20.0000		99.0	72 - 150	1.35	20	
2-Chlorotoluene	19.1400	0.50	0.08	20.0000		95.7	82 - 120	6.53	20	
4-Chlorotoluene	19.8200	0.50	0.08	20.0000		99.1	81 - 121	7.76	20	
4-Isopropyltoluene	20.2000	0.50	0.06	20.0000		101	86 - 124	5.44	20	
Benzene	40.6700	0.50	0.03	40.0000		102	81 - 118	7.92	20	
Bromobenzene	19.4600	0.50	0.09	20.0000		97.3	82 - 117	4.95	20	
Bromochloromethane	19.8700	0.50	0.24	20.0000		99.4	70 - 136	8.30	20	
Bromodichloromethane	18.8200	0.50	0.14	20.0000		94.1	80 - 122	2.57	20	
Bromoform	19.0100	0.50	0.13	20.0000		95.0	53 - 145	1.51	20	
Bromomethane	18.6600	0.50	0.42	20.0000		93.3	30 - 204	3.99	20	
Carbon disulfide	17.3100	1.0	0.12	20.0000		86.6	85 - 131	1.66	20	
Carbon tetrachloride	21.4200	0.50	0.19	20.0000		107	77 - 157	6.41	20	
Chlorobenzene	19.6100	0.50	0.07	20.0000		98.0	86 - 113	3.53	20	
Chloroethane	19.4400	0.50	0.40	20.0000		97.2	70 - 160	7.48	20	
Chloroform	18.9900	0.50	0.17	20.0000		95.0	66 - 136	1.59	20	
Chloromethane	12.5200	0.50	0.08	20.0000		62.6	52 - 138	11.2	20	
cis-1,2-Dichloroethene	20.2000	0.50	0.13	20.0000		101	71 - 128	4.35	20	
cis-1,3-Dichloropropene	23.0400	0.50	0.05	20.0000		115	71 - 123	1.13	20	
Di-isopropyl ether	19.0800	0.50	0.12	20.0000		95.4	64 - 123	23.4	20	R
Dibromochloromethane	19.0300	0.50	0.14	20.0000		95.2	78 - 140	5.87	20	
Dibromomethane	19.2600	0.50	0.10	20.0000		96.3	78 - 109	5.88	20	
Dichlorodifluoromethane	12.9000	0.50	0.10	20.0000		64.5	64 - 144	2.12	20	
Ethyl Acetate	173.670	10	1.8	200.000		86.8	55 - 123	3.60	20	
Ethyl Ether	180.240	10	1.3	200.000		90.1	74 - 122	1.73	20	
Ethyl tert-butyl ether	20.0700	0.50	0.11	20.0000		100	72 - 120	3.81	20	
Ethylbenzene	39.3900	0.50	0.07	40.0000		98.5	90 - 116	2.78	20	
Freon-113	21.4500	0.50	0.17	20.0000		107	76 - 143	0.186	20	
Hexachlorobutadiene	18.3500	0.50	0.14	20.0000		91.8	81 - 129	2.15	20	
Isopropylbenzene	20.5700	0.50	0.05	20.0000		103	83 - 129	2.91	20	
m,p-Xylene	41.2300	1.0	0.08	40.0000		103	88 - 124	0.0727	20	
Methylene chloride	20.2900	1.0	0.46	20.0000		101	76 - 137	3.30	20	
MTBE	20.5500	0.50	0.12	20.0000		103	67 - 121	1.37	20	
n-Butylbenzene	18.9800	0.50	0.05	20.0000		94.9	83 - 129	5.97	20	
n-Propylbenzene	19.2000	0.50	0.07	20.0000		96.0	85 - 124	5.73	20	
Naphthalene	17.7300	0.50	0.15	20.0000		88.6	67 - 113	5.86	20	
o-Xylene	43.1600	0.50	0.05	40.0000		108	82 - 129	2.13	20	
sec-Butylbenzene	19.8200	0.50	0.04	20.0000		99.1	86 - 127	4.80	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0716 - MSVOA_W (continued)										
LCS Dup (B9C0716-BSD1) - Continued					Prepared: 3/26/2019 Analyzed: 3/26/2019					
Styrene	21.4500	0.50	0.06	20.0000		107	83 - 122	0.419	20	
tert-Amyl methyl ether	18.9500	0.50	0.11	20.0000		94.8	61 - 114	2.62	20	
tert-Butanol	94.1600	10	2.9	100.000		94.2	45 - 121	5.42	20	
tert-Butylbenzene	20.4100	0.50	0.06	20.0000		102	84 - 130	4.61	20	
Tetrachloroethene	19.8700	0.50	0.07	20.0000		99.4	87 - 123	3.61	20	
Toluene	38.9200	0.50	0.07	40.0000		97.3	84 - 115	1.68	20	
trans-1,2-Dichloroethene	20.7900	0.50	0.11	20.0000		104	60 - 148	4.93	20	
trans-1,3-Dichloropropene	20.4200	0.50	0.04	20.0000		102	77 - 118	2.38	20	
Trichloroethene	20.5300	0.50	0.05	20.0000		103	79 - 129	0.342	20	
Trichlorofluoromethane	21.6700	0.50	0.14	20.0000		108	68 - 162	2.06	20	
Vinyl acetate	200.990	10	1.3	200.000		100	65 - 134	7.31	20	
Vinyl chloride	16.8400	0.50	0.05	20.0000		84.2	73 - 128	1.65	20	
Surrogate: 1,2-Dichloroethane-d4	*26.09*			*25.0000*		*104*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*27.12*			*25.0000*		*108*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.71*			*25.0000*		*107*	*56 - 167*			
Surrogate: Toluene-d8	*28.67*			*25.0000*		*115*	*33 - 170*			

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W										
Blank (B9C0769-BLK1)					Prepared: 3/27/2019 Analyzed: 3/27/2019					
1,1,1,2-Tetrachloroethane	ND	0.50	0.11							
1,1,1-Trichloroethane	ND	0.50	0.18							
1,1,2,2-Tetrachloroethane	ND	0.50	0.17							
1,1,2-Trichloroethane	ND	0.50	0.12							
1,1-Dichloroethane	ND	0.50	0.16							
1,1-Dichloroethene	ND	0.50	0.09							
1,1-Dichloropropene	ND	0.50	0.21							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trichlorobenzene	ND	0.50	0.12							
1,2,4-Trimethylbenzene	ND	0.50	0.08							
1,2-Dibromo-3-chloropropane	ND	0.50	0.24							
1,2-Dibromoethane	ND	0.50	0.11							
1,2-Dichlorobenzene	ND	0.50	0.09							
1,2-Dichloroethane	ND	0.50	0.19							
1,2-Dichloropropane	ND	0.50	0.36							
1,3,5-Trimethylbenzene	ND	0.50	0.05							
1,3-Dichlorobenzene	ND	0.50	0.10							
1,3-Dichloropropane	ND	0.50	0.07							
1,4-Dichlorobenzene	ND	0.50	0.07							
2,2-Dichloropropane	ND	0.50	0.16							
2-Chlorotoluene	ND	0.50	0.08							
4-Chlorotoluene	ND	0.50	0.08							
4-Isopropyltoluene	ND	0.50	0.06							
Benzene	ND	0.50	0.03							
Bromobenzene	ND	0.50	0.09							
Bromochloromethane	ND	0.50	0.24							
Bromodichloromethane	ND	0.50	0.14							
Bromoform	ND	0.50	0.13							
Bromomethane	ND	0.50	0.42							
Carbon disulfide	ND	1.0	0.12							
Carbon tetrachloride	ND	0.50	0.19							
Chlorobenzene	ND	0.50	0.07							
Chloroethane	ND	0.50	0.40							
Chloroform	ND	0.50	0.17							
Chloromethane	ND	0.50	0.08							
cis-1,2-Dichloroethene	ND	0.50	0.13							
cis-1,3-Dichloropropene	ND	0.50	0.05							
Di-isopropyl ether	ND	0.50	0.12							
Dibromochloromethane	ND	0.50	0.14							
Dibromomethane	ND	0.50	0.10							

Certificate of Analysis

C. James & Associates Inc.		Project Number :	CARLEN PLAZA, 01915
PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W (continued)										
Blank (B9C0769-BLK1) - Continued					Prepared: 3/27/2019 Analyzed: 3/27/2019					
Dichlorodifluoromethane	ND	0.50	0.10							
Ethyl Acetate	ND	10	1.8							
Ethyl Ether	ND	10	1.3							
Ethyl tert-butyl ether	ND	0.50	0.11							
Ethylbenzene	ND	0.50	0.07							
Freon-113	ND	0.50	0.17							
Hexachlorobutadiene	ND	0.50	0.14							
Isopropylbenzene	ND	0.50	0.05							
m,p-Xylene	ND	1.0	0.08							
Methylene chloride	ND	1.0	0.46							
MTBE	ND	0.50	0.12							
n-Butylbenzene	ND	0.50	0.05							
n-Propylbenzene	ND	0.50	0.07							
Naphthalene	ND	0.50	0.15							
o-Xylene	ND	0.50	0.05							
sec-Butylbenzene	ND	0.50	0.04							
Styrene	ND	0.50	0.06							
tert-Amyl methyl ether	ND	0.50	0.11							
tert-Butanol	ND	10	2.9							
tert-Butylbenzene	ND	0.50	0.06							
Tetrachloroethene	ND	0.50	0.07							
Toluene	ND	0.50	0.07							
trans-1,2-Dichloroethene	ND	0.50	0.11							
trans-1,3-Dichloropropene	ND	0.50	0.04							
Trichloroethene	ND	0.50	0.05							
Trichlorofluoromethane	ND	0.50	0.14							
Vinyl acetate	ND	10	1.3							
Vinyl chloride	ND	0.50	0.05							
Surrogate: 1,2-Dichloroethane-d4	*26.94*			*25.0000*		*108*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*25.88*			*25.0000*		*104*	*62 - 134*			
Surrogate: Dibromofluoromethan	*27.63*			*25.0000*		*111*	*56 - 167*			
Surrogate: Toluene-d8	*26.43*			*25.0000*		*106*	*33 - 170*			
LCS (B9C0769-BS1)					Prepared: 3/27/2019 Analyzed: 3/27/2019					
1,1,1,2-Tetrachloroethane	20.0700	0.50	0.11	20.0000		100	80 - 137			
1,1,1-Trichloroethane	18.9700	0.50	0.18	20.0000		94.8	75 - 148			
1,1,2,2-Tetrachloroethane	15.8900	0.50	0.17	20.0000		79.4	64 - 118			
1,1,2-Trichloroethane	20.4700	0.50	0.12	20.0000		102	77 - 113			
1,1-Dichloroethane	18.9800	0.50	0.16	20.0000		94.9	72 - 131			
1,1-Dichloroethene	19.3000	0.50	0.09	20.0000		96.5	75 - 132			
1,1-Dichloropropene	20.8500	0.50	0.21	20.0000		104	84 - 141			

Certificate of Analysis

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Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W (continued)										
LCS (B9C0769-BS1) - Continued					Prepared: 3/27/2019 Analyzed: 3/27/2019					
1,2,3-Trichloropropane	17.4900	0.50	0.16	20.0000		87.4	65 - 111			
1,2,3-Trichlorobenzene	19.3500	0.50	0.12	20.0000		96.8	79 - 117			
1,2,4-Trichlorobenzene	19.6300	0.50	0.12	20.0000		98.2	78 - 121			
1,2,4-Trimethylbenzene	18.5400	0.50	0.08	20.0000		92.7	83 - 125			
1,2-Dibromo-3-chloropropane	15.8600	0.50	0.24	20.0000		79.3	54 - 116			
1,2-Dibromoethane	20.1600	0.50	0.11	20.0000		101	79 - 118			
1,2-Dichlorobenzene	18.0200	0.50	0.09	20.0000		90.1	82 - 115			
1,2-Dichloroethane	19.4100	0.50	0.19	20.0000		97.0	76 - 115			
1,2-Dichloropropane	17.6700	0.50	0.36	20.0000		88.4	74 - 113			
1,3,5-Trimethylbenzene	18.9700	0.50	0.05	20.0000		94.8	83 - 126			
1,3-Dichlorobenzene	18.4800	0.50	0.10	20.0000		92.4	84 - 118			
1,3-Dichloropropane	19.7700	0.50	0.07	20.0000		98.8	72 - 116			
1,4-Dichlorobenzene	18.0500	0.50	0.07	20.0000		90.2	83 - 112			
2,2-Dichloropropane	19.9300	0.50	0.16	20.0000		99.6	72 - 150			
2-Chlorotoluene	18.1200	0.50	0.08	20.0000		90.6	82 - 120			
4-Chlorotoluene	18.2400	0.50	0.08	20.0000		91.2	81 - 121			
4-Isopropyltoluene	18.4500	0.50	0.06	20.0000		92.2	86 - 124			
Benzene	37.9700	0.50	0.03	40.0000		94.9	81 - 118			
Bromobenzene	18.0000	0.50	0.09	20.0000		90.0	82 - 117			
Bromochloromethane	20.6000	0.50	0.24	20.0000		103	70 - 136			
Bromodichloromethane	19.4000	0.50	0.14	20.0000		97.0	80 - 122			
Bromoform	17.9800	0.50	0.13	20.0000		89.9	53 - 145			
Bromomethane	15.0700	0.50	0.42	20.0000		75.4	30 - 204			
Carbon disulfide	17.5100	1.0	0.12	20.0000		87.6	85 - 131			
Carbon tetrachloride	20.9300	0.50	0.19	20.0000		105	77 - 157			
Chlorobenzene	18.8900	0.50	0.07	20.0000		94.4	86 - 113			
Chloroethane	19.5300	0.50	0.40	20.0000		97.6	70 - 160			
Chloroform	19.3100	0.50	0.17	20.0000		96.6	66 - 136			
Chloromethane	12.9800	0.50	0.08	20.0000		64.9	52 - 138			
cis-1,2-Dichloroethene	20.2900	0.50	0.13	20.0000		101	71 - 128			
cis-1,3-Dichloropropene	24.0800	0.50	0.05	20.0000		120	71 - 123			
Di-isopropyl ether	20.1800	0.50	0.12	20.0000		101	64 - 123			
Dibromochloromethane	18.5100	0.50	0.14	20.0000		92.6	78 - 140			
Dibromomethane	18.6300	0.50	0.10	20.0000		93.2	78 - 109			
Dichlorodifluoromethane	12.2100	0.50	0.10	20.0000		61.0	64 - 144			L4
Ethyl Acetate	178.970	10	1.8	200.000		89.5	55 - 123			
Ethyl Ether	181.890	10	1.3	200.000		90.9	74 - 122			
Ethyl tert-butyl ether	21.2600	0.50	0.11	20.0000		106	72 - 120			
Ethylbenzene	37.8700	0.50	0.07	40.0000		94.7	90 - 116			
Freon-113	22.4400	0.50	0.17	20.0000		112	76 - 143			
Hexachlorobutadiene	17.6900	0.50	0.14	20.0000		88.4	81 - 129			
Isopropylbenzene	19.3900	0.50	0.05	20.0000		97.0	83 - 129			

Certificate of Analysis

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PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W (continued)										
LCS (B9C0769-BS1) - Continued					Prepared: 3/27/2019 Analyzed: 3/27/2019					
m,p-Xylene	41.0800	1.0	0.08	40.0000		103	88 - 124			
Methylene chloride	20.9600	1.0	0.46	20.0000		105	76 - 137			
MTBE	21.5900	0.50	0.12	20.0000		108	67 - 121			
n-Butylbenzene	17.5100	0.50	0.05	20.0000		87.6	83 - 129			
n-Propylbenzene	17.7100	0.50	0.07	20.0000		88.6	85 - 124			
Naphthalene	16.2400	0.50	0.15	20.0000		81.2	67 - 113			
o-Xylene	41.2000	0.50	0.05	40.0000		103	82 - 129			
sec-Butylbenzene	18.1200	0.50	0.04	20.0000		90.6	86 - 127			
Styrene	21.1700	0.50	0.06	20.0000		106	83 - 122			
tert-Amyl methyl ether	19.4500	0.50	0.11	20.0000		97.2	61 - 114			
tert-Butanol	97.7700	10	2.9	100.000		97.8	45 - 121			
tert-Butylbenzene	18.4400	0.50	0.06	20.0000		92.2	84 - 130			
Tetrachloroethene	18.8300	0.50	0.07	20.0000		94.2	87 - 123			
Toluene	39.6000	0.50	0.07	40.0000		99.0	84 - 115			
trans-1,2-Dichloroethene	20.7900	0.50	0.11	20.0000		104	60 - 148			
trans-1,3-Dichloropropene	20.5800	0.50	0.04	20.0000		103	77 - 118			
Trichloroethene	20.7200	0.50	0.05	20.0000		104	79 - 129			
Trichlorofluoromethane	21.7700	0.50	0.14	20.0000		109	68 - 162			
Vinyl acetate	211.540	10	1.3	200.000		106	65 - 134			
Vinyl chloride	16.5900	0.50	0.05	20.0000		83.0	73 - 128			
Surrogate: 1,2-Dichloroethane-d4	*24.98*			*25.0000*		*99.9*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*25.92*			*25.0000*		*104*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.58*			*25.0000*		*106*	*56 - 167*			
Surrogate: Toluene-d8	*29.33*			*25.0000*		*117*	*33 - 170*			
LCS Dup (B9C0769-BSD1)					Prepared: 3/27/2019 Analyzed: 3/27/2019					
1,1,1,2-Tetrachloroethane	18.8100	0.50	0.11	20.0000		94.0	80 - 137	6.48	20	
1,1,1-Trichloroethane	18.1800	0.50	0.18	20.0000		90.9	75 - 148	4.25	20	
1,1,2,2-Tetrachloroethane	16.3100	0.50	0.17	20.0000		81.6	64 - 118	2.61	20	
1,1,2-Trichloroethane	19.2600	0.50	0.12	20.0000		96.3	77 - 113	6.09	20	
1,1-Dichloroethane	18.0100	0.50	0.16	20.0000		90.0	72 - 131	5.24	20	
1,1-Dichloroethene	17.4500	0.50	0.09	20.0000		87.2	75 - 132	10.1	20	
1,1-Dichloropropene	20.1900	0.50	0.21	20.0000		101	84 - 141	3.22	20	
1,2,3-Trichloropropane	18.5600	0.50	0.16	20.0000		92.8	65 - 111	5.94	20	
1,2,3-Trichlorobenzene	20.9200	0.50	0.12	20.0000		105	79 - 117	7.80	20	
1,2,4-Trichlorobenzene	21.0600	0.50	0.12	20.0000		105	78 - 121	7.03	20	
1,2,4-Trimethylbenzene	19.7500	0.50	0.08	20.0000		98.8	83 - 125	6.32	20	
1,2-Dibromo-3-chloropropane	18.3900	0.50	0.24	20.0000		92.0	54 - 116	14.8	20	
1,2-Dibromoethane	18.5900	0.50	0.11	20.0000		93.0	79 - 118	8.10	20	
1,2-Dichlorobenzene	18.8900	0.50	0.09	20.0000		94.4	82 - 115	4.71	20	
1,2-Dichloroethane	19.0800	0.50	0.19	20.0000		95.4	76 - 115	1.71	20	

Certificate of Analysis

C. James & Associates Inc.	Project Number :	CARLEN PLAZA, 01915
PO Box 4832	Report To :	Michael Anselmo
Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W (continued)										
LCS Dup (B9C0769-BSD1) - Continued					Prepared: 3/27/2019 Analyzed: 3/27/2019					
1,2-Dichloropropane	16.7600	0.50	0.36	20.0000		83.8	74 - 113	5.29	20	
1,3,5-Trimethylbenzene	19.2800	0.50	0.05	20.0000		96.4	83 - 126	1.62	20	
1,3-Dichlorobenzene	18.9700	0.50	0.10	20.0000		94.8	84 - 118	2.62	20	
1,3-Dichloropropane	21.2500	0.50	0.07	20.0000		106	72 - 116	7.22	20	
1,4-Dichlorobenzene	18.1500	0.50	0.07	20.0000		90.8	83 - 112	0.552	20	
2,2-Dichloropropane	18.8400	0.50	0.16	20.0000		94.2	72 - 150	5.62	20	
2-Chlorotoluene	18.6400	0.50	0.08	20.0000		93.2	82 - 120	2.83	20	
4-Chlorotoluene	19.0800	0.50	0.08	20.0000		95.4	81 - 121	4.50	20	
4-Isopropyltoluene	19.0400	0.50	0.06	20.0000		95.2	86 - 124	3.15	20	
Benzene	37.9300	0.50	0.03	40.0000		94.8	81 - 118	0.105	20	
Bromobenzene	19.0100	0.50	0.09	20.0000		95.0	82 - 117	5.46	20	
Bromochloromethane	20.5500	0.50	0.24	20.0000		103	70 - 136	0.243	20	
Bromodichloromethane	17.5900	0.50	0.14	20.0000		88.0	80 - 122	9.79	20	
Bromoform	18.4200	0.50	0.13	20.0000		92.1	53 - 145	2.42	20	
Bromomethane	13.3000	0.50	0.42	20.0000		66.5	30 - 204	12.5	20	
Carbon disulfide	15.9200	1.0	0.12	20.0000		79.6	85 - 131	9.51	20	L4
Carbon tetrachloride	18.7200	0.50	0.19	20.0000		93.6	77 - 157	11.1	20	
Chlorobenzene	18.4400	0.50	0.07	20.0000		92.2	86 - 113	2.41	20	
Chloroethane	18.9300	0.50	0.40	20.0000		94.6	70 - 160	3.12	20	
Chloroform	18.3200	0.50	0.17	20.0000		91.6	66 - 136	5.26	20	
Chloromethane	12.3300	0.50	0.08	20.0000		61.6	52 - 138	5.14	20	
cis-1,2-Dichloroethene	20.0600	0.50	0.13	20.0000		100	71 - 128	1.14	20	
cis-1,3-Dichloropropene	20.0600	0.50	0.05	20.0000		100	71 - 123	18.2	20	
Di-isopropyl ether	19.1000	0.50	0.12	20.0000		95.5	64 - 123	5.50	20	
Dibromochloromethane	19.4000	0.50	0.14	20.0000		97.0	78 - 140	4.70	20	
Dibromomethane	17.5700	0.50	0.10	20.0000		87.8	78 - 109	5.86	20	
Dichlorodifluoromethane	11.2800	0.50	0.10	20.0000		56.4	64 - 144	7.92	20	L4
Ethyl Acetate	184.840	10	1.8	200.000		92.4	55 - 123	3.23	20	
Ethyl Ether	172.340	10	1.3	200.000		86.2	74 - 122	5.39	20	
Ethyl tert-butyl ether	20.1600	0.50	0.11	20.0000		101	72 - 120	5.31	20	
Ethylbenzene	37.6600	0.50	0.07	40.0000		94.2	90 - 116	0.556	20	
Freon-113	18.9400	0.50	0.17	20.0000		94.7	76 - 143	16.9	20	
Hexachlorobutadiene	18.0600	0.50	0.14	20.0000		90.3	81 - 129	2.07	20	
Isopropylbenzene	20.4000	0.50	0.05	20.0000		102	83 - 129	5.08	20	
m,p-Xylene	40.9700	1.0	0.08	40.0000		102	88 - 124	0.268	20	
Methylene chloride	19.2500	1.0	0.46	20.0000		96.2	76 - 137	8.51	20	
MTBE	20.2100	0.50	0.12	20.0000		101	67 - 121	6.60	20	
n-Butylbenzene	18.0000	0.50	0.05	20.0000		90.0	83 - 129	2.76	20	
n-Propylbenzene	18.2700	0.50	0.07	20.0000		91.4	85 - 124	3.11	20	
Naphthalene	17.6200	0.50	0.15	20.0000		88.1	67 - 113	8.15	20	
o-Xylene	40.9400	0.50	0.05	40.0000		102	82 - 129	0.633	20	
sec-Butylbenzene	18.9100	0.50	0.04	20.0000		94.6	86 - 127	4.27	20	

Certificate of Analysis

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Oceanside , CA 92052	Reported :	03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9C0769 - MSVOA_W (continued)										
LCS Dup (B9C0769-BSD1) - Continued					Prepared: 3/27/2019 Analyzed: 3/27/2019					
Styrene	20.8100	0.50	0.06	20.0000		104	83 - 122	1.72	20	
tert-Amyl methyl ether	20.4900	0.50	0.11	20.0000		102	61 - 114	5.21	20	
tert-Butanol	95.7900	10	2.9	100.000		95.8	45 - 121	2.05	20	
tert-Butylbenzene	19.4200	0.50	0.06	20.0000		97.1	84 - 130	5.18	20	
Tetrachloroethene	19.0600	0.50	0.07	20.0000		95.3	87 - 123	1.21	20	
Toluene	34.0400	0.50	0.07	40.0000		85.1	84 - 115	15.1	20	
trans-1,2-Dichloroethene	20.1700	0.50	0.11	20.0000		101	60 - 148	3.03	20	
trans-1,3-Dichloropropene	18.9400	0.50	0.04	20.0000		94.7	77 - 118	8.30	20	
Trichloroethene	19.6000	0.50	0.05	20.0000		98.0	79 - 129	5.56	20	
Trichlorofluoromethane	20.3000	0.50	0.14	20.0000		102	68 - 162	6.99	20	
Vinyl acetate	196.140	10	1.3	200.000		98.1	65 - 134	7.55	20	
Vinyl chloride	15.3600	0.50	0.05	20.0000		76.8	73 - 128	7.70	20	
Surrogate: 1,2-Dichloroethane-d4	*26.49*			*25.0000*		*106*	*57 - 152*			
Surrogate: 4-Bromofluorobenzene	*26.25*			*25.0000*		*105*	*62 - 134*			
Surrogate: Dibromofluoromethan	*26.79*			*25.0000*		*107*	*56 - 167*			
Surrogate: Toluene-d8	*26.70*			*25.0000*		*107*	*33 - 170*			

Certificate of Analysis

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PO Box 4832		Report To :	Michael Anselmo
Oceanside , CA 92052		Reported :	03/28/2019

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 ● Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180321

Method of Transport	
☑ Client	☐ ATL
☐ FedEx	☐ OnTrac
☐ GSO	
☐ Other:	

Sample Conditions Upon Receipt					
Condition	Y	N	Condition	Y	N
1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☑	☐
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C: 5.8		
4. SEALED	☐	☑	TCL		

CUSTOMER

Company: C. JAMES & ASSOCIATES INC
Address: | City: | State: | Zip: | Tel: | Fax:

SEND REPORT TO:
Attn: M. ANSELMO Email: cjames@reagan.com
Company:
Address: P.O. BOX 4832
City: OCEANSIDE State: CA Zip: 92052

SEND INVOICE TO: same as SEND REPORT TO
Attn: Email:
Company:
Address:
City: State: Zip:

EDD: ☐ Excel ☒ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

PROJECT SAMPLES

Project Name: CARLEN PLAZA
Project No.: 01915
Sampler: BLAINE TECH
Quote #:
PO #:
Special Instructions/Comments:

ITEM	Laboratory ID (For Lab Use Only)	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)	8270 (Semi-volatiles)	6010 / 7000 (Title 22 Metals)	TO-15	SOIL	SOLID	GROUNDWATER	WASTEWATER	OIL	Turnaround Time (TAT)	Quantity	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn(Ac)2; 6=NaOH; 7=NA2S2O3	Remarks
1	1901088-01	MW-1	3/20/19	08:43	X										X			5	3	2	1	1	
2	-02	MW-2		12:28																			
3	-03	MW-3		13:45																			
4	-04	MW-4		13:19																			
5	-05	MW-5		12:05																			
6	-06	MW-6		11:26																			
7	-07	MW-7		09:41																			
8	-08	MW-8		09:13																			
9	-09	MW-9		10:30																			
10	~~-10~~	~~MW-10~~																					

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
. Weekend, holiday, after-hours work --- ask for quote.
. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20 sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/ Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Blaine Tech	3/20/2019	1600	MTR	3/20/19	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name) MTR	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Scott Green — Printed Name
Signature

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver:20180321

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: C. JAMES & ASSOCIATES INC.
Address:
Tel:
City:
State:
Zip:
Fax:

SEND REPORT TO:
Attn: M. ANSELMO
Email: cjames@reagan.com
Company:
Address: P.O. BOX 4832
City: OCEANSIDE
State: CA
Zip: 92052

SEND INVOICE TO: same as SEND REPORT TO
Attn:
Email:
Company:
Address:
City:
State:
Zip:

EDD: ☐ Excel ☒ EDF ☐ Equis ☐ _____

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV ☐ _____

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1	1901088-10	MW-11	3/20/19	07:38	X										X			5	3	2	1	1	
2	1 -11	MW-12	"	08:08	X										X			5	3	2	1	1	
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TERMS

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Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Reggie Tap	3/20/2019	1600	[signature]	3/20/19	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

SCOTT GREEN — Printed Name
[signature] — Signature

SOIL GAS INVESTIGATION REPORT
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

SARWQCB Case No. 2080155
Global ID: T10000009409

July 14, 2017

Prepared For: **Mr. Rod Valverde**
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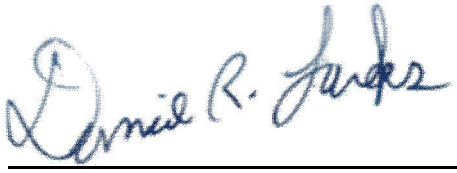
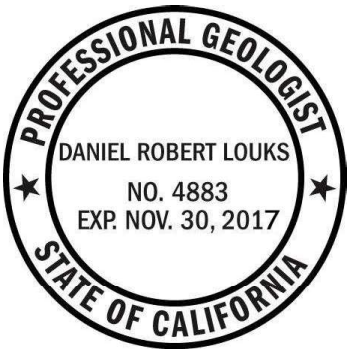




Dan Louks
Professional Geologist #4883

TABLE OF CONTENTS

1.0 INTRODUCTION **1**

2.0 BACKGROUND **1**

2.1 Vicinity Dry Cleaner Information 2

2.2 Supplemental Groundwater Investigation 3

3.0 GEOLOGY/HYDROGEOLOGY **4**

4.0 SOIL GAS INVESTIGATION **4**

4.1 Laboratory Results 5

5.0 VAPOR INTRUSION RISK ASSESSMENT **6**

5.1 Model Results 7

6.0 CONCLUSIONS **7**

7.0 RECOMMENDATIONS **8**

LIST OF TABLES

TABLE 1 - Well Construction Summary

TABLE 2 - Summary of Soil Sampling Results

TABLE 3 - Summary of Historic Groundwater Sampling Results

TABLE 4 - Summary of In-Situ Groundwater Sampling Results

TABLE 5 - Summary of Soil Gas Sampling Results

LIST OF FIGURES

FIGURE 1 - Site Vicinity Map
FIGURE 1A - Locations of Dry Cleaners in Vicinity

FIGURE 2 - Site Plan-Carlen Plaza Shopping Center

FIGURE 3A - Site Plan-Former Crown Cleaners
FIGURE 3B - Area Detail Former Crown Cleaners

FIGURE 4 - Current Distribution of PCE in Soil

FIGURE 5 - Current Distribution of PCE in Soil Gas

LIST OF APPENDICES

APPENDIX A --LJA Figures
APPENDIX B --Drilling Logs (VP1-VP12)
APPENDIX C --Laboratory Reports - Soil Samples
APPENDIX D - Laboratory Reports - Soil Gas Samples
APPENDIX E - Johnson-Ettinger Models

1.0 INTRODUCTION

This report presents the results of a supplemental soil gas investigation performed at the former Crown Cleaners site located at 24601 Raymond Way in Lake Forest, California. This work was required by the Santa Ana Regional Water Quality Control Board (SARWQCB) in its oversight of the project, which has subsurface impacts from a release of tetrachloroethene (PCE). This work was intended to provide an updated and more comprehensive evaluation of PCE distribution in soil and soil gas media at the site and in surrounding areas. The scope of work was presented in L. Joseph Associates, LLC (LJA) *"Soil Vapor Mitigation Plan"* dated February 17, 2017, and conditionally approved by SARWQCB by email correspondence dated March 3, 2017. GSA Engineering, Inc. (GSA) has been contracted to complete the work and prepare this report of findings.

2.0 BACKGROUND

The subject property consists of a 3.5-acre retail center known as Carlen Plaza located on the northern corner of Raymond Way and El Toro Road in Lake Forest, California (**Figure 1**). An L-shaped, multi-tenant retail building addressed as 24601 Raymond Way is located along the northern portion of the property, and a restaurant building addressed as 23501 El Toro Road is located in the southern corner of the site. A former dry cleaning facility identified as Crown Cleaners occupied Suite 15 of the 24601 Raymond Way building from the time the property was developed in the late-1970s until approximately 2010, when the site was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply (**Figure 2**).

In November 2009, Avalon Environmental Consultants (AEC) installed three soil borings (GP1-GP3) to 20 feet below grade in targeted areas near the dry cleaning equipment. Soil samples were obtained for laboratory analysis at 1, 5, 10, and 20 feet below grade in each boring. Results of laboratory analysis indicated each boring had samples with detectable levels of PCE with concentrations ranging up to 94 µg/Kg as found in sample GP2-20, the deepest sample in the boring. Borings GP1 and GP3 displayed a similar vertical profile with the highest concentrations found at 10 or 20 feet below grade (maximum concentrations of 30 and 85 µg/Kg, respectively. No TCE or other VOC was detected in the samples.

In December 2010, LJA continued the subsurface investigation and installed four additional soil borings (B1-B4) to 25-30 feet below grade in similar locations to the GP1-GP3 series of borings (**Figure 3B**). Groundwater was encountered during drilling and the borings were terminated without well installation. Results of laboratory analysis indicated a maximum of 190 µg/Kg PCE in soil sample B4-25. In addition, three of the four borings had detectable levels of PCE in the deepest soil sample. No VOC other than PCE was detected in these soil samples.

In June 2011, LJA installed four groundwater monitoring wells (MW1-MW4) at the site. Well MW2 was installed where the removed dry cleaning machine had been. Wells MW3 and MW4 were also installed in indoor locations in the former Crown Cleaners suite. Well MW1 was installed just behind the building to the north. The wells were installed to 35-40 feet below grade and were screened from 15 feet below grade to maximum depth. Soil samples were preserved for laboratory analysis between 20 and 40 feet below grade to attempt to define the vertical extent of contamination. Results indicated the deepest samples from MW1, MW2, and MW4 had less than detectable or very low concentrations of PCE with a maximum of 34 µg/Kg. Soil samples MW3-30 and MW3-35 had among the highest concentrations with 220 and 96 µg/Kg PCE, respectively.

In January-March 2012, LJA installed six additional groundwater monitoring wells (MW5-MW10) to attempt to define the lateral extent of contamination. Wells MW5, MW6, MW9, and MW10 were installed in adjoining suites and wells MW7 and MW8 were installed outside the building to the southwest and northeast (**Figure 3A**). The wells were installed to 30-35 feet below grade and screened from 15 feet to maximum depth. The well construction details are summarized in **Table 1**. Soil samples were obtained during drilling at 15-20 feet below grade for laboratory analysis. Results indicated each sample except MW7-15 had less than detectable levels of PCE. This sample had just 14 µg/Kg PCE. The soil sampling data is summarized in **Table 2**. The pre-remediation distribution of PCE in soil is depicted in figures prepared by LJA and included as **Appendix A**.

Groundwater monitoring at the site since 2011 indicates a fairly stable water table that has steadily dropped about 3 feet in elevation to its current level at about 24-25 feet below grade. The dissolved levels have fluctuated somewhat over time, particularly in wells MW1 and MW6 which have ranged from less than 5 µg/L PCE (MCL) to greater than 700 µg/L PCE. Typically, indoor wells MW2, MW3, MW4 and MW5 have the highest dissolved levels usually with greater than 100 µg/L PCE. Other VOC have not been detected in significant concentrations on a consistent basis. The historical groundwater monitoring and sampling data is summarized in **Table 3**.

In July 2014, LJA initiated interim remedial action at the site. A vapor extraction/dual phase extraction system was installed and operated using wells MW1, MW3, MW5, MW6, MW9, and MW10 for extraction. Each well is connected by underground 1.5-inch conveyance piping to a treatment compound area outside the building. Each well is equipped with a dedicated valve so that wells can be operated in multiple configurations. The system includes a high flow, moderate vacuum, 11 hp, 2-stage regenerative blower, capable of extracting up to 250 cfm and inducing a vacuum of 195 in. WC. The unit also has a 50-gallon water condenser tank and centrifugal pump to transport groundwater from the tank through the groundwater treatment media and into an appropriate storage container. The system operated until May 2017 when it was shut down pending this soil gas investigation. The treatment system is located just north of the building as indicated on **Figures 3A and 3B**.

2.1 Vicinity Dry Cleaner Information

Four former or existing dry cleaning operations (including the subject site) have been identified in the near vicinity of the property. These have been identified as the former Orange Tree Plaza Dry Cleaners (OTP) located east of the site across El Toro Road at 23532 El Toro Road, the former Silver Dry Cleaners site (Silver) located south of the site at 23684 El Toro Road, and the existing Spic N Span Dry Cleaners located northeast of the site at 23374 El Toro Road. The locations of each are indicated on **Figure 1A**.

Subsurface investigations have been conducted at the first two sites, but the Spic N Span site has not been investigated yet based on information available on the GeoTracker website. Each of the three sites where subsurface investigations were conducted has had significant impacts by PCE in soil, soil gas, and groundwater media and interim remedial efforts have been conducted at each of the three sites (including the subject site).

Drilling at the former Silver Dry Cleaners site conducted by PES Environmental Inc. (PES) indicated the lithologic section consists mostly of silty sand and sandy silt deposits that extend to about 20-25 feet below grade. Saturated sediment was encountered within this upper unit (at 12-20 feet), underlain by a “dry to moist clay or dense silt” layer at 20-24 feet below grade. This unit was underlain by the silty sand/sandy silt

deposits typical of the upper unit. The presence of this finer grained layer and the noted decrease in moisture content led PES to install shallow and deep groundwater monitoring wells to investigate the possibility of multiple hydraulic zones. However, results from groundwater monitoring since the wells were installed revealed very similar groundwater elevations and flow directions between the two intervals. In addition, PES identified significant dissolved PCE concentrations in groundwater upgradient (north) of the Silver Dry Cleaners site, and concluded that groundwater contamination form the OTP site had migrated onto the Orchard Shopping Center property (formerly occupied by Silver).

SARWQCB provides regulatory oversight for all three sites and was concerned that there might be comingling of plumes and the possibility of multiple differentiated groundwater zones. Accordingly, SARWQCB required specific supplemental groundwater investigations at the OTP and former Crown Cleaners sites. These investigations included cone penetrometer testing (CPT) of the subsurface sediment and discrete in-situ groundwater sampling across different depths to determine if there were multiple hydraulic zones of significance.

2.2 Supplemental Groundwater Investigation

In April-May 2017, LJA conducted the required in-situ groundwater investigation. Results of CPT testing were inconclusive as far as defining separate hydraulic zones in the saturated section (ranging from 25 to 40 feet below grade). This data is consistent with the CPT results at the OTP site located across El Toro Road, where there was no evidence of a laterally continuous deeper water bearing zone, but rather an undifferentiated shallow water zone that extended to the maximum depth of investigation.

The in-situ groundwater sampling program included attempts to obtain groundwater samples from discrete depths at targeted intervals provided by SARWQCB. In several cases, groundwater samples could not be obtained from the shallow target (24-27 feet) or the deep target (40-44 feet), but most locations were able to be sampled at the 29-32 foot interval. This data is consistent with the results from the OTP site, where numerous attempts at sampling distinct intervals were unsuccessful. In addition, the groundwater zone was very slow to produce groundwater and in many instances required several hours to produce sufficient quantities for sampling. This corresponds well with the dual phase program at the site which has apparently produced very low groundwater flows over time (6,861 gallons over 2+ years of operation).

Results from in-situ groundwater sampling indicated just one sample had PCE levels greater than MCL levels with 33 µg/L detected in sample GW9, from a depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE. Some samples had low levels of carbon tetrachloride with a maximum of 0.56 µg/L; however, no other VOC was detected with concentrations greater than California MCL levels. These results are summarized in **Table 4**.

Based on these results, the dissolved PCE plume was reasonably defined in all directions except to the northeast. In addition, the data indicate no significant differences in the hydrogeologic section that are suggestive of multiple significant hydraulic zones. Although there are likely small variations in the hydraulics that could feature limited confining pressures, the saturated zone appears to be best interpreted as a transitional zone from an unconfined shallow saturated zone to a semi-permeable, semi-consolidated, variable bedrock interface that apparently has an irregular surface ranging from approximately 35-50 feet below grade.

3.0 GEOLOGY/HYDROGEOLOGY

The local geology features Miocene and Pliocene age marine deposits that have been uplifted, faulted, and dissected by stream erosion from Aliso Creek and are exposed along the surrounding hillsides. These formations consist of dense sandstone and siltstone known as the Niguel and Monterey formations. The lowland basins are filled with alluvium deposits derived from marine terrace deposits. These are underlain by the older and harder Pliocene and Miocene bedrock. The local unconsolidated material consists of mixed silty clay, silt, and silty sand deposits with no apparent macro-layering pattern.

The site lies outside the boundaries of the groundwater basins delineated by the California Department of Water Resources and the nearest basin is the Coastal Plain of Orange County located northwest of the property. The site overlies an area of limited water bearing deposits and is reportedly a poor and unreliable source of groundwater. Groundwater monitoring at the former Silver Cleaners site and the OTP site confirm a relatively flat south-southwesterly hydraulic gradient of about 0.007 ft/ft. Groundwater levels in both shallow and deep wells at the Silver Cleaners site exhibit very similar elevations and flow directions, suggesting direct hydraulic communication between the intervals.

Static groundwater at the Crown Cleaners site currently lies at about 24-25 feet below grade. The groundwater elevations 5+ years ago were about 3 feet higher and the recent steady decline may be a result of the current drought conditions in southern California. Previous groundwater monitoring data from the site indicates a complicated groundwater flow pattern that that trends roughly to the northeast but is likely influenced by the (then) ongoing dual phase extraction system operations.

4.0 SOIL GAS INVESTIGATION

On June 20-21, 2017, a hydraulic direct push GeoProbe type drilling rig provided by Interphase Environmental, Inc. was used to advance 12 borings (VP1-VP12) in targeted areas approved by SARWQCB. This drilling method uses 1-¼ -inch diameter rods that are driven to specific depths for soil sampling. At the required depth the rods are retrieved from the hole and a soil sampling tool is installed and driven into the undisturbed soil. The tool is lined with an acetate tube, which is retrieved from the tool after sampling. All sampling equipment was washed in a detergent solution and rinsed with water between sampling events to prevent cross-contamination. The boring locations are shown on **Figure 4**.

During drilling, the soil column was logged by a California Professional Geologist. Results indicated a mixed sequence of material consisting mostly of silty clay in the upper 10 feet of section, underlain by silty sand and clayey sand at 15 feet below grade, the maximum depth of exploration. The drilling logs include sediment descriptions using the USCS classification system and are provided in **Appendix B**.

During drilling soil samples were obtained at 5, 10, and 15 feet below grade and each was preserved using EPA Method 5035 with laboratory-provided vials which contained the required preservatives. Approximately 5 grams of soil was driven into the vials using a tool specialized for this task. The preserved samples were labelled, stored in an ice-filled chest and delivered to the State certified analytical laboratory. The soil samples were analyzed for VOC using EPA Method 8260B (full scan) by Advanced Technology Laboratories of Signal Hill, California.

After soil sampling, each boring was completed as a nested soil gas probe with sampling tips installed at 5, 10, and 15 feet below grade. One location (VP6) was not completed with a five-foot probe because of saturated soil conditions in the exploratory boring which had standing water at 5 feet. A probe set in these conditions would have been quickly plugged by wet sediment and would have been unusable. In addition, because of the expected low permeability and the high moisture content of the native sediment in multiple locations, each probe was completed with a 9-inch sampling tip to ensure that representative samples could be obtained in the future. The probes consist of stainless steel vapor implants that are approximately 9 inches long with a 0.5-inch outside diameter, connected to 0.25-inch outside diameter nylaflow tubing that extended above the surface. The annulus around the vapor implants was backfilled with 1-foot of screen-washed #3 sand, extending 1.5 inches above and below the sampling tip. The probes were sealed using six inches of dry bentonite placed immediately above each sand pack overlain by hydrated bentonite above it to provide a secure borehole seal. The probes were finished with gas-tight fittings at the surface pending vapor purging and sampling and each cluster of probes was set in a traffic-rated vault to allow for future sampling.

On June 28 and 30, 2017, the probes were purged and sampled by a technician from A&R Laboratories. A tracer material was applied at the surface of the sealed probe to ensure that there was no interference of air from the surface. The purpose of purging is to remove stagnant air from the vapor sampling train to ensure representative samples are obtained. The probes were purged of three purge volumes of soil vapor (a purge volume includes the volume of tubing plus the void space of the sand pack around the probe) using an adjustable vacuum pump. After static conditions were established, the probes were sampled at a flow rate of approximately 200 cc/min. and stored in a pre-cleaned glass bulb. The vapor samples were then immediately analyzed by the mobile laboratory for VOC by EPA Method 8260B. At each location a leak check compound was used to demonstrate sample integrity. Duplicate and QA/QC samples were also collected and analyzed by the mobile laboratory as required.

4.1 Laboratory Results

The laboratory results from soil sampling indicated just one boring location had soil samples with detectable VOC. Boring VP6, located in the outdoor treatment compound area, had 1,400 µg/Kg PCE and 4.9 µg/Kg TCE at 5 feet below grade. In addition, sample VP6-10 had 1,200 µg/Kg PCE. None of the other samples (including the deepest sample in this boring, VP6-15) had detectable levels of VOC. The detected concentrations were compared to the Regional Screening Level (RSL) guidelines provided by EPA and modified by DTSC for use in California. These guidelines are based on human health risk factors for residential and commercial settings and are commonly used as screening tools. None of the detected concentrations exceed the current soil screening levels for commercial applications. These results are summarized in **Table 2**. The current distribution of PCE in soil is shown on **Figure 4**. The laboratory reports from soil sampling are included in **Appendix C**.

Laboratory results from soil gas sampling indicated the PCE concentrations in the probes ranged from less than detectable to a maximum of 35 µg/L PCE. The highest concentrations were detected in the VP6 probe location (located in the treatment compound adjacent to well MW1), which had the maximum concentration at 15 feet below grade and 16 µg/L PCE at 10 feet. These results were compared to DTSC screening guidelines for PCE in soil gas in commercial applications (2.1 µg/L). These guidelines use screening numbers for indoor air that are modified using attenuation factors provided by DTSC for soil gas. Four other probe locations had at least one sample with greater than the DTSC screening level for PCE in soil gas in a commercial application. Samples VP4-15 and VP5-15 had 7.9 µg/L and 3.7 µg/L PCE, though the 5 and 10 foot samples in each location had less than 1 µg/L PCE. Probes VP7-5 and VP7-15 had 13 µg/L and 4.1 µg/L PCE, respectively. Finally, probe VP8-5 had 6.2 µg/L PCE. None of the remaining probes had greater than 1.1 µg/L

PCE. Low levels of TCE and cis 1,2 DCE were detected in a few samples but none exceeded 0.60 µg/L. These results are summarized in **Table 5**. The current distribution of PCE in soil gas is shown on **Figure 5**. The laboratory reports from soil gas sampling are included in **Appendix D**.

To characterize the human health risk potential beyond the conservative RSL screening levels, the data from soil gas sampling was used in a computer model to assess potential vapor intrusion risks to human health.

5.0 VAPOR INTRUSION RISK ASSESSMENT

The EPA provides a computer model for quantifying the risk of vapor intrusion into an existing or proposed structure from subsurface sources of contamination. The model was modified by DTSC for use in dedicated commercial or residential settings using risk factors specific to California. In a commercial setting, the Johnson-Ettinger model takes known soil gas concentrations and provides an indication of whether these conditions would adversely impact workers exposed to the air space inside a structure. It uses standard human health risk factors and measured contaminant characteristics with common vapor migration algorithms.

The Johnson-Ettinger model is a one-dimensional analytical solution to diffusive and convective transport of volatile chemical vapor into indoor spaces made available by the EPA. The model provides a theoretical description of vapor intrusion from the subsurface into an indoor air space and relates vapor concentrations at a subsurface source to potential vapor concentrations in an enclosed air space. It was developed as a screening tool and has a number of inherent simplifying assumptions regarding contaminant distribution, subsurface characteristics, transport mechanisms, and building construction. The model assumes that isotropic homogeneous conditions adequately characterize the subsurface.

The model assumes an infinite contaminant source and that vapor flux through the subsurface occurs only by one-dimensional diffusion (upward) to the base of the building foundation. Diffusive flow through the subsurface is simulated using common vapor flux equations controlled by the assigned soil property variables. Convection carries the mass through simulated cracks and openings in the foundation into the structure. The convective sweep is caused by presumed air movement in the building from heating/cooling, stack, and wind effects. Both diffusive and convective transports are assumed to be uniform and steady state. The model does not account for attenuation factors such as biodegradation or sorption during transport to the base of the building.

The model treats the entire default building as a single chamber with instantaneous and homogeneous vapor dispersion. It therefore neglects contaminant sinks and room to room variations in vapor concentrations due to unbalanced mechanical or natural ventilation. Once a representative soil gas vapor concentration is determined, all vapors directly below the areal extent of the structure are presumed to enter the structure, and since the mass is considered infinite, steady state transport prevails and the intrusion rate remains constant.

There are several versions of the EPA's Johnson-Ettinger model including ones that use concentrations of volatile contaminants in soil, groundwater, and soil gas to predict exposure risk within an enclosed air space. When soil gas data is available, it can be directly input into the model, providing the most direct and reliable calculation. The DTSC modified version includes risk factors specific to California and is named SG-SCREEN (version 2.0 04/2003 - DTSC Modified December 2014).

To provide a conservative analysis, the maximum PCE soil gas concentration at each sampled interval was analyzed. The model also allows input of the site specific soil type in the vadose zone and calculates values of permeability; soil moisture content and other important parameters based on the selection. Based on drilling logs the shallow sediment consists of a mixed assemblage ranging from silty clay to silty sand. To provide a conservative value, the soil type chosen for the model input was loamy sand (LS). This data was used with the DTSC default values for the remaining parameters.

5.1 Model Results

The results of the model provide an assessment of the exposure risk to humans in a default structure using accepted risk factors. Since the model is primarily a screening tool it provides very conservative results. Accordingly, the acceptable exposure risk values are conservative. For carcinogens the exposure risk is 10-6, for non-carcinogens the hazard risk quotient is 1. A calculated risk that exceeds the acceptable value indicates a formal risk assessment might be required. Alternatively, DTSC can provide a risk management decision if the results lie between 10-6 and 10-4. A calculated risk that is at or below the 10-6 standard is considered insignificant. For commercial applications, OEHHA typically closes sites with 10-5 exposure risk factors if the plume is considered defined.

Results of the modelling exercise indicate that the calculated carcinogenic risk using the maximum PCE level at 5, 10, and 15 feet below grade ranged from 2.1 to 3.3 E-06, which exceeds the most conservative screening level but is well below the typical commercial action level and well within range of a favorable DTSC risk management decision. The model input and results are presented in **Appendix E**.

6.0 CONCLUSIONS

The subject site is a former dry cleaning establishment known as Crown Cleaners that was located in a tenant suite in the Carlen Plaza shopping center from the 1970s through 2010, when the suite was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply. Environmental investigations initiated in 2009 identified subsurface impacts from PCE, a common dry cleaning solvent. Results of these investigations indicated soil was impacted with PCE below the approximate groundwater interface located at about 22-24 feet below grade.

The plume of impacted groundwater is centered near the removed dry cleaning equipment and extends radially from the release zone. Typically the near-source wells located inside the structure have greater than 100 µg/L dissolved PCE, with maximum concentrations frequently greater than 1,000 µg/L. In May 2017, a series of in-situ groundwater samples were obtained in plume-perimeter locations outside the building to attempt to define the lateral and vertical extents of groundwater contamination. Results indicated none of the samples collected north, south or west of the building had significant concentrations of VOC, essentially defining the extent of dissolved contamination in these directions. One sample (GW9), located east of the heart of the plume had 33 µg/L PCE from a depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE.

Interim remedial action operations were conducted at the property in an attempt to reduce PCE concentrations in soil, soil vapor, and groundwater near the release zone. A vapor extraction/dual phase extraction system operated at the site from July 2014 to May 2017, when the system was shut down pending soil gas testing for the current work.

The objective of the current investigation was to meet the requirements of SARWQCB by completing a soil and soil gas assessment after several years of remediation by LJA. Twelve soil borings were installed in target locations including inside the former Crown Cleaners and adjoining suites, in outdoor locations north and south of the suites, and near the Montessori School located just northwest of the source area.

Results from soil sampling indicated just one location had detectable levels of VOC with up to 1,400 µg/Kg PCE and 4.9 µg/Kg TCE at 5 feet below grade in boring VP6, located in the outdoor treatment compound area. In addition, soil sample VP6-10 had 1,200 µg/Kg PCE, but none of the other samples (including the deepest sample in this boring, VP6-15) had detectable levels of VOC.

Results from soil gas sampling indicated probe VP6 had the highest concentrations of PCE in soil gas with 35 µg/L detected at 15 feet below grade and 16 µg/L PCE at 10 feet. This location has no 5-foot probe due to the saturated soil conditions observed during drilling, when standing water was observed in the open borehole. In addition to VP6, proximal probes VP4, VP7, and VP8 also had PCE concentrations greater than the DTSC soil gas screening level of 2.1 µg/L PCE. This distribution pattern suggests the area behind the dry cleaners may be a source of subsurface contamination that needs to be addressed further. This area has a surface water drain nearby and possibly a sanitary sewer line that could be contributing to the subsurface source. In addition, the very moist to saturated conditions identified in soil in this area (including VP4, VP6, VP7, VP8, and VP9) suggests a possible leaking plumbing system.

7.0 RECOMMENDATIONS

The results of vapor intrusion modeling suggest the soil gas conditions are within range of a favorable risk management decision by OEHHA for commercial applications. However, the soil and soil gas sampling data suggest that the area just outside the former Crown Cleaners suite to the north may be a secondary source of contamination that is impeding progress of the site remediation effort. Based on these results, GSA recommends installation of a new set of extraction wells in this area. Three wells are proposed including near MW1, probe VP6, and in-situ groundwater sample GW9. These wells will be installed to 25 feet below grade and will be screened to 5 feet below grade so that the upper soil zone can be effectively treated as well as the deeper sediments.

In addition, the site continues to have elevated concentrations of dissolved PCE that will require additional treatment using vapor and dual phase extraction. The current results suggest that the lateral extent of groundwater contamination is relatively limited and may have been hydraulically controlled by the DPE system operations conducted to date. However, data suggests the groundwater gradient may extend in a northeasterly direction, so an additional groundwater monitoring well may be needed to fully define the dissolved plume.

GSA recommends obtaining a fixed system permit through the SCAQMD to continue remedial efforts at the site.

TABLE 1
Well Construction Summary

Well ID	Install Date	Drill Method	Casing Diameter	Total Depth	Screened Interval	Connected to System
MW1	06/27/11	HSA	2 in	40 ft	15-40 ft	Yes
MW2	06/28/11	HSA	2 in	40 ft	15-40 ft	No
MW3	06/28/11	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW4	06/27/11	HSA	2 in	35 ft	15-35 ft	No
MW5	01/18/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW6	01/18/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW7	02/28/12	HSA	2 in	35 ft	15-35 ft	No
MW8	02/28/12	HSA	2 in	35 ft	15-35 ft	No
MW9	02/29/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW10	03/01/12	Hand Auger	2 in	30 ft	15-30 ft	Yes

Notes: HSA=Hollow Stem Auger. Wells Connected to System may be used for vapor and dual phase extraction. The Table depths are shown in feet below grade surface.

TABLE 2
Summary of Soil Sampling Results (µg/Kg)

Sample ID	PCE	TCE	Other VOC
Sampled November 2009			
GP1-1	<2.0	<2.0	ND
GP1-5	18	<2.0	ND
GP1-10	30	<2.0	ND
GP1-20	15	<2.0	ND
GP2-1	3.0	<2.0	ND
GP2-5	26	<2.0	ND
GP2-10	84	<2.0	ND
GP2-20	94	<2.0	ND
GP3-1	4.8	<2.0	ND
GP3-5	6.0	<2.0	ND
GP3-10	56	<2.0	ND
GP3-20	85	<2.0	ND
Sampled December 2010			
B1-15	<5	<5	ND
B1-20	18	<5	ND
B1-25	10	<5	ND
B1-30	6	<5	ND
B2-15	<5	<5	ND
B2-20	7	<5	ND
B2-25	58	<5	ND
B2-30	16	<5	ND
B3-20	<5	<5	ND
B3-25	<5	<5	ND
B4-20	5	<5	ND
B4-25	190	<5	ND
B4-30	9	<5	ND
Sampled June 2011			
MW1-25	<5	<5	ND
MW1-30	120	<5	ND
MW1-35	<5	<5	ND
MW1-40	<5	<5	ND
MW2-20	<5	<5	ND
MW2-30	19	<5	ND
MW2-35	34	<5	ND
MW2-40	<5	<5	ND
Residential RSL	***600****	***940***	*--*
Commercial RSL	***2,700****	***6,000***	*--*

TABLE 2-Contd.
Summary of Soil Sampling Results (µg/Kg)

Sample ID	PCE	TCE	Other VOC
Sampled June 2011			
MW3-25	<5	<5	ND
MW3-30	220	<5	ND
MW3-35	96	<5	ND
MW4-25	170	<5	ND
MW4-30	14	<5	ND
MW4-35	5	<5	ND
MW4-40	6	<5	ND
Sampled January 2012			
MW5-20	<5	<5	ND
MW6-20	<5	7	ND
Sampled February 2012			
MW7-15	14	<5	ND
MW7-20	<5	<5	ND
MW8-15	<5	<5	ND
MW8-20	<5	<5	ND
MW9-20	<5	<5	ND
Sampled March 2012			
MW10-14	<5	<5	ND
MW10-20	<5	<5	ND
Sampled June 2017			
VP1-5	ND<5	ND<5	ND
VP1-10	ND<5	ND<5	ND
VP1-15	ND<5	ND<5	ND
VP2-5	ND<5	ND<5	ND
VP2-10	ND<5	ND<5	ND
VP2-15	ND<5	ND<5	ND
VP3-5	ND<5	ND<5	ND
VP3-10	ND<5	ND<5	ND
VP3-15	ND<5	ND<5	ND
VP4-5	ND<5	ND<5	ND
VP4-10	ND<5	ND<5	ND
VP4-15	ND<5	ND<5	ND
VP5-5	ND<5	ND<5	ND
VP5-10	ND<5	ND<5	ND
VP5-15	ND<5	ND<5	ND
Residential RSL	***600****	***940***	*--*
Commercial RSL	***2,700****	***6,000***	*--*

TABLE 2-Contd.
Summary of Soil Sampling Results (µg/Kg)

Sample ID	PCE	TCE	Other VOC
Sampled June 2017			
VP6-5	1,400	4.9	ND
VP6-10	1,200	ND<5	ND
VP6-15	ND<5	ND<5	ND
VP7-5	ND<5	ND<5	ND
VP7-10	ND<5	ND<5	ND
VP7-15	ND<5	ND<5	ND
VP8-5	ND<5	ND<5	ND
VP8-10	ND<5	ND<5	ND
VP8-15	ND<5	ND<5	ND
VP9-5	ND<5	ND<5	ND
VP9-10	ND<5	ND<5	ND
VP9-15	ND<5	ND<5	ND
VP10-5	ND<5	ND<5	ND
VP10-10	ND<5	ND<5	ND
VP10-15	ND<5	ND<5	ND
VP11-5	ND<5	ND<5	ND
VP11-10	ND<5	ND<5	ND
VP11-15	ND<5	ND<5	ND
VP12-5	ND<5	ND<5	ND
VP12-10	ND<5	ND<5	ND
VP12-15	ND<5	ND<5	ND
Residential RSL	***600****	***940***	*--*
Commercial RSL	***2,700****	***6,000***	*--*

*Notes: ND - Not Detected. EPA Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA sand DTSC to determine Health Risk in residential and commercial settings. *-Values modified for California by DTSC HHRA Note 3. Please refer to laboratory reports for complete results.*

TABLE 3
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW1	07/07/11	21.23	381.64	39.50	13	<0.5	ND
402.87	12/30/11	21.27	381.60	39.50	17	<0.5	ND
	03/22/12	22.47	380.40	39.50	510	<0.5	ND
	06/27/12	22.56	380.31	39.50	770	<0.5	ND
	09/28/12	22.54	380.33	39.50	310	<0.5	ND
	12/20/12	22.77	380.10	39.50	590	<0.5	ND
	03/19/13	23.03	379.84	39.50	310	1.2	ND
	06/12/13	22.52	380.35	39.50	210	<0.5	ND
	09/25/13	Not	Sampled		Inaccessible		
	03/21/14	23.41	379.46	39.50	300	<0.5	ND
	06/16/14	24.12	378.75	39.50	530	<0.5	ND
	09/26/14	23.78	379.09	39.50	340	<0.5	ND
	12/29/14	24.08	378.79	39.48	150	<0.5	ND
	03/26/15	24.10	378.77	39.50	200	<0.5	ND
	06/30/15	24.35	378.52	39.46	170	<0.5	ND
	09/29/15	24.67	378.2	39.45	150	0.51	ND
	12/29/15	24.22	378.65	39.46	300	<0.5	ND
	03/22/16	25.12	377.75	39.48	160	<0.5	ND
	06/21/16	25.20	377.67	39.45	200	<0.5	ND
	09/27/16	25.06	377.81	39.45	1.4	<0.5	ND
	12/29/16	25.70	377.17	39.45	84	<0.5	ND
	3/20/17	24.12	378.75	37.47	100	<0.5	ND
	6/20/17	24.43	378.44	38.04	77	<0.5	ND
MW2	07/07/11	21.45	381.66	39.78	140	<0.5	ND
403.11	12/30/11	21.52	381.59	39.75	160	<0.5	ND
	03/22/12	22.71	380.40	39.74	880	<0.5	ND
	06/27/12	22.78	380.33	39.74	680	<0.5	ND
	09/28/12	Not	Sampled		Inaccessible		
	12/20/12	23.02	380.09	39.75	1800	<0.5	ND
	03/19/13	23.39	379.72	39.75	1400	2.5	ND
	06/12/13	23.65	379.46	39.75	1200	1.2	ND
	09/25/13	23.36	379.75	39.75	1100	1.6	ND
	03/21/14	23.64	379.47	39.74	1400	<0.5	ND
	06/16/14	23.87	379.24	39.75	990	<0.5	ND
	09/26/14	23.42	379.69	39.73	720	<0.5	ND
	12/29/14	Not	Sampled		Inaccessible	---	
	03/26/15	24.31	378.80	39.75	440	<0.5	ND
	06/30/15	24.50	378.61	39.72	470	<0.5	ND
	09/29/15	24.25	378.86	39.72	410	<1	ND
	12/29/15	24.08	379.03	39.71	370	<0.5	ND
	03/22/16	25.19	377.92	39.74	550	0.50	ND
	06/21/16	25.20	377.91	39.72	470	<1.0	ND
	09/27/16	25.01	378.10	39.70	270	<1.0	ND
	12/29/16	26.01	377.10	39.70	230	<1.0	ND
	3/20/17	24.34	378.77	39.20	84	<1.0	ND
	6/20/17	24.09	379.02	39.05	520	<0.5	ND

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW3	07/07/11	21.83	381.64	30.99	1200	1.2	ND
403.47	12/30/11	21.94	381.53	30.05	1400	2.4	ND
	03/22/12	23.08	380.39	30.05	2100	8.8	ND
	06/27/12	23.14	380.33	30.06	1900	8.8	ND
	09/28/12	Not	Sampled		inaccessible		--
	12/20/12	23.38	380.09	30.05	2000	8.8	ND
	03/19/13	23.79	379.68	30.05	790	2.4	ND
	06/12/13	23.81	379.66	30.05	1300	3.8	ND
	09/25/13	23.45	380.02	30.06	2000	7.6	ND
	03/21/14	24.12	379.35	30.02	1100	5.2	ND
	06/16/14	24.37	379.10	30.00	2200	5.2	ND
	09/26/14	24.53	378.94	30.02	960	3.1	ND
	12/29/14	Not	Sampled	---	inaccessible	---	--
	03/26/15	24.60	378.87	30.00	590	<0.5	ND
	06/30/15	25.00	378.47	30.00	1600	1.5	ND
	09/29/15	24.40	379.07	30.00	1700	<2.5	ND
	12/29/15	24.47	379.00	30.00	1000	<2.5	ND
	03/22/16	25.61	377.86	30.00	950	<0.5	ND
	06/21/16	25.68	377.79	30.00	1200	<2.5	ND
	09/27/16	25.11	378.36	30.01	310	<1.0	ND
	12/29/16	26.25	377.22	30.00	540	<1.0	ND
	3/20/17	24.80	378.67	28.48	630	1.0	ND
	6/20/17	24.27	379.20	28.47	430	<1.0	ND
MW4	07/07/11	21.35	381.64	33.11	1300	<0.5	ND
402.99	12/30/11	21.47	381.52	33.10	1600	6.4	ND
	03/22/12	22.58	380.41	33.12	3800	8.3	ND
	06/27/12	22.84	380.15	33.10	2400	2.6	ND
	09/28/12	22.58	380.41	33.11	970	1.2	ND
	12/20/12	22.90	380.09	33.10	3200	2.6	ND
	03/19/13	23.10	379.89	33.10	3800	3.2	ND
	06/12/13	23.15	379.84	33.10	3400	1.0	ND
	09/25/13	23.23	379.76	33.12	3300	1.6	ND
	03/21/14	23.40	379.59	33.10	4000	<0.5	ND
	06/16/14	23.78	379.21	33.09	4100	<0.5	ND
	09/26/14	24.01	378.98	33.08	3000	<0.5	ND
	12/29/14	Not	Sampled	---	Inaccessible	---	--
	03/26/15	24.10	378.89	33.10	3400	<0.5	ND
	06/30/15	24.35	378.64	33.08	1500	<0.5	ND
	09/29/15	24.24	378.75	33.05	1400	<2	ND
	12/29/15	24.17	378.82	33.09	1600	<2.5	ND
	03/22/16	24.15	378.84	33.09	1100	<0.5	ND
	06/21/16	24.28	378.71	33.05	1500	<2.5	ND
	09/27/16	24.18	378.81	33.06	490	<1.0	ND
	12/29/16	25.65	377.34	33.01	470	<1.0	ND
	3/20/17	24.11	378.88	30.37	280	<1.0	ND
	6/20/17	23.91	379.08	30.50	680	<1.0	ND

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW5	01/26/12	22.85	380.51	29.85	841	<0.5	ND
403.36	03/22/12	22.96	380.40	29.85	1100	<0.5	ND
	06/27/12	23.01	380.35	29.85	1400	<0.5	ND
	09/28/12	23.00	380.36	29.84	510	2.2	ND
	12/20/12	23.29	380.07	29.85	820	<0.5	ND
	03/19/13	23.68	379.68	29.85	740	<0.5	ND
	06/12/13	23.78	379.58	29.83	780	4.7	ND
	09/25/13	23.89	379.47	29.81	620	5.1	ND
	03/21/14	23.96	379.40	29.80	790	4.4	ND
	06/16/14	23.90	379.46	29.80	830	4.4	ND
	09/26/14	23.98	379.38	27.54	610	2.7	ND
	12/29/14	24.62	378.74	28.56	520	1.7	ND
	03/26/15	24.54	378.82	28.60	300	<0.5	ND
	06/30/15	24.98	378.38	28.58	1400	<0.5	ND
	09/29/15	24.75	378.61	28.60	330	<0.5	ND
	12/29/15	24.68	378.68	28.75	390	<0.5	ND
	03/22/16	24.88	378.48	28.70	360	<0.5	ND
	06/21/16	25.01	378.35	28.75	390	<0.5	ND
	09/27/16	24.86	378.50	28.74	450	<0.5	ND
	12/29/16	24.98	378.38	28.73	170	<0.5	ND
	3/20/17	24.77	378.59	28.60	620	<0.5	ND
	6/20/17	24.48	378.88	27.76	470	<1.0	Chl-ethane=21
MW6	03/26/12	22.97	380.43	29.90	1400	1.8	ND
403.40	03/22/12	22.99	380.41	29.91	2400	<0.5	ND
	06/27/12	23.02	380.38	29.90	2000	<0.5	ND
	09/28/12	23.10	380.30	29.89	260	4.0	ND
	12/20/12	23.41	379.99	29.90	1100	<0.5	ND
	03/19/13	23.69	379.71	29.90	710	20	ND
	06/13/13	23.70	379.70	29.89	810	36	ND
	09/25/13	23.81	379.59	29.90	770	61	ND
	03/21/14	23.93	379.47	29.75	1200	63	ND
	06/16/14	23.85	379.55	29.78	1400	63	ND
	09/26/14	23.75	379.65	29.70	1100	52	ND
	12/29/14	24.48	378.92	29.70	960	14	ND
	03/26/15	24.56	378.84	29.74	1200	2.5	ND
	06/30/15	24.70	378.70	29.75	1100	<0.5	ND
	09/29/15	24.67	378.73	29.75	530	<1	ND
	12/29/15	24.51	378.89	29.76	35	<0.5	ND
	03/22/16	---	---	25.80	Dry	---	--
	06/21/16	24.75	378.65	28.74	3.7	<0.5	ND
	09/27/16	24.66	378.74	28.77	<0.5	<0.5	ND
	12/29/16	24.80	378.60	28.75	0.61	<0.5	ND
	3/20/17	25.31	378.09	25.53	--	--	--
	6/20/17	24.34	379.06	25.47	140	<0.5	ND

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW7	03/22/12	22.05	380.44	34.75	63	<0.5	ND
402.49	06/27/12	22.06	380.43	34.75	120	<0.5	ND
	09/28/12	22.01	380.48	34.75	190	<0.5	ND
	12/20/12	22.27	380.22	34.75	340	<0.5	ND
	03/19/13	22.58	379.91	34.75	140	<0.5	ND
	06/12/13	23.52	378.97	34.75	270	<0.5	ND
	09/25/13	22.61	379.88	34.75	270	<0.5	ND
	03/21/14	22.89	379.60	34.75	310	<0.5	ND
	06/16/14	23.16	379.33	34.73	460	<0.5	ND
	09/26/14	23.39	379.10	34.75	270	<0.5	ND
	12/29/14	23.44	379.05	34.75	170	<0.5	ND
	03/26/15	23.42	379.07	34.75	85	<0.5	ND
	06/30/15	23.65	378.84	34.75	76	<0.5	ND
	09/29/15	23.92	378.57	34.75	72	<0.5	ND
	12/29/15	23.52	378.97	34.72	86	<0.5	ND
	03/22/16	24.38	378.11	37.75	71	<0.5	ND
	06/21/16	24.70	377.79	37.72	730	0.52	ND
	09/27/16	24.59	377.90	37.70	41	<0.5	ND
	12/29/16	25.06	377.43	37.70	43	<0.5	ND
	3/20/17	23.46	379.03	35.14	36	<0.5	ND
	6/20/17	23.26	379.23	35.15	57	<0.5	ND
MW8	03/22/12	22.98	380.37	34.84	20	<0.5	ND
403.35	06/27/12	23.06	380.29	34.85	21	<0.5	ND
	09/28/12	23.02	380.33	34.85	55	<0.5	ND
	12/20/12	23.30	380.05	34.85	110	<0.5	ND
	03/19/13	23.52	379.83	34.85	71	<0.5	ND
	06/12/13	23.62	379.73	34.85	110	<0.5	ND
	09/25/13	23.70	379.65	34.82	180	1.3	ND
	03/21/14	23.91	379.44	34.80	150	<0.5	ND
	06/16/14	24.19	379.16	34.80	270	<0.5	ND
	09/26/14	24.44	378.91	34.79	160	6.3	ND
	12/29/14	24.60	378.75	34.75	75	<0.5	ND
	03/26/15	24.64	378.71	34.77	35	<0.5	ND
	06/30/15	24.55	378.80	34.74	32	<0.5	ND
	09/29/15	25.25	378.10	34.77	30	<0.5	ND
	12/29/15	24.77	378.58	34.75	470	<1	ND
	03/22/16	25.68	377.67	34.72	230	0.52	ND
	06/21/16	25.85	377.50	34.75	87	<0.5	ND
	09/27/16	25.44	377.91	34.70	97	<0.5	ND
	12/29/16	26.12	377.23	34.72	97	<0.5	ND
	3/20/17	24.79	378.56	34.92	120	<0.5	ND
	6/20/17	24.52	378.83	34.87	190	<0.5	ND

TABLE 3 Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW9	03/22/12	23.19	380.33	29.71	650	<0.5	ND
403.52	06/27/12	23.22	380.30	29.70	430	<0.5	ND
	09/28/12	23.35	380.17	29.71	49	<0.5	ND
	12/20/12	23.62	379.90	29.70	270	<0.5	ND
	03/19/13	23.84	379.68	29.70	160	1.8	ND
	06/12/13	23.46	380.06	29.69	250	2.9	ND
	09/25/13	23.88	379.64	29.68	290	4.7	ND
	03/21/14	23.59	379.93	29.68	320	3.2	ND
	06/16/14	24.52	379.00	29.70	590	<0.5	ND
	09/26/14	24.69	378.83	29.68	330	14	ND
	12/29/14	24.85	378.67	29.65	190	2.9	ND
	03/26/15	24.82	378.70	29.66	110	<0.5	ND
	06/30/15	25.08	378.44	29.64	110	1.5	ND
	09/29/15	24.98	378.54	29.70	94	2.7	ND
	12/29/15	24.92	378.60	29.69	61	0.77	ND
	03/22/16	25.78	377.74	29.70	53	1.5	ND
	06/21/16	24.98	378.54	29.70	65	<0.5	ND
	09/27/16	24.74	378.78	29.71	20	<0.5	ND
	12/29/16	26.54	376.98	29.70	9.6	<0.5	ND
	3/20/17	25.00	378.52	27.33	<0.5	<0.5	ND
	6/20/17	24.79	378.73	27.28	63	<0.5	ND
MW10	03/22/12	23.13	380.46	29.16	240	<0.5	ND
403.59	06/27/12	23.24	380.35	29.15	1500	<0.5	ND
	09/28/12	23.26	380.33	29.15	840	<0.5	ND
	12/20/12	---	---	21.44	Dry	---	---
	03/19/13	---	---	21.48	Dry	---	---
	06/12/13	---	---	19.45	Dry	---	---
	09/25/13	---	---	19.48	Dry	---	---
	03/21/14	---	---	19.40	Dry	---	---
	06/16/14	---	---	21.51	Dry	---	---
	09/26/14	---	---	21.55	Dry	---	---
	12/29/14	---	---	21.53	Dry	---	---
	03/26/15	---	---	21.50	Dry	---	---
	06/30/15	---	---	21.48	Dry	---	---
	09/29/15	---	---	21.17	Dry	---	---
	12/29/15	---	---	21.20	Dry	---	---
	03/22/16	---	---	21.20	Dry	---	---
	06/21/16	---	---	21.18	Dry	---	---
	09/27/16	---	---	21.20	Dry	---	---
	12/29/16	---	---	21.20	Dry	---	---
	3/20/17	---	---	24.80	Dry	---	---
	6/20/17	---	---	24.62	Dry	---	---

TABLE 4
Summary of In-Situ Groundwater Sampling Results (µg/L)

Probe ID	Screen Interval	BDCM	Bromoform	Chloroform	DBCM	CTC	PCE	TCE	Other VOC
Sampled May 2017									
GW1	29-32 ft	13	1.3	31	3.2	ND<0.5	ND<0.5	ND<0.5	ND
GW1	29-32 ft (Dup.)	10	0.65	21	3.0	ND<0.5	1.1	ND<0.5	ND
GW2	29-32 ft	5.5	ND<0.5	26	1.7	ND<0.5	ND<0.5	ND<0.5	ND
GW3	24-27 ft	13	ND<0.5	30	3.1	ND<0.5	ND<0.5	ND<0.5	ND
GW3	29-32 ft	15	ND<0.5	26	4.5	ND<0.5	ND<0.5	ND<0.5	ND
GW3	40-44 ft	13	0.99	25	4.1	ND<0.5	ND<0.5	ND<0.5	ND
GW4	29-32 ft	17	ND<0.5	31	4.8	0.56	ND<0.5	ND<0.5	ND
GW4	40-44 ft	13	ND<0.5	25	3.9	ND<0.5	ND<0.5	ND<0.5	ND
GW5	24-27 ft	12	ND<0.5	26	3.2	0.52	1.3	ND<0.5	ND
GW5	40-44 ft	14	ND<0.5	27	4.1	ND<0.5	ND<0.5	ND<0.5	ND
GW6	29-32 ft	16	0.53	31	4.6	0.56	1.1	ND<0.5	ND
GW6	40-44 ft	12	ND<0.5	21	3.3	ND<0.5	4.2	ND<0.5	ND
GW7	28-32 ft	13	ND<0.5	25	4.0	ND<0.5	ND<0.5	ND<0.5	ND
GW9	24-27 ft	10	0.53	20	3.0	ND<0.5	33	ND<0.5	ND
GW9	29-32 ft	15	ND<0.5	28	4.3	ND<0.5	ND<0.5	ND<0.5	ND
GW9	29-32 ft (Dup.)	14	ND<0.5	25	4.0	ND<0.5	ND<0.5	ND<0.5	ND
GW10	28-32 ft	13	ND<0.5	25	3.6	ND<0.5	ND<0.5	ND<0.5	ND
GW11	28-32 ft	13	ND<0.5	26	3.7	ND<0.5	ND<0.5	ND<0.5	ND
GW12	28-32 ft	13	ND<0.5	27	3.6	ND<0.5	ND<0.5	ND<0.5	ND
MCL		***--***	***--***	***--***	***--***	***0.5***	***5***	***5***	***--***

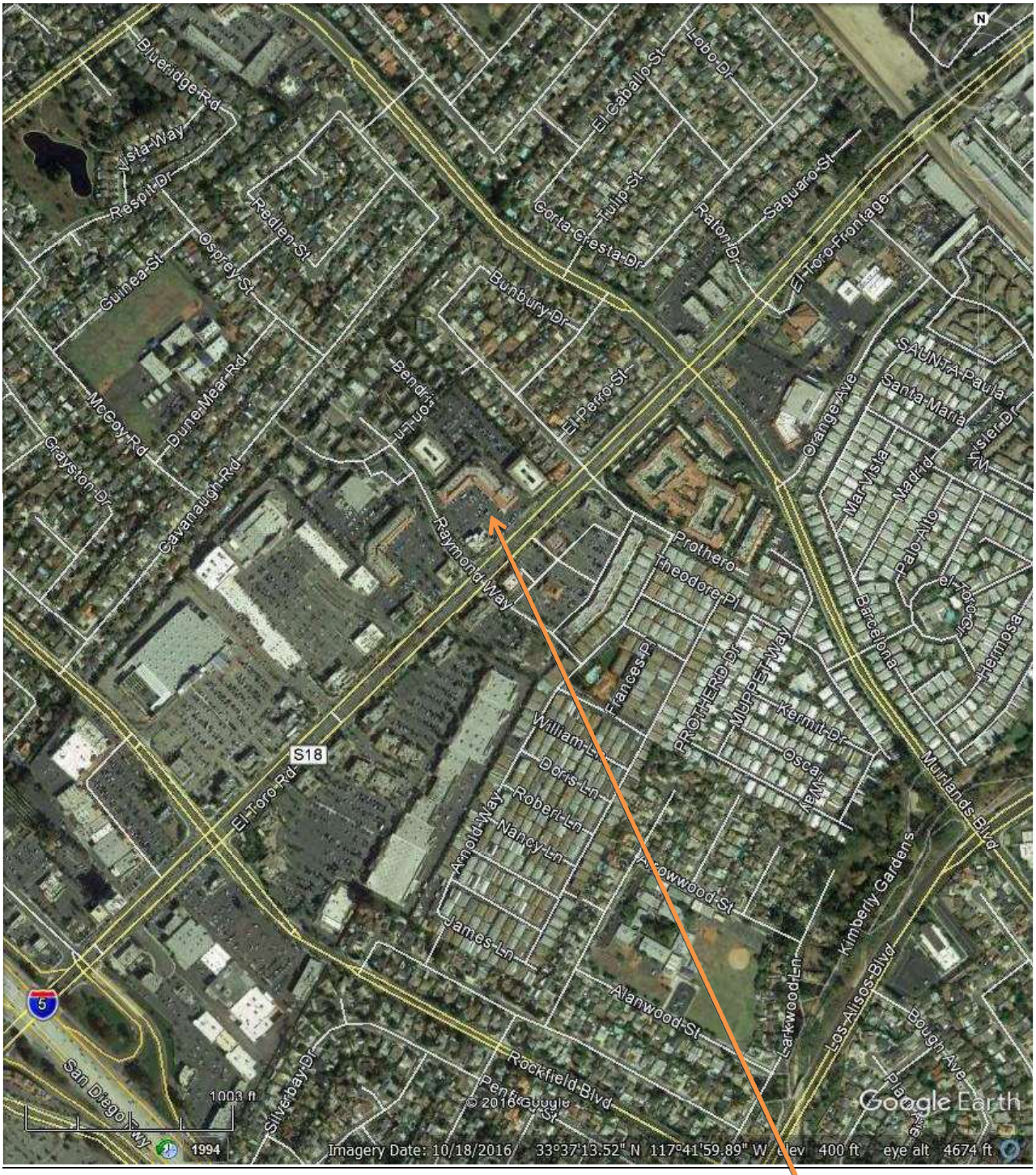
Notes: ND - Not Detected. Maximum Contaminant Levels (MCL) based on California MCL List updated July 22, 2016. Disinfection products bromodichloromethane (BDCM), bromoform, chloroform, and dibromochloromethane (DBCM) do not have California MCLs. Please refer to laboratory report for complete results.

TABLE 5
Summary of Soil Gas Sampling Results (µg/L)

Sample ID	Toluene	cis 1,2 DCE	TCE	PCE	Other VOC
Sampled June 28-30, 2017					
VP1-5	ND<0.05	ND<0.05	ND<0.05	0.16	ND
VP1-10	0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP1-15	ND<0.05	ND<0.05	ND<0.05	0.13	ND
VP2-5	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP2-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP2-15	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-5	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-15	ND<0.05	ND<0.05	ND<0.05	0.51	ND
VP4-5	ND<0.05	ND<0.05	ND<0.05	0.47	ND
VP4-10	ND<0.05	ND<0.05	ND<0.05	0.15	ND
VP4-15	ND<0.05	ND<0.05	ND<0.05	7.9	ND
VP5-5	ND<0.05	ND<0.05	ND<0.05	0.86	ND
VP5-10	0.28	ND<0.05	ND<0.05	ND<0.05	ND
VP5-15	ND<0.05	ND<0.05	ND<0.05	3.7	ND
VP6-5	No	Probe			
VP6-10	ND<0.05	ND<0.05	ND<0.05	16	ND
VP6-15	ND<0.05	ND<0.05	ND<0.05	35	ND
VP7-5	ND<0.05	0.33	0.60	13	ND
VP7-10	ND<0.05	0.10	0.23	0.57	ND
VP7-15	ND<0.05	0.09	0.08	4.1	ND
VP8-5	ND<0.05	ND<0.05	0.09	6.2	ND
VP8-10	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP8-15	ND<0.05	ND<0.05	ND<0.05	0.12	ND
VP9-5	0.15	ND<0.05	ND<0.05	1.1	ND
VP9-10	0.20	ND<0.05	ND<0.05	0.12	ND
VP9-15	ND<0.05	ND<0.05	ND<0.05	0.10	ND
VP10-5	ND<0.05	ND<0.05	ND<0.05	0.05	ND
VP10-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP10-15	ND<0.05	ND<0.05	ND<0.05	0.05	ND
VP11-5	ND<0.05	ND<0.05	ND<0.05	0.13	ND
VP11-10	ND<0.05	ND<0.05	ND<0.05	0.15	ND
VP11-15	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP12-5	0.12	ND<0.05	ND<0.05	ND<0.05	ND
VP12-10	0.36	ND<0.05	ND<0.05	0.15	ND
VP12-15	ND<0.05	ND<0.05	ND<0.05	0.21	ND
Residential RSL	***155****	***4.15****	***0.24***	***0.24****	--
Commercial RSL	***1,300****	***35****	***3.0***	***2.1****	--

*Notes: ND - Not Detected. EPA Region 9 Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA and DTSC to determine Health Risk in residential and commercial settings. *-Values modified for California by DTSC HHRA Note 3. Screening levels for soil gas calculated using indoor air values and attenuation factors provided by DTSC. No Other VOC detected. Refer to laboratory report for complete results.*

FIGURES



SITE

FIGURE 1

SITE VICINITY MAP
CARLEN PLAZA SHOPPING CENTER
24601 Raymond Way
Lake Forest, California

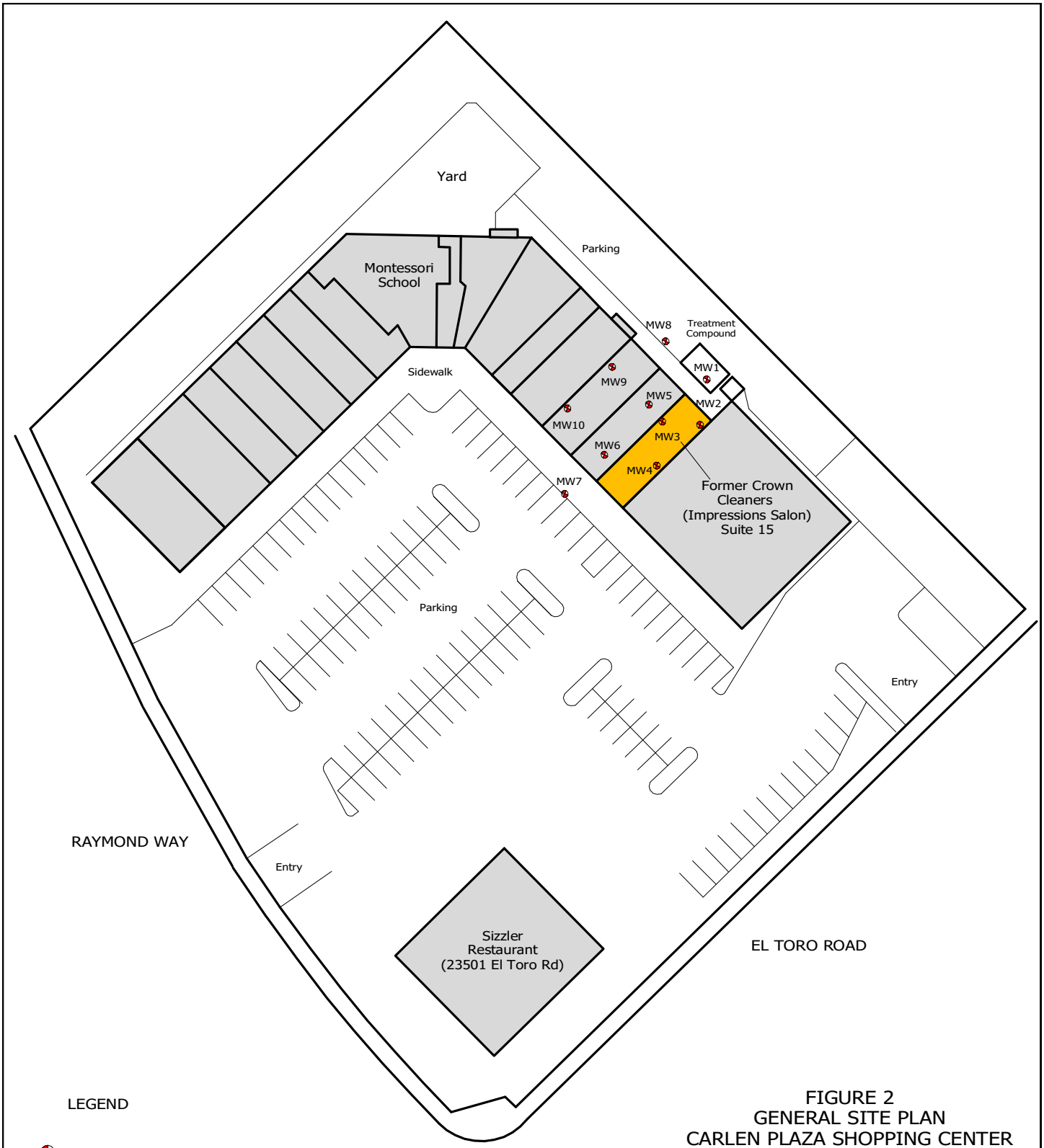
GSA ENGINEERING, INC.

Approx. Scale: 1”=400’

FIGURE 1A

LOCATIONS OF DRY CLEANERS IN VICINITY
FORMER CROWN CLEANERS SITE
24601 Raymond Way
Lake Forest, California

GSA ENGINEERING, INC.



LEGEND

Groundwater Monitoring Wells

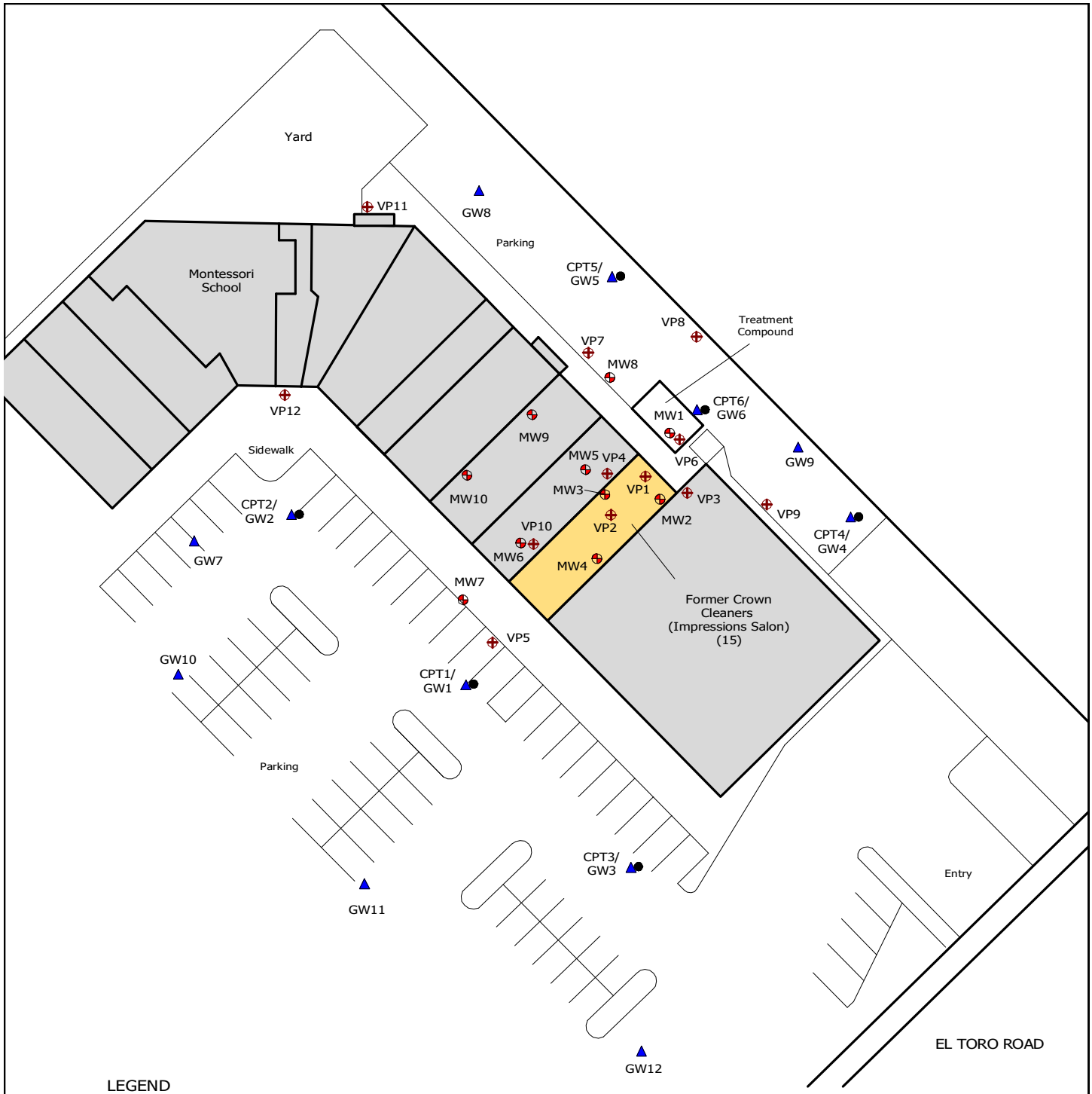
FIGURE 2
GENERAL SITE PLAN
CARLEN PLAZA SHOPPING CENTER
24601 Raymond Way
Lake Forest, California

GSA ENGINEERING, INC.

N

APPROXIMATE SCALE IN FEET

0 70 140



LEGEND

- Groundwater Monitoring Wells
- CPT Borings
- In-Situ Groundwater Samples
- Soil Gas Probes

FIGURE 3A
GENERAL SITE PLAN
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

GSA ENGINEERING, INC.

N

APPROXIMATE SCALE IN FEET

0 50 100

LEGEND

- Groundwater Monitoring Wells
- Soil Borings (LJA 2010)
- Soil Borings (Avalon)
- Soil Gas Probes/Borings (GSA 2017)

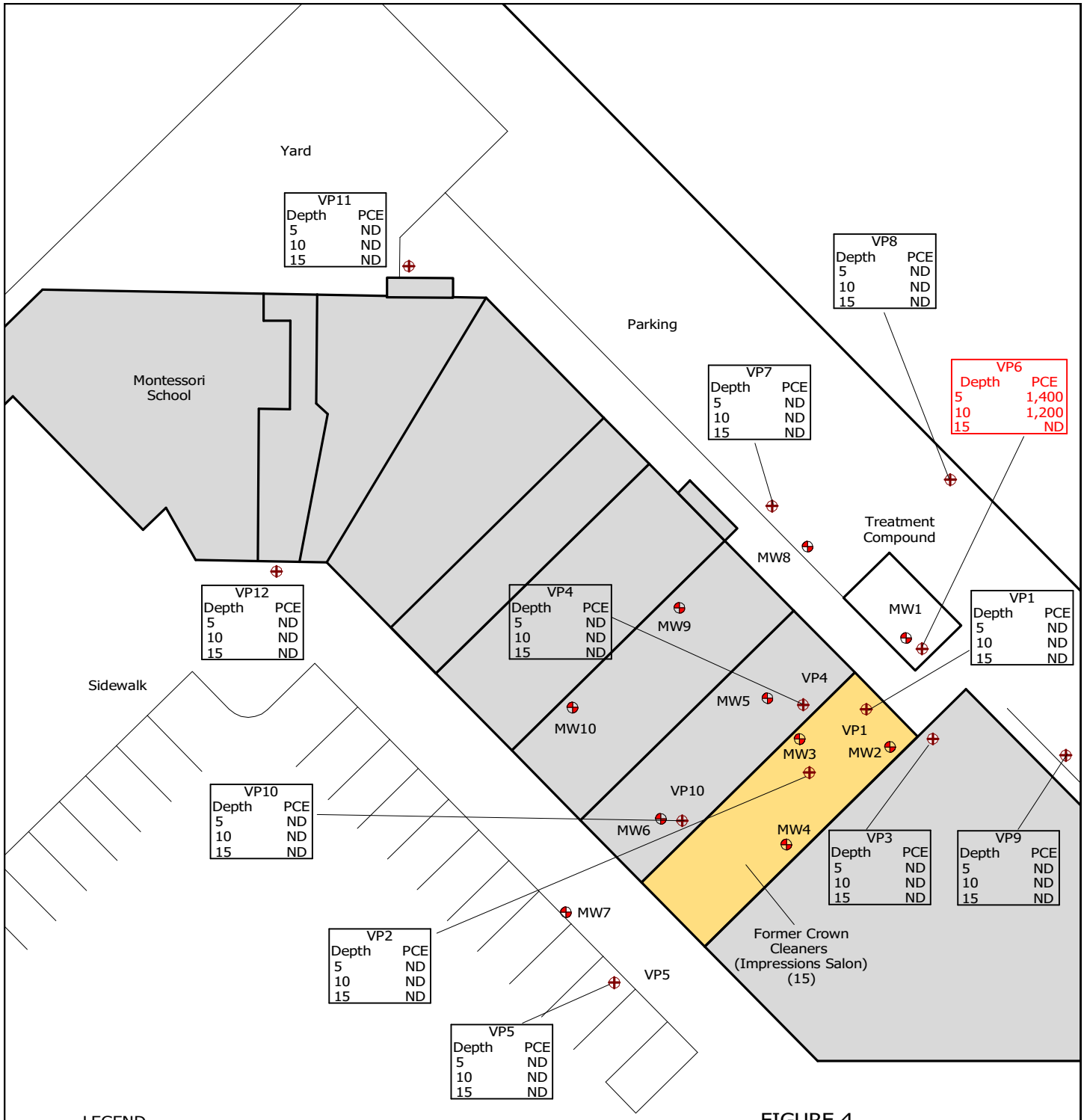
FIGURE 3B
AREA DETAIL
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

GSA ENGINEERING, INC.

N

APPROXIMATE SCALE IN FEET

0 15 30



LEGEND

Groundwater Monitoring Wells

Soil Borings/Soil Gas Probes

FIGURE 4
CURRENT DISTRIBUTION OF PCE IN SOIL
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

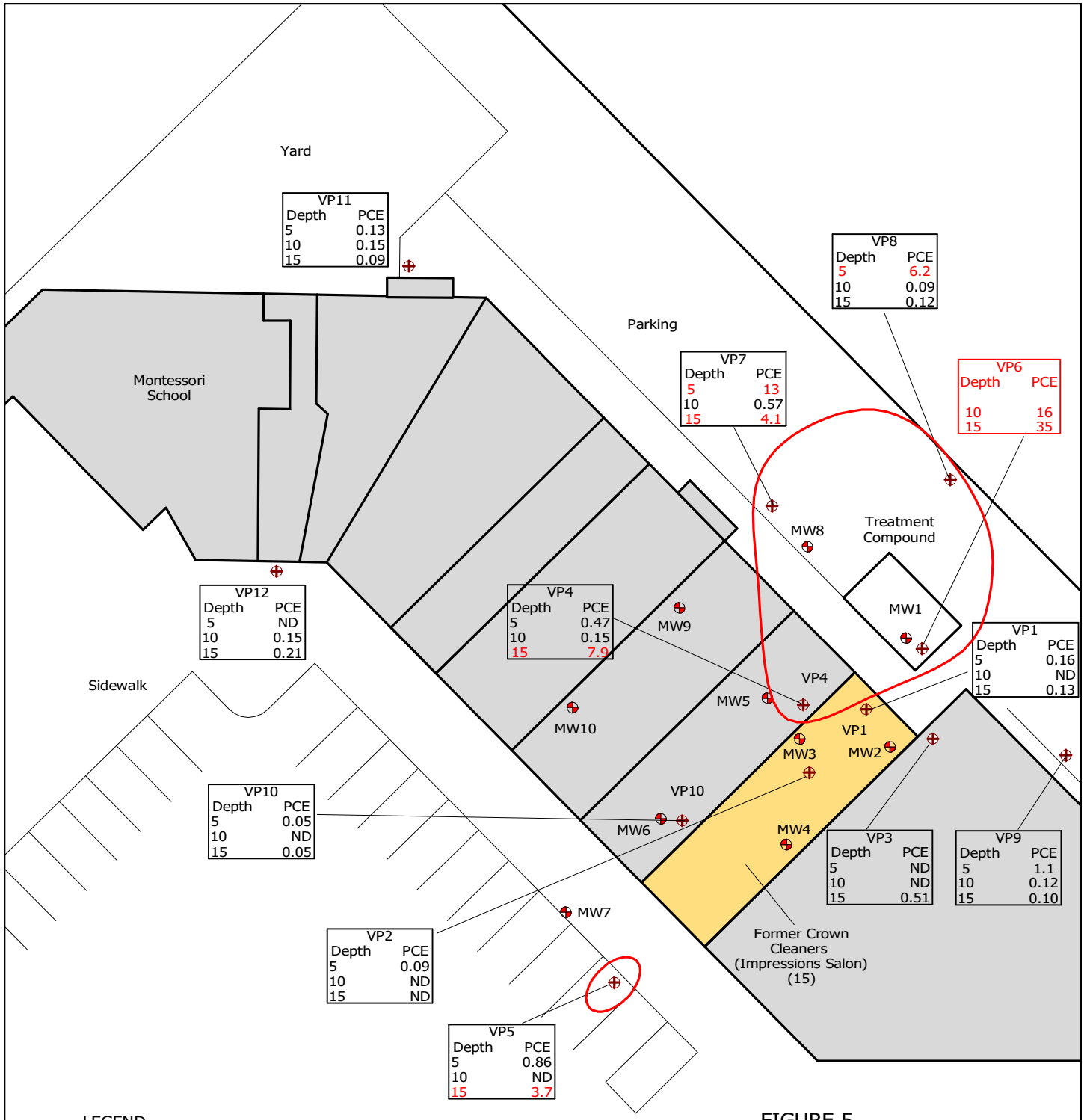
PCE Concentrations in Soil Media Shown in ug/Kg (June 2017).

GSA ENGINEERING, INC.

N

APPROXIMATE SCALE IN FEET

0 30 60



LEGEND

Groundwater Monitoring Wells

Soil Borings/Soil Gas Probes

FIGURE 5
CURRENT DISTRIBUTION OF PCE IN SOIL GAS
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

PCE Concentrations in Soil Gas Media Shown in ug/L (June 2017).

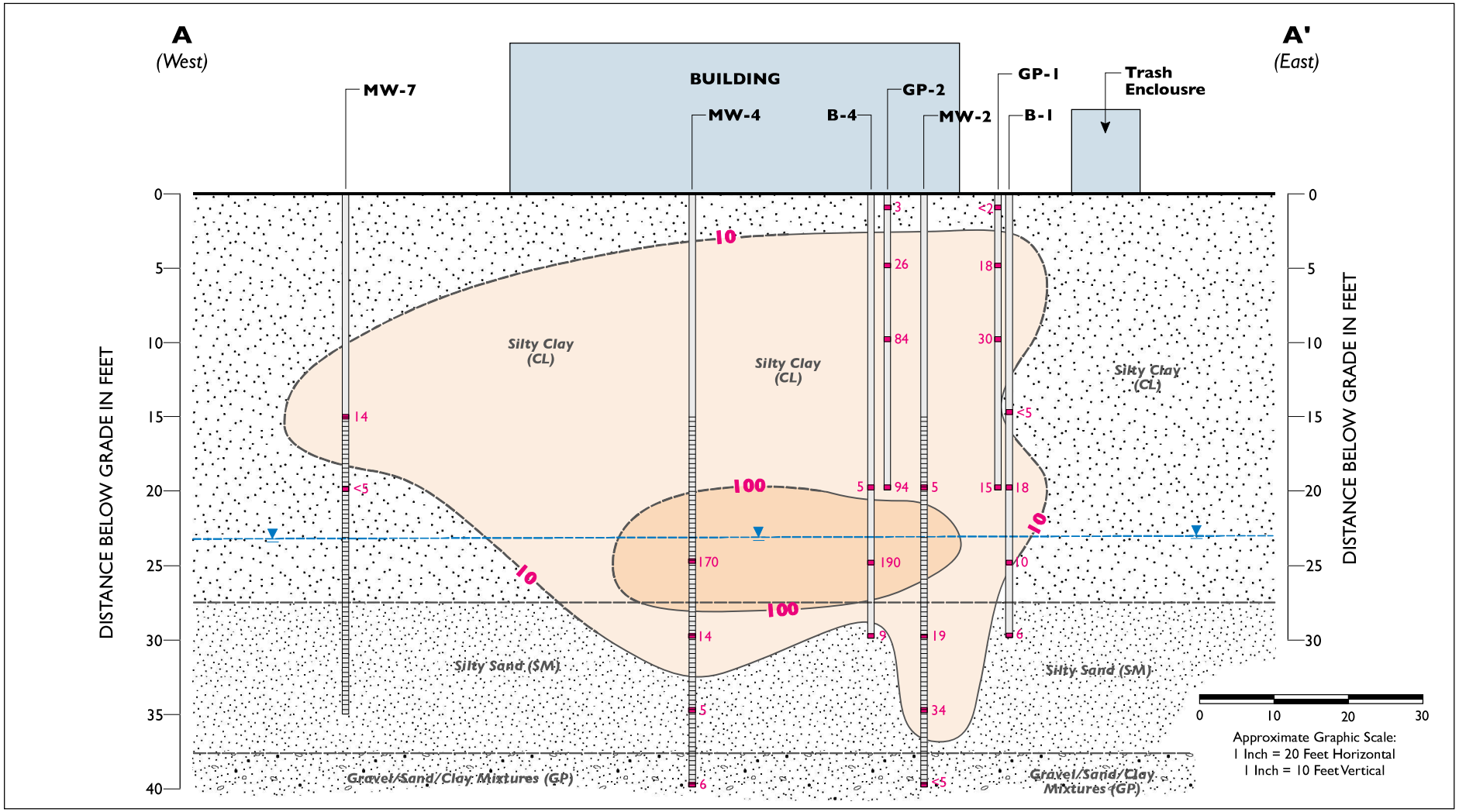
GSA ENGINEERING, INC.

N

APPROXIMATE SCALE IN FEET

0 30 60

APPENDIX A



EXPLANATION

- MW-7 — Groundwater monitoring well with screen interval indicated
- Groundwater level
- Geologic contact line
- 10 — Contour line represents equal concentration of PCE in micrograms per kilogram (µg/kg), dashed where interpreted
- 190 — PCE concentration in Micrograms per kilogram (µg/kg)

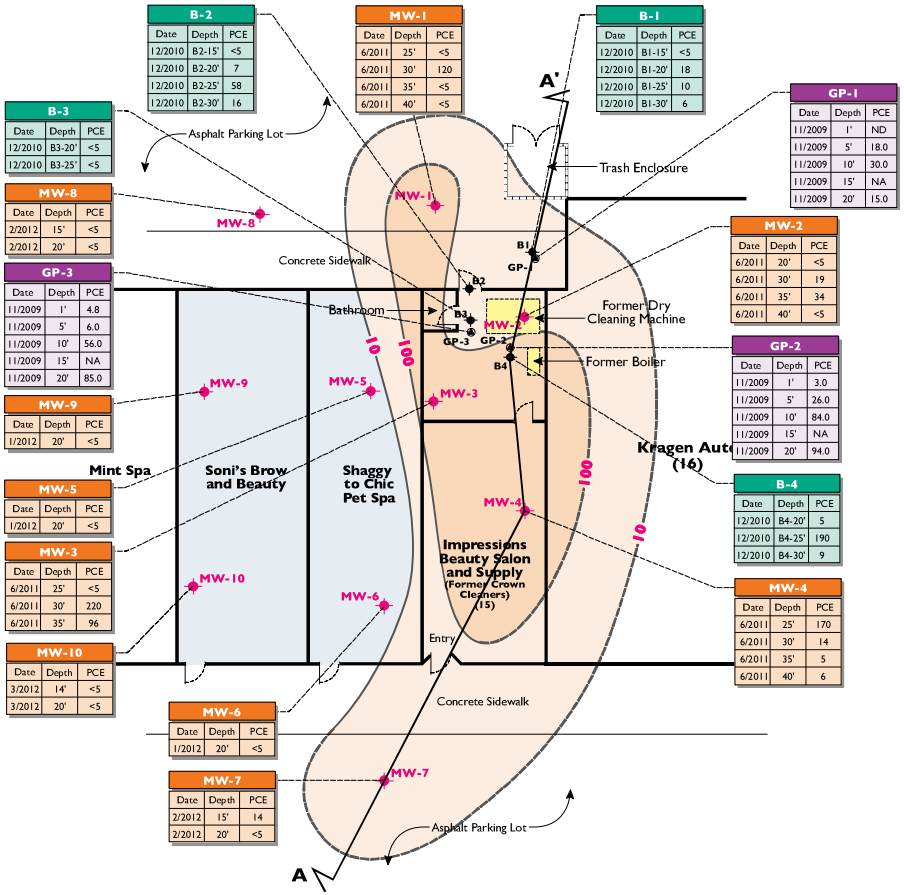
L. JOSEPH ASSOCIATES, LLC
Environmental Consultants

Client:
Former Crown Cleaners
24601 Raymond Way, Suite 15
Lake Forest, California

GEOLOGIC CROSS SECTION A-A'

Plate 4

Drawn By: H.L.	Approved By: H.H.	Project Number: 01915	Date: November 2016



B-2		
Date	Depth	PCE
12/2010	B2-15'	<5
12/2010	B2-20'	7
12/2010	B2-25'	58
12/2010	B2-30'	16

MW-1		
Date	Depth	PCE
6/2011	25'	<5
6/2011	30'	120
6/2011	35'	<5
6/2011	40'	<5

B-1		
Date	Depth	PCE
12/2010	B1-15'	<5
12/2010	B1-20'	18
12/2010	B1-25'	10
12/2010	B1-30'	6

GP-1		
Date	Depth	PCE
11/2009	1'	ND
11/2009	5'	18.0
11/2009	10'	30.0
11/2009	15'	NA
11/2009	20'	15.0

B-3		
Date	Depth	PCE
12/2010	B3-20'	<5
12/2010	B3-25'	<5

MW-8		
Date	Depth	PCE
2/2012	15'	<5
2/2012	20'	<5

GP-3		
Date	Depth	PCE
11/2009	1'	4.8
11/2009	5'	6.0
11/2009	10'	56.0
11/2009	15'	NA
11/2009	20'	85.0

MW-9		
Date	Depth	PCE
1/2012	20'	<5

MW-2		
Date	Depth	PCE
6/2011	20'	<5
6/2011	30'	19
6/2011	35'	34
6/2011	40'	<5

GP-2		
Date	Depth	PCE
11/2009	1'	3.0
11/2009	5'	26.0
11/2009	10'	84.0
11/2009	15'	NA
11/2009	20'	94.0

MW-5		
Date	Depth	PCE
1/2012	20'	<5

B-4		
Date	Depth	PCE
12/2010	B4-20'	5
12/2010	B4-25'	190
12/2010	B4-30'	9

MW-3		
Date	Depth	PCE
6/2011	25'	<5
6/2011	30'	220
6/2011	35'	96

MW-4		
Date	Depth	PCE
6/2011	25'	170
6/2011	30'	14
6/2011	35'	5
6/2011	40'	6

MW-10		
Date	Depth	PCE
3/2012	14'	<5
3/2012	20'	<5

MW-6		
Date	Depth	PCE
1/2012	20'	<5

MW-7		
Date	Depth	PCE
2/2012	15'	14
2/2012	20'	<5

EXPLANATION

MW-10 — Location and designation of monitoring well by L. Joseph Associates, LLC.

B4 — Location and designation of soil boring by L. Joseph Associates, LLC, December 3, 2010.

GP-3 — Location and designation of previous soil boring by Avalon Environmental Consultants.

100 — Contour of PCE concentration in micrograms per kilogram (µg/kg). Dashed where inferred.

A' — Geologic cross section (See figure 4)

GP-3		
Date	Depth	PCE
11/2009	1'	4.8
11/2009	5'	6.0
11/2009	10'	56.0
11/2009	15'	NA
11/2009	20'	85.0

Location and designation of analyte result as reported by Avalon Environmental Consultants, with PCE concentration at specified depth in parts per billion (ppb). ND indicates non-detect at laboratory detection level and NA indicates not analyzed.

B-4		
Date	Depth	PCE
12/2010	B4-20'	5
12/2010	B4-25'	190
12/2010	B4-30'	9

Location and designation of analyte result as reported by L. Joseph Associates, LLC, with PCE concentration at specified depth in micrograms per kilogram (µg/kg).

MW-10		
Date	Depth	PCE
3/2012	14'	<5
3/2012	20'	<5

Location and designation of analyte result as reported by L. Joseph Associates, LLC, with PCE concentration at specified depth in micrograms per kilogram (µg/kg).

Notes:
1. All locations are approximate.
2. Base map is based on field visit on August 5, 2011.

0 10 20 30
Approximate Graphic Scale: One Inch Equals 20 Feet
North

L. JOSEPH ASSOCIATES, LLC
Environmental Consultants

Client:
Former Crown Cleaners
24601 Raymond Way, Suite 15
Lake Forest, California

SITE PLAN WITH PCE RESULTS IN SOIL

Plate 3

Drawn By: H.L.	Approved By: H.H.	Project Number: 01915	Date: November 2016

APPENDIX B

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP1

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP1-5	1400	CL	Silty CLAY; olive-brown, medium plasticity, no odor.
10	Sample Tip			VP1-10	1410	CL	Silty CLAY; olive-brown, medium plasticity, no odor.
15	Sample Tip			VP1-15	1425	SC	Clayey SAND; light brown, very fine grained, some silt, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP2

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP2-5	0800	CL	Silty CLAY; brown, medium plasticity, trace very fine sand, no odor.
10	Sample Tip			VP2-10	0815	CL	Silty CLAY; brown, low plasticity, 10% very fine sand, no odor.
15	Sample Tip			VP2-15	0830	SM	Silty SAND; light brown, very fine grained, some clay, loose, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP3

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP3-5	0655	CL	Silty CLAY; brown, medium plasticity, stiff, trace very fine sand, no odor.
10	Sample Tip			VP3-10	0720	CL	Silty CLAY; brown, low plasticity, trace very fine sand, stiff, no odor.
15	Sample Tip			VP3-15	0735	SM	Silty SAND; light brown, very fine grained, some clay, loose, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP4

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 21, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP4-5	0755	CL	Silty CLAY; tan, medium plasticity, very moist, no odor.
10	Sample Tip			VP4-10	0810	CL	Silty CLAY; gray-brown, medium plasticity, minor sand, no odor.
15	Sample Tip			VP4-15	0830	SC	Silty Clayey SAND; brown, very fine to fine grained, dry, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP5

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 21, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP5-5	1200	CL	Silty CLAY; light brown, medium plasticity, no odor.
8						SC	Changes to Clayey SAND
10	Sample Tip			VP5-10	1210	CL/SC	Silty CLAY; dark brown, medium plasticity, minor sand, no odor. Changes to Clayey SAND; at 12 feet.
12						SC	Changes to Clayey SAND
15	Sample Tip			VP5-15	1230	SM/CL	Silty SAND; light brown, very fine sand, loose, dry, no odor. Changes to Silty CLAY with very fine sand at 15 feet.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP6

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	**			VP6-5	1435	CL	Silty CLAY; light brown, medium plasticity, wet, no odor. Water standing in open borehole at 5 feet.
10	Sample Tip			VP6-10	1445	CL	Silty CLAY; dark brown, medium plasticity, very moist, no odor.
15	Sample Tip			VP6-15	1500	SC	Silty, Clayey SAND; light brown, very fine grained, dry, no odor. Install soil gas probes at 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling. **-Probe not set at 5 feet due to saturated soil, possibly from nearby surface water drain or sewer line.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP7

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP7-5	1030	CL	Silty CLAY; light brown, medium plasticity, very moist to wet, no odor.
10	Sample Tip			VP7-10	1040	CL	Silty CLAY; dark brown, medium plasticity, dry, no odor.
15	Sample Tip			VP7-15	1055	SC	Clayey SAND; brown, very fine grained, some silt, dry, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP8

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP8-5	1325	CL	Silty CLAY; light brown, medium plasticity, very moist, no odor.
10	Sample Tip			VP8-10	1335	CL	Silty CLAY; light brown, medium plasticity, moist, no odor.
15	Sample Tip			VP8-15	1355	CL/SM	Sandy CLAY; brown, low plasticity, 30-40% very fine sand, slightly moist, no odor, Thin 8" lens of brown silty sand.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP9

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 20, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP9-5	1550	SW	SAND; reddish brown, very fine to medium grained, poorly sorted with 10% fine gravel, dry, no odor.
2-6						SW	SAND; reddish brown, very fine to medium grained, poorly sorted with 10% fine gravel, dry, no odor.
6-7						SC	Clayey SAND; light gray-brown, very fine sand, loose, no odor.
7-8						CL	Sandy, Silty CLAY; gray-brown, low plasticity, very hard, no odor.
10	Sample Tip			VP9-10	1600	SC	Clayey SAND; gray-brown, very fine grained, interbedded lenses of Silty CLAY; brown, dense, very moist, no odor.
8-13						SC	Clayey SAND; gray-brown, very fine grained, wet, with interbedded lenses of Silty CLAY; brown, dense, no odor.
14						SM	Silty SAND; brown, very fine to medium grained, loose, wet, no odor.
15	Sample Tip			VP9-15	1615	CL/SC	Silty CLAY; brown, low plasticity. Changes to Clayey SAND; brown, wet, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP10

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 21, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP10-5	0905	CL	Silty CLAY; brown, medium plasticity, some very fine sand, moist, no odor.
10	Sample Tip			VP10-10	0920	CL	Silty CLAY; brown, medium plasticity, some very fine sand, moist, no odor.
15	Sample Tip			VP10-15	0935	SM	Silty SAND; brown, very fine sand, loose, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP11

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 21, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP11-5	1100	CL	Silty CLAY; light brown, medium plasticity, trace very fine sand, no odor.
10	Sample Tip			VP11-10	1110	CL	Silty CLAY; dark brown, medium plasticity, some very fine sand, no odor.
15	Sample Tip			VP11-15	1125	SM	Silty SAND; light brown, very fine sand, some clay, loose, moist, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG

GSA ENGINEERING, INC.

BORING/WELL NUMBER VP12

PROJECT Former Crown Cleaners
OWNER
LOCATION 24601 Raymond Way, Lake Forest, CA
PROJECT NUMBER
DATE DRILLED June 21, 2017
TOTAL DEPTH OF HOLE 15 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Interphase
DRILL METHOD GeoProbe
DRILLER
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME	(USCS)	
5	Sample Tip			VP12-5	0955	CL	Silty CLAY; light brown, medium plasticity, trace very fine sand, wet, no odor.
10	Sample Tip			VP12-10	1005	CL	Silty CLAY; dark brown, medium plasticity, some very fine sand, slightly moist, no odor.
15	Sample Tip			VP12-15	1015	SM	Silty SAND; light brown, very fine sand, some clay, loose, moist, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

APPENDIX C

ADVANCED TECHNOLOGY LABORATORIES

June 28, 2017

Dan Louks
GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272
Tel: (310) 459-7320
Fax:

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702373
Client Reference : Former Crown Cleaners

Enclosed are the results for sample(s) received on June 20, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP1-5	1702373-01	Soil	6/20/17 14:00	6/20/17 18:05
VP1-10	1702373-02	Soil	6/20/17 14:10	6/20/17 18:05
VP1-15	1702373-03	Soil	6/20/17 14:25	6/20/17 18:05
VP2-5	1702373-04	Soil	6/20/17 8:00	6/20/17 18:05
VP2-10	1702373-05	Soil	6/20/17 8:15	6/20/17 18:05
VP2-15	1702373-06	Soil	6/20/17 8:30	6/20/17 18:05
VP3-5	1702373-07	Soil	6/20/17 6:55	6/20/17 18:05
VP3-10	1702373-08	Soil	6/20/17 7:20	6/20/17 18:05
VP3-15	1702373-09	Soil	6/20/17 7:35	6/20/17 18:05
VP6-5	1702373-10	Soil	6/20/17 14:35	6/20/17 18:05
VP6-10	1702373-11	Soil	6/20/17 14:45	6/20/17 18:05
VP6-15	1702373-12	Soil	6/20/17 15:00	6/20/17 18:05
VP7-5	1702373-13	Soil	6/20/17 10:30	6/20/17 18:05
VP7-10	1702373-14	Soil	6/20/17 10:40	6/20/17 18:05
VP7-15	1702373-15	Soil	6/20/17 10:55	6/20/17 18:05
VP8-5	1702373-16	Soil	6/20/17 13:25	6/20/17 18:05
VP8-10	1702373-17	Soil	6/20/17 13:35	6/20/17 18:05
VP8-15	1702373-18	Soil	6/20/17 13:55	6/20/17 18:05
VP9-5	1702373-19	Soil	6/20/17 15:50	6/20/17 18:05
VP9-10	1702373-20	Soil	6/20/17 16:00	6/20/17 18:05
VP9-15	1702373-21	Soil	6/20/17 16:15	6/20/17 18:05

CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP1-5

Lab ID: 1702373-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,1-Trichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,2,2-Tetrachloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,2-Trichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,3-Trichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,3-Trichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,4-Trichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,4-Trimethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dibromo-3-chloropropane	ND	8.2	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dibromoethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3,5-Trimethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,4-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
2,2-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
2-Chlorotoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
4-Chlorotoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
4-Isopropyltoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Benzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromochloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromodichloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromoform	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromomethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Carbon disulfide	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Carbon tetrachloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloroform	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
cis-1,2-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP1-5

Lab ID: 1702373-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Di-isopropyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dibromochloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dibromomethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dichlorodifluoromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl Acetate	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl Ether	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl tert-butyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Freon-113	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Hexachlorobutadiene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Isopropylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
m,p-Xylene	ND	8.2	1	B7F0438	06/21/2017	06/21/17 10:20	
Methylene chloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
MTBE	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
n-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
n-Propylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Naphthalene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
o-Xylene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
sec-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Styrene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Amyl methyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Butanol	ND	82	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Tetrachloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Toluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
trans-1,2-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
trans-1,3-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Trichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Trichlorofluoromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Vinyl acetate	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Vinyl chloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Surrogate: 1,2-Dichloroethane-d4	*96.2 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 10:20*	
Surrogate: 4-Bromofluorobenzene	*92.6 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 10:20*	
Surrogate: Dibromofluoromethane	*106 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 10:20*	
Surrogate: Toluene-d8	*101 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 10:20*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP1-10

Lab ID: 1702373-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dibromo-3-chloropropane	ND	7.7	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP1-10
Lab ID: 1702373-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
m,p-Xylene	ND	7.7	1	B7F0438	06/21/2017	06/21/17 10:39	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Butanol	ND	77	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Surrogate: 1,2-Dichloroethane-d4	*99.0 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 10:39*	
Surrogate: 4-Bromofluorobenzene	*94.6 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 10:39*	
Surrogate: Dibromofluoromethane	*107 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 10:39*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 10:39*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP1-15
Lab ID: 1702373-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,1-Trichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,2-Trichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,3-Trichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,3-Trichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,4-Trichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,4-Trimethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dibromo-3-chloropropane	ND	9.5	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dibromoethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3,5-Trimethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,4-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
2,2-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
2-Chlorotoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
4-Chlorotoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
4-Isopropyltoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Benzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromochloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromodichloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromoform	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromomethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Carbon disulfide	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Carbon tetrachloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloroform	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
cis-1,2-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP1-15
Lab ID: 1702373-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Di-isopropyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dibromochloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dibromomethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dichlorodifluoromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl Acetate	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl Ether	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl tert-butyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Freon-113	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Hexachlorobutadiene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Isopropylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
m,p-Xylene	ND	9.5	1	B7F0438	06/21/2017	06/21/17 10:57	
Methylene chloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
MTBE	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
n-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
n-Propylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Naphthalene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
o-Xylene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
sec-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Styrene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Amyl methyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Butanol	ND	95	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Tetrachloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Toluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
trans-1,2-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
trans-1,3-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Trichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Trichlorofluoromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Vinyl acetate	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Vinyl chloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 10:57*	
Surrogate: 4-Bromofluorobenzene	*93.0 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 10:57*	
Surrogate: Dibromofluoromethane	*105 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 10:57*	
Surrogate: Toluene-d8	*104 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 10:57*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP2-5

Lab ID: 1702373-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,1-Trichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,2,2-Tetrachloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,2-Trichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,3-Trichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,3-Trichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,4-Trichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,4-Trimethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dibromo-3-chloropropane	ND	7.3	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dibromoethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3,5-Trimethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,4-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
2,2-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
2-Chlorotoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
4-Chlorotoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
4-Isopropyltoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Benzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromochloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromodichloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromoform	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromomethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Carbon disulfide	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Carbon tetrachloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloroform	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
cis-1,2-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP2-5
Lab ID: 1702373-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Di-isopropyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dibromochloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dibromomethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dichlorodifluoromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl Acetate	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl Ether	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl tert-butyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Freon-113	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Hexachlorobutadiene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Isopropylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
m,p-Xylene	ND	7.3	1	B7F0438	06/21/2017	06/21/17 11:16	
Methylene chloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
MTBE	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
n-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
n-Propylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Naphthalene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
o-Xylene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
sec-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Styrene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Amyl methyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Butanol	ND	73	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Tetrachloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Toluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
trans-1,2-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
trans-1,3-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Trichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Trichlorofluoromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Vinyl acetate	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Vinyl chloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Surrogate: 1,2-Dichloroethane-d4	*96.2 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 11:16*	
Surrogate: 4-Bromofluorobenzene	*92.0 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 11:16*	
Surrogate: Dibromofluoromethane	*108 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 11:16*	
Surrogate: Toluene-d8	*104 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 11:16*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP2-10

Lab ID: 1702373-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP2-10
Lab ID: 1702373-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 11:35	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 11:35*	
Surrogate: 4-Bromofluorobenzene	*94.3 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 11:35*	
Surrogate: Dibromofluoromethane	*109 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 11:35*	
Surrogate: Toluene-d8	*111 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 11:35*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP2-15

Lab ID: 1702373-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,1-Trichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,2-Trichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,3-Trichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,3-Trichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,4-Trichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,4-Trimethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dibromoethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3,5-Trimethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,4-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
2,2-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
2-Chlorotoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
4-Chlorotoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
4-Isopropyltoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Benzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromochloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromodichloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromoform	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromomethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Carbon disulfide	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Carbon tetrachloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloroform	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
cis-1,2-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP2-15
Lab ID: 1702373-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Di-isopropyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dibromochloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dibromomethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dichlorodifluoromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl Acetate	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl Ether	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl tert-butyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Freon-113	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Hexachlorobutadiene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Isopropylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
m,p-Xylene	ND	10	1	B7F0438	06/21/2017	06/21/17 11:53	
Methylene chloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
MTBE	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
n-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
n-Propylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Naphthalene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
o-Xylene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
sec-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Styrene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Amyl methyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Butanol	ND	100	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Tetrachloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Toluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
trans-1,2-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
trans-1,3-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Trichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Trichlorofluoromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Vinyl acetate	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Vinyl chloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Surrogate: 1,2-Dichloroethane-d4	*93.3 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 11:53*	
Surrogate: 4-Bromofluorobenzene	*91.3 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 11:53*	
Surrogate: Dibromofluoromethane	*112 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 11:53*	
Surrogate: Toluene-d8	*106 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 11:53*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP3-5

Lab ID: 1702373-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,1-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,2,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,2-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,3-Trichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,3-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,4-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,4-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dibromo-3-chloropropane	ND	7.0	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dibromoethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3,5-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,4-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
2,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
2-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
4-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
4-Isopropyltoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Benzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromodichloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromoform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Carbon disulfide	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Carbon tetrachloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloroform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
cis-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP3-5

Lab ID: 1702373-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Di-isopropyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dibromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dibromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dichlorodifluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl Acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl Ether	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl tert-butyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Freon-113	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Hexachlorobutadiene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Isopropylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
m,p-Xylene	ND	7.0	1	B7F0438	06/21/2017	06/21/17 12:12	
Methylene chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
MTBE	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
n-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
n-Propylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Naphthalene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
o-Xylene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
sec-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Styrene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Amyl methyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Butanol	ND	70	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Tetrachloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Toluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
trans-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
trans-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Trichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Trichlorofluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Vinyl acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Vinyl chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 12:12*	
Surrogate: 4-Bromofluorobenzene	*94.2 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 12:12*	
Surrogate: Dibromofluoromethane	*108 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 12:12*	
Surrogate: Toluene-d8	*95.9 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 12:12*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP3-10

Lab ID: 1702373-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,1-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,2,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,2-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,3-Trichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,3-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,4-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,4-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dibromo-3-chloropropane	ND	7.1	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dibromoethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3,5-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,4-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
2,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
2-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
4-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
4-Isopropyltoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Benzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromodichloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromoform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Carbon disulfide	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Carbon tetrachloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloroform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
cis-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP3-10
Lab ID: 1702373-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Di-isopropyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dibromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dibromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dichlorodifluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl Acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl Ether	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl tert-butyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Freon-113	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Hexachlorobutadiene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Isopropylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
m,p-Xylene	ND	7.1	1	B7F0438	06/21/2017	06/21/17 12:30	
Methylene chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
MTBE	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
n-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
n-Propylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Naphthalene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
o-Xylene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
sec-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Styrene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Amyl methyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Butanol	ND	71	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Tetrachloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Toluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
trans-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
trans-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Trichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Trichlorofluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Vinyl acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Vinyl chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 12:30*	
Surrogate: 4-Bromofluorobenzene	*92.7 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 12:30*	
Surrogate: Dibromofluoromethane	*110 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 12:30*	
Surrogate: Toluene-d8	*104 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 12:30*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP3-15

Lab ID: 1702373-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,1-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,2-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,3-Trichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,3-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,4-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,4-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dibromo-3-chloropropane	ND	8.8	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dibromoethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3,5-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,4-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
2,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
2-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
4-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
4-Isopropyltoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Benzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromodichloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromoform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Carbon disulfide	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Carbon tetrachloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloroform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
cis-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP3-15
Lab ID: 1702373-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Di-isopropyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dibromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dibromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dichlorodifluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl Acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl Ether	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl tert-butyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Freon-113	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Hexachlorobutadiene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Isopropylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
m,p-Xylene	ND	8.8	1	B7F0438	06/21/2017	06/21/17 12:49	
Methylene chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
MTBE	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
n-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
n-Propylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Naphthalene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
o-Xylene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
sec-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Styrene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Amyl methyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Butanol	ND	88	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Tetrachloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Toluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
trans-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
trans-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Trichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Trichlorofluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Vinyl acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Vinyl chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 12:49*	
Surrogate: 4-Bromofluorobenzene	*92.2 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 12:49*	
Surrogate: Dibromofluoromethane	*108 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 12:49*	
Surrogate: Toluene-d8	*103 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 12:49*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-5

Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,1-Trichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,2,2-Tetrachloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,2-Trichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,3-Trichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,3-Trichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,4-Trichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,4-Trimethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dibromo-3-chloropropane	ND	7.9	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dibromoethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3,5-Trimethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,4-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
2,2-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
2-Chlorotoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
4-Chlorotoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
4-Isopropyltoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Benzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromochloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromodichloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromoform	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromomethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Carbon disulfide	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Carbon tetrachloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloroform	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
cis-1,2-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-5
Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Di-isopropyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dibromochloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dibromomethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dichlorodifluoromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl Acetate	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl Ether	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl tert-butyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Freon-113	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Hexachlorobutadiene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Isopropylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
m,p-Xylene	ND	7.9	1	B7F0438	06/21/2017	06/21/17 13:08	
Methylene chloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
MTBE	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
n-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
n-Propylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Naphthalene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
o-Xylene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
sec-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Styrene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Amyl methyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Butanol	ND	79	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Tetrachloroethene	**1400**	190	50	B7F0457	06/21/2017	06/22/17 14:35	
Toluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
trans-1,2-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
trans-1,3-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Trichloroethene	**4.9**	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Trichlorofluoromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Vinyl acetate	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Vinyl chloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Surrogate: 1,2-Dichloroethane-d4	*66.0 %*	*12 - 186*		B7F0457	06/21/2017	*06/22/17 14:35*	
Surrogate: 1,2-Dichloroethane-d4	*99.5 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 13:08*	
Surrogate: 4-Bromofluorobenzene	*91.6 %*	*23 - 162*		B7F0457	06/21/2017	*06/22/17 14:35*	
Surrogate: 4-Bromofluorobenzene	*93.6 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 13:08*	
Surrogate: Dibromofluoromethane	*118 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 13:08*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-5

Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*82.4 %*	*23 - 179*		B7F0457	06/21/2017	*06/22/17 14:35*	
Surrogate: Toluene-d8	*104 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 13:08*	
Surrogate: Toluene-d8	*99.0 %*	*26 - 164*		B7F0457	06/21/2017	*06/22/17 14:35*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-10

Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,1-Trichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,2,2-Tetrachloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,2-Trichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,3-Trichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,3-Trichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,4-Trichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,4-Trimethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dibromo-3-chloropropane	ND	6.6	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dibromoethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3,5-Trimethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,4-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
2,2-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
2-Chlorotoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
4-Chlorotoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
4-Isopropyltoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Benzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromochloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromodichloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromoform	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromomethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Carbon disulfide	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Carbon tetrachloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloroform	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
cis-1,2-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-10
Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Di-isopropyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dibromochloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dibromomethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dichlorodifluoromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl Acetate	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl Ether	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl tert-butyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Freon-113	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Hexachlorobutadiene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Isopropylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
m,p-Xylene	ND	6.6	1	B7F0438	06/21/2017	06/21/17 13:26	
Methylene chloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
MTBE	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
n-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
n-Propylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Naphthalene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
o-Xylene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
sec-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Styrene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Amyl methyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Butanol	ND	66	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Tetrachloroethene	**1200**	180	50	B7F0457	06/21/2017	06/22/17 14:54	
Toluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
trans-1,2-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
trans-1,3-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Trichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Trichlorofluoromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Vinyl acetate	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Vinyl chloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Surrogate: 1,2-Dichloroethane-d4	*66.6 %*	*12 - 186*		B7F0457	06/21/2017	*06/22/17 14:54*	
Surrogate: 1,2-Dichloroethane-d4	*114 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 13:26*	
Surrogate: 4-Bromofluorobenzene	*89.7 %*	*23 - 162*		B7F0457	06/21/2017	*06/22/17 14:54*	
Surrogate: 4-Bromofluorobenzene	*90.5 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 13:26*	
Surrogate: Dibromofluoromethane	*114 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 13:26*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-10

Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: Dibromofluoromethane	*82.7 %*	*23 - 179*		B7F0457	06/21/2017	*06/22/17 14:54*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7F0457	06/21/2017	*06/22/17 14:54*	
Surrogate: Toluene-d8	*99.1 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 13:26*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP6-15

Lab ID: 1702373-12

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,1-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,2-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,3-Trichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,3-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,4-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,4-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dibromo-3-chloropropane	ND	8.8	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dibromoethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3,5-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,4-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
2,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
2-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
4-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
4-Isopropyltoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Benzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromodichloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromoform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Carbon disulfide	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Carbon tetrachloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloroform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
cis-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP6-15
Lab ID: 1702373-12

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Di-isopropyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dibromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dibromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dichlorodifluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl Acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl Ether	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl tert-butyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Freon-113	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Hexachlorobutadiene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Isopropylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
m,p-Xylene	ND	8.8	1	B7F0438	06/21/2017	06/21/17 13:45	
Methylene chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
MTBE	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
n-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
n-Propylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Naphthalene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
o-Xylene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
sec-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Styrene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Amyl methyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Butanol	ND	88	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Tetrachloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Toluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
trans-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
trans-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Trichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Trichlorofluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Vinyl acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Vinyl chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 13:45*	
Surrogate: 4-Bromofluorobenzene	*88.8 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 13:45*	
Surrogate: Dibromofluoromethane	*113 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 13:45*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 13:45*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP7-5

Lab ID: 1702373-13

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,1-Trichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,2,2-Tetrachloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,2-Trichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,3-Trichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,3-Trichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,4-Trichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,4-Trimethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dibromo-3-chloropropane	ND	8.6	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dibromoethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3,5-Trimethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,4-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
2,2-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
2-Chlorotoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
4-Chlorotoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
4-Isopropyltoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Benzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromochloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromodichloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromoform	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromomethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Carbon disulfide	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Carbon tetrachloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloroform	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
cis-1,2-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP7-5

Lab ID: 1702373-13

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Di-isopropyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dibromochloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dibromomethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dichlorodifluoromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl Acetate	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl Ether	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl tert-butyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Freon-113	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Hexachlorobutadiene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Isopropylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
m,p-Xylene	ND	8.6	1	B7F0438	06/21/2017	06/21/17 14:04	
Methylene chloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
MTBE	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
n-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
n-Propylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Naphthalene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
o-Xylene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
sec-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Styrene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Amyl methyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Butanol	ND	86	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Tetrachloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Toluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
trans-1,2-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
trans-1,3-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Trichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Trichlorofluoromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Vinyl acetate	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Vinyl chloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Surrogate: 1,2-Dichloroethane-d4	*108 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 14:04*	
Surrogate: 4-Bromofluorobenzene	*89.5 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 14:04*	
Surrogate: Dibromofluoromethane	*105 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 14:04*	
Surrogate: Toluene-d8	*101 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 14:04*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP7-10

Lab ID: 1702373-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP7-10
Lab ID: 1702373-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:23	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Surrogate: 1,2-Dichloroethane-d4	*117 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 14:23*	
Surrogate: 4-Bromofluorobenzene	*96.9 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 14:23*	
Surrogate: Dibromofluoromethane	*116 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 14:23*	
Surrogate: Toluene-d8	*108 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 14:23*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP7-15

Lab ID: 1702373-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP7-15
Lab ID: 1702373-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:41	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Surrogate: 1,2-Dichloroethane-d4	*108 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 14:41*	
Surrogate: 4-Bromofluorobenzene	*96.6 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 14:41*	
Surrogate: Dibromofluoromethane	*113 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 14:41*	
Surrogate: Toluene-d8	*106 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 14:41*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP8-5

Lab ID: 1702373-16

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,1-Trichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,2,2-Tetrachloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,2-Trichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,3-Trichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,3-Trichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,4-Trichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,4-Trimethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dibromo-3-chloropropane	ND	8.4	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dibromoethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3,5-Trimethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,4-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
2,2-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
2-Chlorotoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
4-Chlorotoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
4-Isopropyltoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Benzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromochloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromodichloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromoform	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromomethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Carbon disulfide	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Carbon tetrachloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloroform	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
cis-1,2-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP8-5

Lab ID: 1702373-16

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Di-isopropyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dibromochloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dibromomethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dichlorodifluoromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl Acetate	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl Ether	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl tert-butyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Freon-113	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Hexachlorobutadiene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Isopropylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
m,p-Xylene	ND	8.4	1	B7F0438	06/21/2017	06/21/17 15:00	
Methylene chloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
MTBE	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
n-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
n-Propylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Naphthalene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
o-Xylene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
sec-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Styrene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Amyl methyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Butanol	ND	84	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Tetrachloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Toluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
trans-1,2-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
trans-1,3-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Trichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Trichlorofluoromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Vinyl acetate	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Vinyl chloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 15:00*	
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 15:00*	
Surrogate: Dibromofluoromethane	*115 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 15:00*	
Surrogate: Toluene-d8	*104 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 15:00*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP8-10

Lab ID: 1702373-17

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,1-Trichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,2,2-Tetrachloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,2-Trichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,3-Trichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,3-Trichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,4-Trichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,4-Trimethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dibromo-3-chloropropane	ND	7.8	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dibromoethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3,5-Trimethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,4-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
2,2-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
2-Chlorotoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
4-Chlorotoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
4-Isopropyltoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Benzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromochloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromodichloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromoform	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromomethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Carbon disulfide	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Carbon tetrachloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloroform	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
cis-1,2-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP8-10

Lab ID: 1702373-17

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Di-isopropyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dibromochloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dibromomethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dichlorodifluoromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl Acetate	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl Ether	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl tert-butyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Freon-113	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Hexachlorobutadiene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Isopropylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
m,p-Xylene	ND	7.8	1	B7F0438	06/21/2017	06/21/17 15:19	
Methylene chloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
MTBE	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
n-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
n-Propylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Naphthalene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
o-Xylene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
sec-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Styrene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Amyl methyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Butanol	ND	78	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Tetrachloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Toluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
trans-1,2-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
trans-1,3-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Trichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Trichlorofluoromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Vinyl acetate	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Vinyl chloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Surrogate: 1,2-Dichloroethane-d4	*113 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 15:19*	
Surrogate: 4-Bromofluorobenzene	*99.2 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 15:19*	
Surrogate: Dibromofluoromethane	*107 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 15:19*	
Surrogate: Toluene-d8	*109 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 15:19*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP8-15

Lab ID: 1702373-18

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP8-15
Lab ID: 1702373-18

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 15:37	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Surrogate: 1,2-Dichloroethane-d4	*119 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 15:37*	
Surrogate: 4-Bromofluorobenzene	*96.5 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 15:37*	
Surrogate: Dibromofluoromethane	*109 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 15:37*	
Surrogate: Toluene-d8	*108 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 15:37*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP9-5

Lab ID: 1702373-19

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,1-Trichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,2,2-Tetrachloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,2-Trichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,3-Trichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,3-Trichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,4-Trichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,4-Trimethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dibromo-3-chloropropane	ND	11	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dibromoethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3,5-Trimethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,4-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
2,2-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
2-Chlorotoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
4-Chlorotoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
4-Isopropyltoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Benzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromochloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromodichloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromoform	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromomethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Carbon disulfide	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Carbon tetrachloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloroform	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
cis-1,2-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP9-5

Lab ID: 1702373-19

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Di-isopropyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dibromochloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dibromomethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dichlorodifluoromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl Acetate	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl Ether	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl tert-butyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Freon-113	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Hexachlorobutadiene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Isopropylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
m,p-Xylene	ND	11	1	B7F0438	06/21/2017	06/21/17 15:56	
Methylene chloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
MTBE	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
n-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
n-Propylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Naphthalene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
o-Xylene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
sec-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Styrene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Amyl methyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Butanol	ND	110	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Tetrachloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Toluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
trans-1,2-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
trans-1,3-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Trichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Trichlorofluoromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Vinyl acetate	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Vinyl chloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 15:56*	
Surrogate: 4-Bromofluorobenzene	*97.2 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 15:56*	
Surrogate: Dibromofluoromethane	*106 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 15:56*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 15:56*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP9-10

Lab ID: 1702373-20

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP9-10
Lab ID: 1702373-20

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 16:15	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Surrogate: 1,2-Dichloroethane-d4	*108 %*	*12 - 186*		B7F0438	06/21/2017	*06/21/17 16:15*	
Surrogate: 4-Bromofluorobenzene	*91.2 %*	*23 - 162*		B7F0438	06/21/2017	*06/21/17 16:15*	
Surrogate: Dibromofluoromethane	*110 %*	*23 - 179*		B7F0438	06/21/2017	*06/21/17 16:15*	
Surrogate: Toluene-d8	*107 %*	*26 - 164*		B7F0438	06/21/2017	*06/21/17 16:15*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP9-15

Lab ID: 1702373-21

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,1-Trichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,2,2-Tetrachloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,2-Trichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,3-Trichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,3-Trichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,4-Trichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,4-Trimethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dibromo-3-chloropropane	ND	6.5	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dibromoethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3,5-Trimethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,4-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
2,2-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
2-Chlorotoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
4-Chlorotoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
4-Isopropyltoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Benzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromochloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromodichloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromoform	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromomethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Carbon disulfide	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Carbon tetrachloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloroform	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
cis-1,2-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP9-15
Lab ID: 1702373-21

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Di-isopropyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dibromochloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dibromomethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dichlorodifluoromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl Acetate	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl Ether	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl tert-butyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Freon-113	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Hexachlorobutadiene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Isopropylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
m,p-Xylene	ND	6.5	1	B7F0457	06/22/2017	06/22/17 14:17	
Methylene chloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
MTBE	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
n-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
n-Propylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Naphthalene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
o-Xylene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
sec-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Styrene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Amyl methyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Butanol	ND	65	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Tetrachloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Toluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
trans-1,2-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
trans-1,3-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Trichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Trichlorofluoromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Vinyl acetate	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Vinyl chloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Surrogate: 1,2-Dichloroethane-d4	*84.6 %*	*12 - 186*		B7F0457	06/22/2017	*06/22/17 14:17*	
Surrogate: 4-Bromofluorobenzene	*87.5 %*	*23 - 162*		B7F0457	06/22/2017	*06/22/17 14:17*	
Surrogate: Dibromofluoromethane	*88.0 %*	*23 - 179*		B7F0457	06/22/2017	*06/22/17 14:17*	
Surrogate: Toluene-d8	*99.9 %*	*26 - 164*		B7F0457	06/22/2017	*06/22/17 14:17*	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S										
Blank (B7F0438-BLK1)							Prepared: 6/21/2017 Analyzed: 6/21/2017			
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S (continued)										
Blank (B7F0438-BLK1) - Continued					Prepared: 6/21/2017 Analyzed: 6/21/2017					
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*40.61*			*50.0000*		*81.2*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.31*			*50.0000*		*88.6*	*23 - 162*			
Surrogate: Dibromofluoromethan	*47.45*			*50.0000*		*94.9*	*23 - 179*			
Surrogate: Toluene-d8	*50.32*			*50.0000*		*101*	*26 - 164*			
LCS (B7F0438-BS1)					Prepared: 6/21/2017 Analyzed: 6/21/2017					
1,1,1,2-Tetrachloroethane	54.2200	5.0	0.63	50.0000		108	78 - 119			
1,1,1-Trichloroethane	53.5300	5.0	0.63	50.0000		107	75 - 123			
1,1,2,2-Tetrachloroethane	46.7800	5.0	0.92	50.0000		93.6	65 - 117			
1,1,2-Trichloroethane	54.3200	5.0	1.4	50.0000		109	79 - 108			L4
1,1-Dichloroethane	48.4700	5.0	1.5	50.0000		96.9	69 - 120			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S (continued)										
LCS (B7F0438-BS1) - Continued					Prepared: 6/21/2017 Analyzed: 6/21/2017					
1,1-Dichloroethene	45.3000	5.0	0.69	50.0000		90.6	59 - 126			
1,1-Dichloropropene	50.6600	5.0	2.4	50.0000		101	76 - 121			
1,2,3-Trichloropropane	44.4200	5.0	1.2	50.0000		88.8	66 - 118			
1,2,3-Trichlorobenzene	53.9100	5.0	1.1	50.0000		108	75 - 116			
1,2,4-Trichlorobenzene	54.7500	5.0	0.96	50.0000		110	79 - 121			
1,2,4-Trimethylbenzene	48.6300	5.0	0.53	50.0000		97.3	80 - 118			
1,2-Dibromo-3-chloropropane	47.3700	10	1.1	50.0000		94.7	65 - 122			
1,2-Dibromoethane	53.0400	5.0	0.80	50.0000		106	77 - 115			
1,2-Dichlorobenzene	52.4600	5.0	0.51	50.0000		105	81 - 115			
1,2-Dichloroethane	47.0500	5.0	0.53	50.0000		94.1	70 - 122			
1,2-Dichloropropane	46.9300	5.0	0.76	50.0000		93.9	77 - 110			
1,3,5-Trimethylbenzene	49.0900	5.0	0.58	50.0000		98.2	79 - 119			
1,3-Dichlorobenzene	52.6300	5.0	0.63	50.0000		105	81 - 116			
1,3-Dichloropropane	48.4700	5.0	0.59	50.0000		96.9	79 - 113			
1,4-Dichlorobenzene	51.7400	5.0	0.73	50.0000		103	80 - 117			
2,2-Dichloropropane	45.5800	5.0	0.68	50.0000		91.2	70 - 129			
2-Chlorotoluene	48.4100	5.0	0.68	50.0000		96.8	76 - 119			
4-Chlorotoluene	47.2300	5.0	0.62	50.0000		94.5	79 - 119			
4-Isopropyltoluene	49.9300	5.0	0.63	50.0000		99.9	80 - 122			
Benzene	99.8400	5.0	0.59	100.000		99.8	79 - 111			
Bromobenzene	51.7200	5.0	1.9	50.0000		103	77 - 114			
Bromochloromethane	56.8200	5.0	3.1	50.0000		114	69 - 117			
Bromodichloromethane	49.2900	5.0	1.0	50.0000		98.6	79 - 114			
Bromoform	57.3400	5.0	0.70	50.0000		115	72 - 122			
Bromomethane	54.0500	5.0	4.2	50.0000		108	47 - 176			
Carbon disulfide	50.8700	5.0	1.2	50.0000		102	50 - 133			
Carbon tetrachloride	55.4200	5.0	1.1	50.0000		111	68 - 143			
Chlorobenzene	51.1200	5.0	0.64	50.0000		102	81 - 113			
Chloroethane	54.5200	5.0	1.9	50.0000		109	47 - 148			
Chloroform	52.2900	5.0	1.4	50.0000		105	77 - 116			
Chloromethane	39.2400	5.0	1.9	50.0000		78.5	39 - 141			
cis-1,2-Dichloroethene	54.1800	5.0	0.87	50.0000		108	68 - 120			
cis-1,3-Dichloropropene	52.0500	5.0	0.79	50.0000		104	74 - 113			
Di-isopropyl ether	47.0100	5.0	0.51	50.0000		94.0	62 - 124			
Dibromochloromethane	52.6100	5.0	1.0	50.0000		105	78 - 114			
Dibromomethane	44.6400	5.0	0.99	50.0000		89.3	74 - 112			
Dichlorodifluoromethane	40.0200	5.0	2.2	50.0000		80.0	49 - 138			
Ethyl Acetate	512.980	50	9.7	500.000		103	63 - 131			
Ethyl Ether	424.810	50	7.3	500.000		85.0	56 - 123			
Ethyl tert-butyl ether	54.3500	5.0	1.4	50.0000		109	68 - 121			
Ethylbenzene	98.7900	5.0	0.65	100.000		98.8	82 - 112			
Freon-113	49.5200	5.0	1.0	50.0000		99.0	65 - 133			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S (continued)										
LCS (B7F0438-BS1) - Continued						Prepared: 6/21/2017 Analyzed: 6/21/2017				
Hexachlorobutadiene	56.2000	5.0	0.78	50.0000		112	76 - 131			
Isopropylbenzene	49.0800	5.0	0.59	50.0000		98.2	77 - 122			
m,p-Xylene	96.4700	10	1.2	100.000		96.5	80 - 116			
Methylene chloride	53.4500	5.0	1.4	50.0000		107	67 - 144			
MTBE	49.0000	5.0	0.50	50.0000		98.0	62 - 120			
n-Butylbenzene	48.9000	5.0	0.75	50.0000		97.8	78 - 134			
n-Propylbenzene	48.2900	5.0	0.55	50.0000		96.6	77 - 125			
Naphthalene	50.9400	5.0	1.2	50.0000		102	66 - 125			
o-Xylene	96.7300	5.0	0.86	100.000		96.7	80 - 113			
sec-Butylbenzene	50.0100	5.0	0.79	50.0000		100	79 - 124			
Styrene	52.8900	5.0	0.82	50.0000		106	82 - 117			
tert-Amyl methyl ether	47.5900	5.0	1.5	50.0000		95.2	62 - 118			
tert-Butanol	237.710	100	5.9	250.000		95.1	35 - 127			
tert-Butylbenzene	49.2900	5.0	0.57	50.0000		98.6	78 - 121			
Tetrachloroethene	52.9100	5.0	0.65	50.0000		106	75 - 124			
Toluene	106.060	5.0	0.80	100.000		106	79 - 115			
trans-1,2-Dichloroethene	52.4400	5.0	1.5	50.0000		105	65 - 127			
trans-1,3-Dichloropropene	46.1800	5.0	0.63	50.0000		92.4	73 - 115			
Trichloroethene	52.3000	5.0	1.1	50.0000		105	77 - 119			
Trichlorofluoromethane	45.4900	5.0	0.89	50.0000		91.0	57 - 134			
Vinyl acetate	520.350	50	5.7	500.000		104	62 - 147			
Vinyl chloride	39.6700	5.0	2.0	50.0000		79.3	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*43.46*			*50.0000*		*86.9*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*45.61*			*50.0000*		*91.2*	*23 - 162*			
Surrogate: Dibromofluoromethan	*51.43*			*50.0000*		*103*	*23 - 179*			
Surrogate: Toluene-d8	*49.92*			*50.0000*		*99.8*	*26 - 164*			
LCS Dup (B7F0438-BSD1)						Prepared: 6/21/2017 Analyzed: 6/21/2017				
1,1,1,2-Tetrachloroethane	54.5100	5.0	0.63	50.0000		109	78 - 119	0.533	20	
1,1,1-Trichloroethane	49.7000	5.0	0.63	50.0000		99.4	75 - 123	7.42	20	
1,1,2,2-Tetrachloroethane	44.2900	5.0	0.92	50.0000		88.6	65 - 117	5.47	20	
1,1,2-Trichloroethane	50.7900	5.0	1.4	50.0000		102	79 - 108	6.72	20	
1,1-Dichloroethane	46.6100	5.0	1.5	50.0000		93.2	69 - 120	3.91	20	
1,1-Dichloroethene	42.2800	5.0	0.69	50.0000		84.6	59 - 126	6.90	20	
1,1-Dichloropropene	50.0400	5.0	2.4	50.0000		100	76 - 121	1.23	20	
1,2,3-Trichloropropane	43.1800	5.0	1.2	50.0000		86.4	66 - 118	2.83	20	
1,2,3-Trichlorobenzene	54.0700	5.0	1.1	50.0000		108	75 - 116	0.296	20	
1,2,4-Trichlorobenzene	54.6000	5.0	0.96	50.0000		109	79 - 121	0.274	20	
1,2,4-Trimethylbenzene	44.7000	5.0	0.53	50.0000		89.4	80 - 118	8.42	20	
1,2-Dibromo-3-chloropropane	47.3700	10	1.1	50.0000		94.7	65 - 122	0.00	20	
1,2-Dibromoethane	53.9800	5.0	0.80	50.0000		108	77 - 115	1.76	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S (continued)										
LCS Dup (B7F0438-BSD1) - Continued					Prepared: 6/21/2017 Analyzed: 6/21/2017					
1,2-Dichlorobenzene	50.4000	5.0	0.51	50.0000		101	81 - 115	4.01	20	
1,2-Dichloroethane	46.2800	5.0	0.53	50.0000		92.6	70 - 122	1.65	20	
1,2-Dichloropropane	47.3200	5.0	0.76	50.0000		94.6	77 - 110	0.828	20	
1,3,5-Trimethylbenzene	45.0100	5.0	0.58	50.0000		90.0	79 - 119	8.67	20	
1,3-Dichlorobenzene	50.0100	5.0	0.63	50.0000		100	81 - 116	5.11	20	
1,3-Dichloropropane	48.8300	5.0	0.59	50.0000		97.7	79 - 113	0.740	20	
1,4-Dichlorobenzene	49.1100	5.0	0.73	50.0000		98.2	80 - 117	5.22	20	
2,2-Dichloropropane	43.2800	5.0	0.68	50.0000		86.6	70 - 129	5.18	20	
2-Chlorotoluene	44.9100	5.0	0.68	50.0000		89.8	76 - 119	7.50	20	
4-Chlorotoluene	44.4500	5.0	0.62	50.0000		88.9	79 - 119	6.06	20	
4-Isopropyltoluene	46.5300	5.0	0.63	50.0000		93.1	80 - 122	7.05	20	
Benzene	96.4400	5.0	0.59	100.000		96.4	79 - 111	3.46	20	
Bromobenzene	48.6700	5.0	1.9	50.0000		97.3	77 - 114	6.08	20	
Bromochloromethane	53.9400	5.0	3.1	50.0000		108	69 - 117	5.20	20	
Bromodichloromethane	49.9300	5.0	1.0	50.0000		99.9	79 - 114	1.29	20	
Bromoform	56.9000	5.0	0.70	50.0000		114	72 - 122	0.770	20	
Bromomethane	45.3900	5.0	4.2	50.0000		90.8	47 - 176	17.4	20	
Carbon disulfide	45.1400	5.0	1.2	50.0000		90.3	50 - 133	11.9	20	
Carbon tetrachloride	52.9400	5.0	1.1	50.0000		106	68 - 143	4.58	20	
Chlorobenzene	50.1000	5.0	0.64	50.0000		100	81 - 113	2.02	20	
Chloroethane	38.4000	5.0	1.9	50.0000		76.8	47 - 148	34.7	20	R
Chloroform	50.8400	5.0	1.4	50.0000		102	77 - 116	2.81	20	
Chloromethane	36.5700	5.0	1.9	50.0000		73.1	39 - 141	7.04	20	
cis-1,2-Dichloroethene	54.0300	5.0	0.87	50.0000		108	68 - 120	0.277	20	
cis-1,3-Dichloropropene	50.4300	5.0	0.79	50.0000		101	74 - 113	3.16	20	
Di-isopropyl ether	45.1900	5.0	0.51	50.0000		90.4	62 - 124	3.95	20	
Dibromochloromethane	52.8800	5.0	1.0	50.0000		106	78 - 114	0.512	20	
Dibromomethane	51.6800	5.0	0.99	50.0000		103	74 - 112	14.6	20	
Dichlorodifluoromethane	36.5700	5.0	2.2	50.0000		73.1	49 - 138	9.01	20	
Ethyl Acetate	496.840	50	9.7	500.000		99.4	63 - 131	3.20	20	
Ethyl Ether	408.000	50	7.3	500.000		81.6	56 - 123	4.04	20	
Ethyl tert-butyl ether	53.1400	5.0	1.4	50.0000		106	68 - 121	2.25	20	
Ethylbenzene	95.8300	5.0	0.65	100.000		95.8	82 - 112	3.04	20	
Freon-113	47.7000	5.0	1.0	50.0000		95.4	65 - 133	3.74	20	
Hexachlorobutadiene	51.6800	5.0	0.78	50.0000		103	76 - 131	8.38	20	
Isopropylbenzene	46.2500	5.0	0.59	50.0000		92.5	77 - 122	5.94	20	
m,p-Xylene	94.5100	10	1.2	100.000		94.5	80 - 116	2.05	20	
Methylene chloride	49.1500	5.0	1.4	50.0000		98.3	67 - 144	8.38	20	
MTBE	49.2200	5.0	0.50	50.0000		98.4	62 - 120	0.448	20	
n-Butylbenzene	45.2700	5.0	0.75	50.0000		90.5	78 - 134	7.71	20	
n-Propylbenzene	45.3100	5.0	0.55	50.0000		90.6	77 - 125	6.37	20	
Naphthalene	51.1500	5.0	1.2	50.0000		102	66 - 125	0.411	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0438 - MSVOA_S (continued)										
LCS Dup (B7F0438-BSD1) - Continued					Prepared: 6/21/2017 Analyzed: 6/21/2017					
o-Xylene	93.6000	5.0	0.86	100.000		93.6	80 - 113	3.29	20	
sec-Butylbenzene	46.6700	5.0	0.79	50.0000		93.3	79 - 124	6.91	20	
Styrene	51.3200	5.0	0.82	50.0000		103	82 - 117	3.01	20	
tert-Amyl methyl ether	47.8900	5.0	1.5	50.0000		95.8	62 - 118	0.628	20	
tert-Butanol	247.070	100	5.9	250.000		98.8	35 - 127	3.86	20	
tert-Butylbenzene	46.3000	5.0	0.57	50.0000		92.6	78 - 121	6.26	20	
Tetrachloroethene	50.9200	5.0	0.65	50.0000		102	75 - 124	3.83	20	
Toluene	103.500	5.0	0.80	100.000		104	79 - 115	2.44	20	
trans-1,2-Dichloroethene	50.2500	5.0	1.5	50.0000		100	65 - 127	4.27	20	
trans-1,3-Dichloropropene	47.3100	5.0	0.63	50.0000		94.6	73 - 115	2.42	20	
Trichloroethene	54.2300	5.0	1.1	50.0000		108	77 - 119	3.62	20	
Trichlorofluoromethane	49.3800	5.0	0.89	50.0000		98.8	57 - 134	8.20	20	
Vinyl acetate	486.780	50	5.7	500.000		97.4	62 - 147	6.67	20	
Vinyl chloride	36.5000	5.0	2.0	50.0000		73.0	53 - 133	8.32	20	
Surrogate: 1,2-Dichloroethane-d4	*43.97*			*50.0000*		*87.9*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*43.90*			*50.0000*		*87.8*	*23 - 162*			
Surrogate: Dibromofluoromethan	*51.94*			*50.0000*		*104*	*23 - 179*			
Surrogate: Toluene-d8	*48.88*			*50.0000*		*97.8*	*26 - 164*			

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S										
Blank (B7F0457-BLK1)							Prepared: 6/22/2017 Analyzed: 6/22/2017			
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Blank (B7F0457-BLK1) - Continued					Prepared: 6/22/2017 Analyzed: 6/22/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*40.54*			*50.0000*		*81.1*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.92*			*50.0000*		*89.8*	*23 - 162*			
Surrogate: Dibromofluoromethan	*46.68*			*50.0000*		*93.4*	*23 - 179*			
Surrogate: Toluene-d8	*50.20*			*50.0000*		*100*	*26 - 164*			
LCS (B7F0457-BS1)					Prepared: 6/22/2017 Analyzed: 6/22/2017					
1,1,1,2-Tetrachloroethane	53.4700	5.0	0.63	50.0000		107	78 - 119			
1,1,1-Trichloroethane	57.3400	5.0	0.63	50.0000		115	75 - 123			
1,1,2,2-Tetrachloroethane	45.4700	5.0	0.92	50.0000		90.9	65 - 117			
1,1,2-Trichloroethane	54.3600	5.0	1.4	50.0000		109	79 - 108			L4
1,1-Dichloroethane	52.2700	5.0	1.5	50.0000		105	69 - 120			
1,1-Dichloroethene	47.8300	5.0	0.69	50.0000		95.7	59 - 126			
1,1-Dichloropropene	52.1700	5.0	2.4	50.0000		104	76 - 121			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
LCS (B7F0457-BS1) - Continued						Prepared: 6/22/2017 Analyzed: 6/22/2017				
1,2,3-Trichloropropane	43.9400	5.0	1.2	50.0000		87.9	66 - 118			
1,2,3-Trichlorobenzene	50.4800	5.0	1.1	50.0000		101	75 - 116			
1,2,4-Trichlorobenzene	50.3500	5.0	0.96	50.0000		101	79 - 121			
1,2,4-Trimethylbenzene	48.0000	5.0	0.53	50.0000		96.0	80 - 118			
1,2-Dibromo-3-chloropropane	46.1500	10	1.1	50.0000		92.3	65 - 122			
1,2-Dibromoethane	52.5200	5.0	0.80	50.0000		105	77 - 115			
1,2-Dichlorobenzene	50.6200	5.0	0.51	50.0000		101	81 - 115			
1,2-Dichloroethane	50.6800	5.0	0.53	50.0000		101	70 - 122			
1,2-Dichloropropane	50.4400	5.0	0.76	50.0000		101	77 - 110			
1,3,5-Trimethylbenzene	48.6800	5.0	0.58	50.0000		97.4	79 - 119			
1,3-Dichlorobenzene	50.5400	5.0	0.63	50.0000		101	81 - 116			
1,3-Dichloropropane	47.2300	5.0	0.59	50.0000		94.5	79 - 113			
1,4-Dichlorobenzene	50.1100	5.0	0.73	50.0000		100	80 - 117			
2,2-Dichloropropane	48.6100	5.0	0.68	50.0000		97.2	70 - 129			
2-Chlorotoluene	47.9900	5.0	0.68	50.0000		96.0	76 - 119			
4-Chlorotoluene	48.0100	5.0	0.62	50.0000		96.0	79 - 119			
4-Isopropyltoluene	49.4900	5.0	0.63	50.0000		99.0	80 - 122			
Benzene	101.560	5.0	0.59	100.000		102	79 - 111			
Bromobenzene	48.0000	5.0	1.9	50.0000		96.0	77 - 114			
Bromochloromethane	54.3800	5.0	3.1	50.0000		109	69 - 117			
Bromodichloromethane	52.1800	5.0	1.0	50.0000		104	79 - 114			
Bromoform	51.9500	5.0	0.70	50.0000		104	72 - 122			
Bromomethane	76.3900	5.0	4.2	50.0000		153	47 - 176			
Carbon disulfide	50.9900	5.0	1.2	50.0000		102	50 - 133			
Carbon tetrachloride	56.2700	5.0	1.1	50.0000		113	68 - 143			
Chlorobenzene	49.6200	5.0	0.64	50.0000		99.2	81 - 113			
Chloroethane	44.9800	5.0	1.9	50.0000		90.0	47 - 148			
Chloroform	55.4700	5.0	1.4	50.0000		111	77 - 116			
Chloromethane	44.0800	5.0	1.9	50.0000		88.2	39 - 141			
cis-1,2-Dichloroethene	54.7800	5.0	0.87	50.0000		110	68 - 120			
cis-1,3-Dichloropropene	52.2300	5.0	0.79	50.0000		104	74 - 113			
Di-isopropyl ether	50.5600	5.0	0.51	50.0000		101	62 - 124			
Dibromochloromethane	50.5300	5.0	1.0	50.0000		101	78 - 114			
Dibromomethane	52.6200	5.0	0.99	50.0000		105	74 - 112			
Dichlorodifluoromethane	44.6000	5.0	2.2	50.0000		89.2	49 - 138			
Ethyl Acetate	537.300	50	9.7	500.000		107	63 - 131			
Ethyl Ether	462.410	50	7.3	500.000		92.5	56 - 123			
Ethyl tert-butyl ether	56.7400	5.0	1.4	50.0000		113	68 - 121			
Ethylbenzene	99.2100	5.0	0.65	100.000		99.2	82 - 112			
Freon-113	52.9900	5.0	1.0	50.0000		106	65 - 133			
Hexachlorobutadiene	53.0000	5.0	0.78	50.0000		106	76 - 131			
Isopropylbenzene	47.6900	5.0	0.59	50.0000		95.4	77 - 122			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
LCS (B7F0457-BS1) - Continued						Prepared: 6/22/2017 Analyzed: 6/22/2017				
m,p-Xylene	97.9400	10	1.2	100.000		97.9	80 - 116			
Methylene chloride	54.6100	5.0	1.4	50.0000		109	67 - 144			
MTBE	49.7500	5.0	0.50	50.0000		99.5	62 - 120			
n-Butylbenzene	49.8000	5.0	0.75	50.0000		99.6	78 - 134			
n-Propylbenzene	49.2400	5.0	0.55	50.0000		98.5	77 - 125			
Naphthalene	47.2200	5.0	1.2	50.0000		94.4	66 - 125			
o-Xylene	99.0800	5.0	0.86	100.000		99.1	80 - 113			
sec-Butylbenzene	50.2700	5.0	0.79	50.0000		101	79 - 124			
Styrene	52.3500	5.0	0.82	50.0000		105	82 - 117			
tert-Amyl methyl ether	48.7300	5.0	1.5	50.0000		97.5	62 - 118			
tert-Butanol	128.160	100	5.9	250.000		51.3	35 - 127			
tert-Butylbenzene	49.1700	5.0	0.57	50.0000		98.3	78 - 121			
Tetrachloroethene	47.3800	5.0	0.65	50.0000		94.8	75 - 124			
Toluene	107.330	5.0	0.80	100.000		107	79 - 115			
trans-1,2-Dichloroethene	52.3600	5.0	1.5	50.0000		105	65 - 127			
trans-1,3-Dichloropropene	47.5200	5.0	0.63	50.0000		95.0	73 - 115			
Trichloroethene	51.2400	5.0	1.1	50.0000		102	77 - 119			
Trichlorofluoromethane	50.3100	5.0	0.89	50.0000		101	57 - 134			
Vinyl acetate	559.470	50	5.7	500.000		112	62 - 147			
Vinyl chloride	44.3900	5.0	2.0	50.0000		88.8	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*51.25*			*50.0000*		*102*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*45.82*			*50.0000*		*91.6*	*23 - 162*			
Surrogate: Dibromofluoromethan	*55.43*			*50.0000*		*111*	*23 - 179*			
Surrogate: Toluene-d8	*51.84*			*50.0000*		*104*	*26 - 164*			
Duplicate (B7F0457-DUP1)			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.63		ND				20	
1,1,1-Trichloroethane	ND	5.0	0.63		ND				20	
1,1,2,2-Tetrachloroethane	ND	5.0	0.92		ND				20	
1,1,2-Trichloroethane	ND	5.0	1.4		ND				20	
1,1-Dichloroethane	ND	5.0	1.5		ND				20	
1,1-Dichloroethene	ND	5.0	0.69		ND				20	
1,1-Dichloropropene	ND	5.0	2.4		ND				20	
1,2,3-Trichloropropane	ND	5.0	1.2		ND				20	
1,2,3-Trichlorobenzene	ND	5.0	1.1		ND				20	
1,2,4-Trichlorobenzene	ND	5.0	0.96		ND				20	
1,2,4-Trimethylbenzene	ND	5.0	0.53		ND				20	
1,2-Dibromo-3-chloropropane	ND	10	1.1		ND				20	
1,2-Dibromoethane	ND	5.0	0.80		ND				20	
1,2-Dichlorobenzene	ND	5.0	0.51		ND				20	
1,2-Dichloroethane	ND	5.0	0.53		ND				20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Duplicate (B7F0457-DUP1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
1,2-Dichloropropane	ND	5.0	0.76		ND				20	
1,3,5-Trimethylbenzene	ND	5.0	0.58		ND				20	
1,3-Dichlorobenzene	ND	5.0	0.63		ND				20	
1,3-Dichloropropane	ND	5.0	0.59		ND				20	
1,4-Dichlorobenzene	ND	5.0	0.73		ND				20	
2,2-Dichloropropane	ND	5.0	0.68		ND				20	
2-Chlorotoluene	ND	5.0	0.68		ND				20	
4-Chlorotoluene	ND	5.0	0.62		ND				20	
4-Isopropyltoluene	ND	5.0	0.63		ND				20	
Benzene	ND	5.0	0.59		ND				20	
Bromobenzene	ND	5.0	1.9		ND				20	
Bromochloromethane	ND	5.0	3.1		ND				20	
Bromodichloromethane	ND	5.0	1.0		ND				20	
Bromoform	ND	5.0	0.70		ND				20	
Bromomethane	ND	5.0	4.2		ND				20	
Carbon disulfide	ND	5.0	1.2		ND				20	
Carbon tetrachloride	ND	5.0	1.1		ND				20	
Chlorobenzene	ND	5.0	0.64		ND				20	
Chloroethane	ND	5.0	1.9		ND				20	
Chloroform	ND	5.0	1.4		ND				20	
Chloromethane	ND	5.0	1.9		ND				20	
cis-1,2-Dichloroethene	ND	5.0	0.87		ND				20	
cis-1,3-Dichloropropene	ND	5.0	0.79		ND				20	
Di-isopropyl ether	ND	5.0	0.51		ND				20	
Dibromochloromethane	ND	5.0	1.0		ND				20	
Dibromomethane	ND	5.0	0.99		ND				20	
Dichlorodifluoromethane	ND	5.0	2.2		ND				20	
Ethyl Acetate	ND	50	9.7		ND				20	
Ethyl Ether	ND	50	7.3		ND				20	
Ethyl tert-butyl ether	ND	5.0	1.4		ND				20	
Ethylbenzene	ND	5.0	0.65		ND				20	
Freon-113	ND	5.0	1.0		ND				20	
Hexachlorobutadiene	ND	5.0	0.78		ND				20	
Isopropylbenzene	ND	5.0	0.59		ND				20	
m,p-Xylene	ND	10	1.2		ND				20	
Methylene chloride	ND	5.0	1.4		ND				20	
MTBE	ND	5.0	0.50		ND				20	
n-Butylbenzene	ND	5.0	0.75		ND				20	
n-Propylbenzene	ND	5.0	0.55		ND				20	
Naphthalene	ND	5.0	1.2		ND				20	
o-Xylene	ND	5.0	0.86		ND				20	
sec-Butylbenzene	ND	5.0	0.79		ND				20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Duplicate (B7F0457-DUP1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
Styrene	ND	5.0	0.82		ND				20	
tert-Amyl methyl ether	ND	5.0	1.5		ND				20	
tert-Butanol	ND	100	5.9		ND				20	
tert-Butylbenzene	ND	5.0	0.57		ND				20	
Tetrachloroethene	1.84000	5.0	0.65		2.34000			23.9	20	R
Toluene	ND	5.0	0.80		ND				20	
trans-1,2-Dichloroethene	ND	5.0	1.5		ND				20	
trans-1,3-Dichloropropene	ND	5.0	0.63		ND				20	
Trichloroethene	ND	5.0	1.1		ND				20	
Trichlorofluoromethane	ND	5.0	0.89		ND				20	
Vinyl acetate	ND	50	5.7		ND				20	
Vinyl chloride	ND	5.0	2.0		ND				20	
Surrogate: 1,2-Dichloroethane-d4	*43.19*			*50.0000*		*86.4*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*46.38*			*50.0000*		*92.8*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.42*			*50.0000*		*96.8*	*23 - 179*			
Surrogate: Toluene-d8	*50.99*			*50.0000*		*102*	*26 - 164*			
Matrix Spike (B7F0457-MS1)			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
1,1,1,2-Tetrachloroethane	41.0400	5.0	0.63	50.0000	ND	82.1	45 - 124			
1,1,1-Trichloroethane	47.5500	5.0	0.63	50.0000	ND	95.1	53 - 125			
1,1,2,2-Tetrachloroethane	36.9700	5.0	0.92	50.0000	ND	73.9	42 - 117			
1,1,2-Trichloroethane	40.4400	5.0	1.4	50.0000	ND	80.9	48 - 120			
1,1-Dichloroethane	41.5400	5.0	1.5	50.0000	ND	83.1	54 - 116			
1,1-Dichloroethene	41.5800	5.0	0.69	50.0000	ND	83.2	47 - 123			
1,1-Dichloropropene	43.0200	5.0	2.4	50.0000	ND	86.0	48 - 126			
1,2,3-Trichloropropane	36.0600	5.0	1.2	50.0000	ND	72.1	46 - 118			
1,2,3-Trichlorobenzene	24.9300	5.0	1.1	50.0000	ND	49.9	1 - 132			
1,2,4-Trichlorobenzene	26.0700	5.0	0.96	50.0000	ND	52.1	2 - 138			
1,2,4-Trimethylbenzene	36.7400	5.0	0.53	50.0000	ND	73.5	32 - 129			
1,2-Dibromo-3-chloropropane	36.4800	10	1.1	50.0000	ND	73.0	34 - 130			
1,2-Dibromoethane	39.3100	5.0	0.80	50.0000	ND	78.6	45 - 125			
1,2-Dichlorobenzene	35.1500	5.0	0.51	50.0000	ND	70.3	25 - 130			
1,2-Dichloroethane	38.1200	5.0	0.53	50.0000	ND	76.2	51 - 119			
1,2-Dichloropropane	38.0400	5.0	0.76	50.0000	ND	76.1	54 - 113			
1,3,5-Trimethylbenzene	38.4000	5.0	0.58	50.0000	ND	76.8	34 - 128			
1,3-Dichlorobenzene	35.7800	5.0	0.63	50.0000	ND	71.6	26 - 130			
1,3-Dichloropropane	37.6600	5.0	0.59	50.0000	ND	75.3	53 - 117			
1,4-Dichlorobenzene	36.1900	5.0	0.73	50.0000	ND	72.4	26 - 130			
2,2-Dichloropropane	41.0800	5.0	0.68	50.0000	ND	82.2	52 - 128			
2-Chlorotoluene	37.6500	5.0	0.68	50.0000	ND	75.3	34 - 126			
4-Chlorotoluene	36.3100	5.0	0.62	50.0000	ND	72.6	32 - 128			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Matrix Spike (B7F0457-MS1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
4-Isopropyltoluene	36.9100	5.0	0.63	50.0000	ND	73.8	28 - 133			
Benzene	82.7700	5.0	0.59	100.000	ND	82.8	55 - 113			
Bromobenzene	37.2400	5.0	1.9	50.0000	ND	74.5	36 - 122			
Bromochloromethane	42.7600	5.0	3.1	50.0000	ND	85.5	50 - 118			
Bromodichloromethane	38.8500	5.0	1.0	50.0000	ND	77.7	51 - 117			
Bromoform	39.4300	5.0	0.70	50.0000	ND	78.9	39 - 130			
Bromomethane	50.0200	5.0	4.2	50.0000	ND	100	38 - 151			
Carbon disulfide	41.0800	5.0	1.2	50.0000	ND	82.2	38 - 126			
Carbon tetrachloride	49.5900	5.0	1.1	50.0000	ND	99.2	43 - 141			
Chlorobenzene	38.2500	5.0	0.64	50.0000	ND	76.5	42 - 122			
Chloroethane	45.4300	5.0	1.9	50.0000	ND	90.9	42 - 129			
Chloroform	43.9600	5.0	1.4	50.0000	ND	87.9	56 - 117			
Chloromethane	36.8100	5.0	1.9	50.0000	ND	73.6	35 - 127			
cis-1,2-Dichloroethene	44.8300	5.0	0.87	50.0000	ND	89.7	50 - 118			
cis-1,3-Dichloropropene	41.4800	5.0	0.79	50.0000	ND	83.0	45 - 118			
Di-isopropyl ether	39.3500	5.0	0.51	50.0000	ND	78.7	51 - 119			
Dibromochloromethane	39.2100	5.0	1.0	50.0000	ND	78.4	47 - 120			
Dibromomethane	39.9900	5.0	0.99	50.0000	ND	80.0	48 - 118			
Dichlorodifluoromethane	39.3900	5.0	2.2	50.0000	ND	78.8	43 - 126			
Ethyl Acetate	404.840	50	9.7	500.000	ND	81.0	22 - 145			
Ethyl Ether	373.820	50	7.3	500.000	ND	74.8	49 - 114			
Ethyl tert-butyl ether	44.3400	5.0	1.4	50.0000	ND	88.7	54 - 120			
Ethylbenzene	79.6000	5.0	0.65	100.000	ND	79.6	42 - 123			
Freon-113	47.2400	5.0	1.0	50.0000	ND	94.5	45 - 132			
Hexachlorobutadiene	28.2700	5.0	0.78	50.0000	ND	56.5	4 - 135			
Isopropylbenzene	40.1200	5.0	0.59	50.0000	ND	80.2	40 - 127			
m,p-Xylene	76.7500	10	1.2	100.000	ND	76.8	39 - 127			
Methylene chloride	40.9100	5.0	1.4	50.0000	ND	81.8	51 - 140			
MTBE	38.7100	5.0	0.50	50.0000	ND	77.4	52 - 120			
n-Butylbenzene	34.9000	5.0	0.75	50.0000	ND	69.8	19 - 141			
n-Propylbenzene	38.7700	5.0	0.55	50.0000	ND	77.5	34 - 131			
Naphthalene	26.5300	5.0	1.2	50.0000	ND	53.1	11 - 136			
o-Xylene	76.9900	5.0	0.86	100.000	ND	77.0	40 - 124			
sec-Butylbenzene	38.0300	5.0	0.79	50.0000	ND	76.1	29 - 132			
Styrene	39.1300	5.0	0.82	50.0000	ND	78.3	36 - 130			
tert-Amyl methyl ether	37.5200	5.0	1.5	50.0000	ND	75.0	49 - 119			
tert-Butanol	165.510	100	5.9	250.000	ND	66.2	29 - 138			
tert-Butylbenzene	38.7900	5.0	0.57	50.0000	ND	77.6	34 - 129			
Tetrachloroethene	42.4000	5.0	0.65	50.0000	2.34000	80.1	37 - 132			
Toluene	88.3400	5.0	0.80	100.000	ND	88.3	48 - 122			
trans-1,2-Dichloroethene	43.6600	5.0	1.5	50.0000	ND	87.3	51 - 123			
trans-1,3-Dichloropropene	34.9700	5.0	0.63	50.0000	ND	69.9	38 - 125			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Matrix Spike (B7F0457-MS1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
Trichloroethene	42.5100	5.0	1.1	50.0000	ND	85.0	41 - 136			
Trichlorofluoromethane	44.6700	5.0	0.89	50.0000	ND	89.3	44 - 126			
Vinyl acetate	354.480	50	5.7	500.000	ND	70.9	0 - 154			
Vinyl chloride	39.9100	5.0	2.0	50.0000	ND	79.8	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*55.17*			*50.0000*		*110*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*45.81*			*50.0000*		*91.6*	*23 - 162*			
Surrogate: Dibromofluoromethan	*52.08*			*50.0000*		*104*	*23 - 179*			
Surrogate: Toluene-d8	*49.95*			*50.0000*		*99.9*	*26 - 164*			
Matrix Spike Dup (B7F0457-MSD1)			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
1,1,1,2-Tetrachloroethane	39.7600	5.0	0.63	50.0000	ND	79.5	45 - 124	3.17	20	
1,1,1-Trichloroethane	44.0500	5.0	0.63	50.0000	ND	88.1	53 - 125	7.64	20	
1,1,2,2-Tetrachloroethane	32.1500	5.0	0.92	50.0000	ND	64.3	42 - 117	13.9	20	
1,1,2-Trichloroethane	40.2900	5.0	1.4	50.0000	ND	80.6	48 - 120	0.372	20	
1,1-Dichloroethane	39.7300	5.0	1.5	50.0000	ND	79.5	54 - 116	4.45	20	
1,1-Dichloroethene	39.5100	5.0	0.69	50.0000	ND	79.0	47 - 123	5.11	20	
1,1-Dichloropropene	42.2400	5.0	2.4	50.0000	ND	84.5	48 - 126	1.83	20	
1,2,3-Trichloropropane	32.4300	5.0	1.2	50.0000	ND	64.9	46 - 118	10.6	20	
1,2,3-Trichlorobenzene	24.3400	5.0	1.1	50.0000	ND	48.7	1 - 132	2.39	20	
1,2,4-Trichlorobenzene	25.8800	5.0	0.96	50.0000	ND	51.8	2 - 138	0.731	20	
1,2,4-Trimethylbenzene	34.3400	5.0	0.53	50.0000	ND	68.7	32 - 129	6.75	20	
1,2-Dibromo-3-chloropropane	30.8300	10	1.1	50.0000	ND	61.7	34 - 130	16.8	20	
1,2-Dibromoethane	38.0700	5.0	0.80	50.0000	ND	76.1	45 - 125	3.20	20	
1,2-Dichlorobenzene	33.6500	5.0	0.51	50.0000	ND	67.3	25 - 130	4.36	20	
1,2-Dichloroethane	36.1700	5.0	0.53	50.0000	ND	72.3	51 - 119	5.25	20	
1,2-Dichloropropane	38.0500	5.0	0.76	50.0000	ND	76.1	54 - 113	0.0263	20	
1,3,5-Trimethylbenzene	35.4500	5.0	0.58	50.0000	ND	70.9	34 - 128	7.99	20	
1,3-Dichlorobenzene	33.8200	5.0	0.63	50.0000	ND	67.6	26 - 130	5.63	20	
1,3-Dichloropropane	35.8400	5.0	0.59	50.0000	ND	71.7	53 - 117	4.95	20	
1,4-Dichlorobenzene	33.4000	5.0	0.73	50.0000	ND	66.8	26 - 130	8.02	20	
2,2-Dichloropropane	37.1600	5.0	0.68	50.0000	ND	74.3	52 - 128	10.0	20	
2-Chlorotoluene	34.1500	5.0	0.68	50.0000	ND	68.3	34 - 126	9.75	20	
4-Chlorotoluene	33.9000	5.0	0.62	50.0000	ND	67.8	32 - 128	6.87	20	
4-Isopropyltoluene	35.4200	5.0	0.63	50.0000	ND	70.8	28 - 133	4.12	20	
Benzene	79.0800	5.0	0.59	100.000	ND	79.1	55 - 113	4.56	20	
Bromobenzene	34.4900	5.0	1.9	50.0000	ND	69.0	36 - 122	7.67	20	
Bromochloromethane	41.3200	5.0	3.1	50.0000	ND	82.6	50 - 118	3.43	20	
Bromodichloromethane	38.8400	5.0	1.0	50.0000	ND	77.7	51 - 117	0.0257	20	
Bromoform	37.9100	5.0	0.70	50.0000	ND	75.8	39 - 130	3.93	20	
Bromomethane	42.6600	5.0	4.2	50.0000	ND	85.3	38 - 151	15.9	20	
Carbon disulfide	37.4500	5.0	1.2	50.0000	ND	74.9	38 - 126	9.24	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)										
Matrix Spike Dup (B7F0457-MSD1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017					
Carbon tetrachloride	46.3800	5.0	1.1	50.0000	ND	92.8	43 - 141	6.69	20	
Chlorobenzene	37.4200	5.0	0.64	50.0000	ND	74.8	42 - 122	2.19	20	
Chloroethane	39.0900	5.0	1.9	50.0000	ND	78.2	42 - 129	15.0	20	
Chloroform	39.7700	5.0	1.4	50.0000	ND	79.5	56 - 117	10.0	20	
Chloromethane	33.1600	5.0	1.9	50.0000	ND	66.3	35 - 127	10.4	20	
cis-1,2-Dichloroethene	42.9900	5.0	0.87	50.0000	ND	86.0	50 - 118	4.19	20	
cis-1,3-Dichloropropene	36.5200	5.0	0.79	50.0000	ND	73.0	45 - 118	12.7	20	
Di-isopropyl ether	38.0300	5.0	0.51	50.0000	ND	76.1	51 - 119	3.41	20	
Dibromochloromethane	37.8500	5.0	1.0	50.0000	ND	75.7	47 - 120	3.53	20	
Dibromomethane	39.1600	5.0	0.99	50.0000	ND	78.3	48 - 118	2.10	20	
Dichlorodifluoromethane	35.2200	5.0	2.2	50.0000	ND	70.4	43 - 126	11.2	20	
Ethyl Acetate	376.840	50	9.7	500.000	ND	75.4	22 - 145	7.16	20	
Ethyl Ether	348.940	50	7.3	500.000	ND	69.8	49 - 114	6.88	20	
Ethyl tert-butyl ether	41.5800	5.0	1.4	50.0000	ND	83.2	54 - 120	6.42	20	
Ethylbenzene	78.3800	5.0	0.65	100.000	ND	78.4	42 - 123	1.54	20	
Freon-113	43.5700	5.0	1.0	50.0000	ND	87.1	45 - 132	8.08	20	
Hexachlorobutadiene	29.8800	5.0	0.78	50.0000	ND	59.8	4 - 135	5.54	20	
Isopropylbenzene	36.6700	5.0	0.59	50.0000	ND	73.3	40 - 127	8.99	20	
m,p-Xylene	76.2100	10	1.2	100.000	ND	76.2	39 - 127	0.706	20	
Methylene chloride	39.3400	5.0	1.4	50.0000	ND	78.7	51 - 140	3.91	20	
MTBE	37.0600	5.0	0.50	50.0000	ND	74.1	52 - 120	4.36	20	
n-Butylbenzene	33.4000	5.0	0.75	50.0000	ND	66.8	19 - 141	4.39	20	
n-Propylbenzene	36.4200	5.0	0.55	50.0000	ND	72.8	34 - 131	6.25	20	
Naphthalene	25.2200	5.0	1.2	50.0000	ND	50.4	11 - 136	5.06	20	
o-Xylene	74.9700	5.0	0.86	100.000	ND	75.0	40 - 124	2.66	20	
sec-Butylbenzene	36.0300	5.0	0.79	50.0000	ND	72.1	29 - 132	5.40	20	
Styrene	38.0400	5.0	0.82	50.0000	ND	76.1	36 - 130	2.82	20	
tert-Amyl methyl ether	35.2700	5.0	1.5	50.0000	ND	70.5	49 - 119	6.18	20	
tert-Butanol	196.160	100	5.9	250.000	ND	78.5	29 - 138	16.9	20	
tert-Butylbenzene	36.1200	5.0	0.57	50.0000	ND	72.2	34 - 129	7.13	20	
Tetrachloroethene	41.3600	5.0	0.65	50.0000	2.34000	78.0	37 - 132	2.48	20	
Toluene	85.8000	5.0	0.80	100.000	ND	85.8	48 - 122	2.92	20	
trans-1,2-Dichloroethene	41.3900	5.0	1.5	50.0000	ND	82.8	51 - 123	5.34	20	
trans-1,3-Dichloropropene	36.2600	5.0	0.63	50.0000	ND	72.5	38 - 125	3.62	20	
Trichloroethene	40.7500	5.0	1.1	50.0000	ND	81.5	41 - 136	4.23	20	
Trichlorofluoromethane	39.7000	5.0	0.89	50.0000	ND	79.4	44 - 126	11.8	20	
Vinyl acetate	282.660	50	5.7	500.000	ND	56.5	0 - 154	22.5	20	R
Vinyl chloride	35.6000	5.0	2.0	50.0000	ND	71.2	47 - 122	11.4	20	
Surrogate: 1,2-Dichloroethane-d4	*50.14*			*50.0000*		*100*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*45.43*			*50.0000*		*90.9*	*23 - 162*			
Surrogate: Dibromofluoromethan	*52.64*			*50.0000*		*105*	*23 - 179*			

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0457 - MSVOA_S (continued)									
Matrix Spike Dup (B7F0457-MSD1) - Continued			**Source: 1702384-01**		Prepared: 6/22/2017 Analyzed: 6/22/2017				
Surrogate: Toluene-d8	*51.61*		*50.0000*		*103*	*26 - 164*			

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 3

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☑
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C: 2.2-3.0		
☐ Other: _____	4. SEALED	☐	☑			

CUSTOMER

Company: GSA ENGINEERING | Address: | City: | State: | Zip: | Tel: (310) 567-5743 | Fax:

SEND REPORT TO:
Attn: DAN LOUKS | Email: dan@gsaengineering.net
Company: GSA ENG.
Address: 16950 AVENIDA DE SANTA YNEZ
City: PACIFIC PALISADES | State: CA | Zip: 90272

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Michael Anselmo | Email: ljaverlic@gmail.com
Company: LJA
Address: P.O. BOX 4832
City: OCEANSIDE | State: CA | Zip: 92052

PROJECT SAMPLES

Project Name: FORMER CROWN CLEANERS
Project No.:
Sampler: DAN LOUKS
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7= Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No. 1702373 -	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	#	Type	Material	Preservative	REMARKS
1	~~VP1-5~~ -01	VP1-5	6/20/17	18:00	X								X						3			X	
2	~~VP1-10~~ -02	VP1-10		14:10	X								X									X	
3	~~VP1-15~~ -03	VP1-15		14:25	X								X									X	
4	~~VP2-5~~ -04	VP2-5		8:00	X								X									X	
5	~~VP2-10~~ -05	VP2-10		8:15	X								X									X	
6	~~VP2-15~~ -06	VP2-15		8:30	X								X									X	
7	~~VP3-5~~ -07	VP3-5		6:55	X								X									X	
8	~~VP3-10~~ -08	VP3-10		7:20	X								X									X	
9	~~VP3-15~~ -09	VP3-15		7:35	X								X									X	
10													X									X	

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

DAN LOUKS — Submitter Print Name
Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
DAN R. LOUKS	6/20/17	18:05	FEDEX	6/20/17	1805
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C: 2.2, 3.6		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: GSA ENGINEERING, INC.
Address:
City: State: Zip:
Tel: 310-967-5743
Fax:

SEND REPORT TO:
Attn: DAN LOUKS
Email:
Company: GSA ENGINEERING
Address: 16950 AVENIDA DE SANTA YNEZ
City: PACIFIC PALISADES State: CA Zip: 90272

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: MICHAEL ANSELMO
Email: ljosephllc@gmail.com
Company: LJA
Address: P.O. BOX 4832
City: OCEANSIDE State: CA Zip: 92052

PROJECT SAMPLES

Project Name: FORMER CROWN CLEANERS
Project No.:
Sampler: DAN LOUKS
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles) LBZ; 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: # 3; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles) LBZ	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	#	Type	Material	Preservative	REMARKS
1	1702373 - 10	VP6-5	6/20/17	14:35	X								X						3			X	
2	- 11	VP6-10		14:45	X																	X	
3	- 12	VP6-15		15:00	X																	X	
4	- 13	VP7-5		10:30	X																	X	
5	- 14	VP7-10		10:40	X																	X	
6	- 15	VP7-15		10:55	X																	X	
7	- 16	VP8-5		13:25	X																	X	
8	- 17	VP8-10		13:35	X																	X	
9	- 18	VP8-15		13:55	X																	X	
10																							

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will ncur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for fi ve (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-fi ve (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

DAN LOUKS — Submitter Print Name
Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
	6/20/17	18:05	FEDEX	6/20/17	1805
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt: Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: GSA ENGINEERING
Address:
City:
State:
Zip:
Tel:
Fax:

SEND REPORT TO:
Attn: DAN LOUKS
Email:
Company: GSA ENGINEERING
Address: 16950 AVENIDA DE SANTA FAE
City: PACIFIC PALISADES
State: CA
Zip: 90272

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: MICHAEL ANSELMO
Email: josephllc@gmail.com
Company: LJA
Address: P.O. BOX 4832
City: OCEANSIDE
State: CA
Zip: 92052

PROJECT SAMPLES

Project Name: FORMER CROWN CLEANERS
Project No.:
Sampler: DAN LOUKS
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4 = 4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1702373-19	VP9-5	6/20/17	15:50	X								X						3			X	
2	-20	VP9-10	↓	16:00	X								↓						↓			X	
3	-21	VP9-15	↓	16:15	X								↓						↓			X	
4																							
5																							
6																							
7																							
8																							
9																							
10																							

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
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   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name _____ Signature _____

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
DAN R. LOUKS	6/20/17	18:05	[signature]	6/20/17	1805

ADVANCED TECHNOLOGY LABORATORIES

June 28, 2017

Dan Louks
GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272
Tel: (310) 459-7320
Fax:

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702387
Client Reference : Former Crown Cleaners

Enclosed are the results for sample(s) received on June 21, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP4-5	1702387-01	Soil	6/21/17 7:55	6/21/17 14:15
VP4-10	1702387-02	Soil	6/21/17 8:10	6/21/17 14:15
VP4-15	1702387-03	Soil	6/21/17 8:30	6/21/17 14:15
VP5-5	1702387-04	Soil	6/21/17 12:00	6/21/17 14:15
VP5-10	1702387-05	Soil	6/21/17 12:10	6/21/17 14:15
VP5-15	1702387-06	Soil	6/21/17 12:25	6/21/17 14:15
VP10-5	1702387-07	Soil	6/21/17 9:05	6/21/17 14:15
VP10-10	1702387-08	Soil	6/21/17 9:20	6/21/17 14:15
VP10-15	1702387-09	Soil	6/21/17 9:35	6/21/17 14:15
VP11-5	1702387-10	Soil	6/21/17 11:00	6/21/17 14:15
VP11-10	1702387-11	Soil	6/21/17 11:10	6/21/17 14:15
VP11-15	1702387-12	Soil	6/21/17 11:25	6/21/17 14:15
VP12-5	1702387-13	Soil	6/21/17 9:55	6/21/17 14:15
VP12-10	1702387-14	Soil	6/21/17 10:05	6/21/17 14:15
VP12-15	1702387-15	Soil	6/21/17 10:15	6/21/17 14:15

CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP4-5

Lab ID: 1702387-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP4-5
Lab ID: 1702387-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 11:44	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Surrogate: 1,2-Dichloroethane-d4	*74.8 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 11:44*	
Surrogate: 4-Bromofluorobenzene	*91.1 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 11:44*	
Surrogate: Dibromofluoromethane	*90.2 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 11:44*	
Surrogate: Toluene-d8	*100 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 11:44*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP4-10

Lab ID: 1702387-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP4-10
Lab ID: 1702387-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:02	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Surrogate: 1,2-Dichloroethane-d4	*82.8 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 12:02*	
Surrogate: 4-Bromofluorobenzene	*92.2 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 12:02*	
Surrogate: Dibromofluoromethane	*92.6 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 12:02*	
Surrogate: Toluene-d8	*99.6 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 12:02*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP4-15

Lab ID: 1702387-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP4-15
Lab ID: 1702387-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:21	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Surrogate: 1,2-Dichloroethane-d4	*81.1 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 12:21*	
Surrogate: 4-Bromofluorobenzene	*88.7 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 12:21*	
Surrogate: Dibromofluoromethane	*94.0 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 12:21*	
Surrogate: Toluene-d8	*94.9 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 12:21*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP5-5

Lab ID: 1702387-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP5-5
Lab ID: 1702387-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:40	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Surrogate: 1,2-Dichloroethane-d4	*82.2 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 12:40*	
Surrogate: 4-Bromofluorobenzene	*91.3 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 12:40*	
Surrogate: Dibromofluoromethane	*95.7 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 12:40*	
Surrogate: Toluene-d8	*98.8 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 12:40*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP5-10

Lab ID: 1702387-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP5-10
Lab ID: 1702387-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:58	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Surrogate: 1,2-Dichloroethane-d4	*84.8 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 12:58*	
Surrogate: 4-Bromofluorobenzene	*96.5 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 12:58*	
Surrogate: Dibromofluoromethane	*96.7 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 12:58*	
Surrogate: Toluene-d8	*98.0 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 12:58*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP5-15

Lab ID: 1702387-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP5-15
Lab ID: 1702387-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:17	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Surrogate: 1,2-Dichloroethane-d4	*86.4 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 13:17*	
Surrogate: 4-Bromofluorobenzene	*93.4 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 13:17*	
Surrogate: Dibromofluoromethane	*97.5 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 13:17*	
Surrogate: Toluene-d8	*99.3 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 13:17*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP10-5

Lab ID: 1702387-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP10-5
Lab ID: 1702387-07

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:36	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Surrogate: 1,2-Dichloroethane-d4	*84.5 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 13:36*	
Surrogate: 4-Bromofluorobenzene	*93.3 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 13:36*	
Surrogate: Dibromofluoromethane	*93.5 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 13:36*	
Surrogate: Toluene-d8	*102 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 13:36*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP10-10

Lab ID: 1702387-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP10-10
Lab ID: 1702387-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:54	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Surrogate: 1,2-Dichloroethane-d4	*85.6 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 13:54*	
Surrogate: 4-Bromofluorobenzene	*93.7 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 13:54*	
Surrogate: Dibromofluoromethane	*95.9 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 13:54*	
Surrogate: Toluene-d8	*99.1 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 13:54*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP10-15

Lab ID: 1702387-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP10-15
Lab ID: 1702387-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 14:13	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Surrogate: 1,2-Dichloroethane-d4	*85.3 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 14:13*	
Surrogate: 4-Bromofluorobenzene	*91.1 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 14:13*	
Surrogate: Dibromofluoromethane	*101 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 14:13*	
Surrogate: Toluene-d8	*96.8 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 14:13*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP11-5
Lab ID: 1702387-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,1-Trichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,2-Trichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,3-Trichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dibromoethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,4-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
2,2-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
2-Chlorotoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
4-Chlorotoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
4-Isopropyltoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Benzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromochloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromodichloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromoform	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromomethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Carbon disulfide	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Carbon tetrachloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloroform	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP11-5
Lab ID: 1702387-10

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Di-isopropyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dibromochloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dibromomethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dichlorodifluoromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl Acetate	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl Ether	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl tert-butyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Freon-113	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Hexachlorobutadiene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Isopropylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
m,p-Xylene	ND	10	1	B7F0506	06/26/2017	06/26/17 17:55	
Methylene chloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
MTBE	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
n-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
n-Propylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Naphthalene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
o-Xylene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
sec-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Styrene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Amyl methyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Butanol	ND	100	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Tetrachloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Toluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Trichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Trichlorofluoromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Vinyl acetate	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Vinyl chloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Surrogate: 1,2-Dichloroethane-d4	*118 %*	*12 - 186*		B7F0506	06/26/2017	*06/26/17 17:55*	
Surrogate: 4-Bromofluorobenzene	*91.0 %*	*23 - 162*		B7F0506	06/26/2017	*06/26/17 17:55*	
Surrogate: Dibromofluoromethane	*115 %*	*23 - 179*		B7F0506	06/26/2017	*06/26/17 17:55*	
Surrogate: Toluene-d8	*108 %*	*26 - 164*		B7F0506	06/26/2017	*06/26/17 17:55*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP11-10

Lab ID: 1702387-11

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP11-10

Lab ID: 1702387-11

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 14:50	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Surrogate: 1,2-Dichloroethane-d4	*84.1 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 14:50*	
Surrogate: 4-Bromofluorobenzene	*89.8 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 14:50*	
Surrogate: Dibromofluoromethane	*102 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 14:50*	
Surrogate: Toluene-d8	*99.9 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 14:50*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP11-15

Lab ID: 1702387-12

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP11-15
Lab ID: 1702387-12

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:09	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Surrogate: 1,2-Dichloroethane-d4	*81.1 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 15:09*	
Surrogate: 4-Bromofluorobenzene	*89.9 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 15:09*	
Surrogate: Dibromofluoromethane	*93.4 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 15:09*	
Surrogate: Toluene-d8	*99.5 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 15:09*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP12-5

Lab ID: 1702387-13

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP12-5
Lab ID: 1702387-13

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:27	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Surrogate: 1,2-Dichloroethane-d4	*84.2 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 15:27*	
Surrogate: 4-Bromofluorobenzene	*91.7 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 15:27*	
Surrogate: Dibromofluoromethane	*94.8 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 15:27*	
Surrogate: Toluene-d8	*99.3 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 15:27*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP12-10

Lab ID: 1702387-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP12-10
Lab ID: 1702387-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:46	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Surrogate: 1,2-Dichloroethane-d4	*94.9 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 15:46*	
Surrogate: 4-Bromofluorobenzene	*90.5 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 15:46*	
Surrogate: Dibromofluoromethane	*100 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 15:46*	
Surrogate: Toluene-d8	*103 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 15:46*	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Client Sample ID VP12-15

Lab ID: 1702387-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Client Sample ID VP12-15
Lab ID: 1702387-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 16:04	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Surrogate: 1,2-Dichloroethane-d4	*91.4 %*	*12 - 186*		B7F0479	06/23/2017	*06/23/17 16:04*	
Surrogate: 4-Bromofluorobenzene	*88.7 %*	*23 - 162*		B7F0479	06/23/2017	*06/23/17 16:04*	
Surrogate: Dibromofluoromethane	*97.1 %*	*23 - 179*		B7F0479	06/23/2017	*06/23/17 16:04*	
Surrogate: Toluene-d8	*96.7 %*	*26 - 164*		B7F0479	06/23/2017	*06/23/17 16:04*	

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S										
Blank (B7F0479-BLK1)							Prepared: 6/23/2017 Analyzed: 6/23/2017			
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
Blank (B7F0479-BLK1) - Continued					Prepared: 6/23/2017 Analyzed: 6/23/2017					
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*31.57*			*50.0000*		*63.1*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.27*			*50.0000*		*88.5*	*23 - 162*			
Surrogate: Dibromofluoromethan	*42.45*			*50.0000*		*84.9*	*23 - 179*			
Surrogate: Toluene-d8	*50.49*			*50.0000*		*101*	*26 - 164*			
LCS (B7F0479-BS1)					Prepared: 6/23/2017 Analyzed: 6/23/2017					
1,1,1,2-Tetrachloroethane	55.4400	5.0	0.63	50.0000		111	78 - 119			
1,1,1-Trichloroethane	52.5200	5.0	0.63	50.0000		105	75 - 123			
1,1,2,2-Tetrachloroethane	42.6600	5.0	0.92	50.0000		85.3	65 - 117			
1,1,2-Trichloroethane	49.3700	5.0	1.4	50.0000		98.7	79 - 108			
1,1-Dichloroethane	48.5900	5.0	1.5	50.0000		97.2	69 - 120			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
LCS (B7F0479-BS1) - Continued					Prepared: 6/23/2017 Analyzed: 6/23/2017					
1,1-Dichloroethene	46.9600	5.0	0.69	50.0000		93.9	59 - 126			
1,1-Dichloropropene	56.5000	5.0	2.4	50.0000		113	76 - 121			
1,2,3-Trichloropropane	39.6800	5.0	1.2	50.0000		79.4	66 - 118			
1,2,3-Trichlorobenzene	53.1900	5.0	1.1	50.0000		106	75 - 116			
1,2,4-Trichlorobenzene	54.9700	5.0	0.96	50.0000		110	79 - 121			
1,2,4-Trimethylbenzene	49.1700	5.0	0.53	50.0000		98.3	80 - 118			
1,2-Dibromo-3-chloropropane	42.8300	10	1.1	50.0000		85.7	65 - 122			
1,2-Dibromoethane	50.1000	5.0	0.80	50.0000		100	77 - 115			
1,2-Dichlorobenzene	53.3100	5.0	0.51	50.0000		107	81 - 115			
1,2-Dichloroethane	44.4400	5.0	0.53	50.0000		88.9	70 - 122			
1,2-Dichloropropane	48.2000	5.0	0.76	50.0000		96.4	77 - 110			
1,3,5-Trimethylbenzene	50.0100	5.0	0.58	50.0000		100	79 - 119			
1,3-Dichlorobenzene	54.4500	5.0	0.63	50.0000		109	81 - 116			
1,3-Dichloropropane	46.2000	5.0	0.59	50.0000		92.4	79 - 113			
1,4-Dichlorobenzene	53.2600	5.0	0.73	50.0000		107	80 - 117			
2,2-Dichloropropane	45.4400	5.0	0.68	50.0000		90.9	70 - 129			
2-Chlorotoluene	48.6800	5.0	0.68	50.0000		97.4	76 - 119			
4-Chlorotoluene	48.3200	5.0	0.62	50.0000		96.6	79 - 119			
4-Isopropyltoluene	51.4000	5.0	0.63	50.0000		103	80 - 122			
Benzene	104.710	5.0	0.59	100.000		105	79 - 111			
Bromobenzene	52.9300	5.0	1.9	50.0000		106	77 - 114			
Bromochloromethane	54.9500	5.0	3.1	50.0000		110	69 - 117			
Bromodichloromethane	49.5600	5.0	1.0	50.0000		99.1	79 - 114			
Bromoform	56.1900	5.0	0.70	50.0000		112	72 - 122			
Bromomethane	55.5300	5.0	4.2	50.0000		111	47 - 176			
Carbon disulfide	56.2700	5.0	1.2	50.0000		113	50 - 133			
Carbon tetrachloride	59.2800	5.0	1.1	50.0000		119	68 - 143			
Chlorobenzene	53.1600	5.0	0.64	50.0000		106	81 - 113			
Chloroethane	47.0100	5.0	1.9	50.0000		94.0	47 - 148			
Chloroform	50.5800	5.0	1.4	50.0000		101	77 - 116			
Chloromethane	46.5000	5.0	1.9	50.0000		93.0	39 - 141			
cis-1,2-Dichloroethene	56.5300	5.0	0.87	50.0000		113	68 - 120			
cis-1,3-Dichloropropene	49.7800	5.0	0.79	50.0000		99.6	74 - 113			
Di-isopropyl ether	43.1500	5.0	0.51	50.0000		86.3	62 - 124			
Dibromochloromethane	53.2400	5.0	1.0	50.0000		106	78 - 114			
Dibromomethane	51.3100	5.0	0.99	50.0000		103	74 - 112			
Dichlorodifluoromethane	49.4900	5.0	2.2	50.0000		99.0	49 - 138			
Ethyl Acetate	398.660	50	9.7	500.000		79.7	63 - 131			
Ethyl Ether	383.650	50	7.3	500.000		76.7	56 - 123			
Ethyl tert-butyl ether	49.7200	5.0	1.4	50.0000		99.4	68 - 121			
Ethylbenzene	101.750	5.0	0.65	100.000		102	82 - 112			
Freon-113	53.0300	5.0	1.0	50.0000		106	65 - 133			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
LCS (B7F0479-BS1) - Continued						Prepared: 6/23/2017 Analyzed: 6/23/2017				
Hexachlorobutadiene	59.6100	5.0	0.78	50.0000		119	76 - 131			
Isopropylbenzene	50.1500	5.0	0.59	50.0000		100	77 - 122			
m,p-Xylene	100.740	10	1.2	100.000		101	80 - 116			
Methylene chloride	47.6600	5.0	1.4	50.0000		95.3	67 - 144			
MTBE	44.3000	5.0	0.50	50.0000		88.6	62 - 120			
n-Butylbenzene	49.2500	5.0	0.75	50.0000		98.5	78 - 134			
n-Propylbenzene	49.0100	5.0	0.55	50.0000		98.0	77 - 125			
Naphthalene	46.0500	5.0	1.2	50.0000		92.1	66 - 125			
o-Xylene	98.8500	5.0	0.86	100.000		98.8	80 - 113			
sec-Butylbenzene	50.9000	5.0	0.79	50.0000		102	79 - 124			
Styrene	54.3700	5.0	0.82	50.0000		109	82 - 117			
tert-Amyl methyl ether	43.5100	5.0	1.5	50.0000		87.0	62 - 118			
tert-Butanol	197.260	100	5.9	250.000		78.9	35 - 127			
tert-Butylbenzene	50.7900	5.0	0.57	50.0000		102	78 - 121			
Tetrachloroethene	58.2400	5.0	0.65	50.0000		116	75 - 124			
Toluene	109.570	5.0	0.80	100.000		110	79 - 115			
trans-1,2-Dichloroethene	54.0900	5.0	1.5	50.0000		108	65 - 127			
trans-1,3-Dichloropropene	45.5100	5.0	0.63	50.0000		91.0	73 - 115			
Trichloroethene	58.2800	5.0	1.1	50.0000		117	77 - 119			
Trichlorofluoromethane	48.8800	5.0	0.89	50.0000		97.8	57 - 134			
Vinyl acetate	441.650	50	5.7	500.000		88.3	62 - 147			
Vinyl chloride	44.6600	5.0	2.0	50.0000		89.3	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*42.65*			*50.0000*		*85.3*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*45.24*			*50.0000*		*90.5*	*23 - 162*			
Surrogate: Dibromofluoromethan	*46.94*			*50.0000*		*93.9*	*23 - 179*			
Surrogate: Toluene-d8	*47.54*			*50.0000*		*95.1*	*26 - 164*			
Matrix Spike (B7F0479-MS1)			**Source: 1702387-01**			Prepared: 6/23/2017 Analyzed: 6/23/2017				
1,1,1,2-Tetrachloroethane	41.9200	5.0	0.63	50.0000	ND	83.8	45 - 124			
1,1,1-Trichloroethane	42.3700	5.0	0.63	50.0000	ND	84.7	53 - 125			
1,1,2,2-Tetrachloroethane	23.1500	5.0	0.92	50.0000	ND	46.3	42 - 117			
1,1,2-Trichloroethane	39.2700	5.0	1.4	50.0000	ND	78.5	48 - 120			
1,1-Dichloroethane	37.5500	5.0	1.5	50.0000	ND	75.1	54 - 116			
1,1-Dichloroethene	42.3600	5.0	0.69	50.0000	ND	84.7	47 - 123			
1,1-Dichloropropene	46.5300	5.0	2.4	50.0000	ND	93.1	48 - 126			
1,2,3-Trichloropropane	35.3900	5.0	1.2	50.0000	ND	70.8	46 - 118			
1,2,3-Trichlorobenzene	24.5500	5.0	1.1	50.0000	ND	49.1	1 - 132			
1,2,4-Trichlorobenzene	22.6400	5.0	0.96	50.0000	ND	45.3	2 - 138			
1,2,4-Trimethylbenzene	32.3400	5.0	0.53	50.0000	ND	64.7	32 - 129			
1,2-Dibromo-3-chloropropane	35.3300	10	1.1	50.0000	ND	70.7	34 - 130			
1,2-Dibromoethane	40.0900	5.0	0.80	50.0000	ND	80.2	45 - 125			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
Matrix Spike (B7F0479-MS1) - Continued			**Source: 1702387-01**		Prepared: 6/23/2017 Analyzed: 6/23/2017					
1,2-Dichlorobenzene	34.5500	5.0	0.51	50.0000	ND	69.1	25 - 130			
1,2-Dichloroethane	34.6200	5.0	0.53	50.0000	ND	69.2	51 - 119			
1,2-Dichloropropane	35.9600	5.0	0.76	50.0000	ND	71.9	54 - 113			
1,3,5-Trimethylbenzene	31.7600	5.0	0.58	50.0000	ND	63.5	34 - 128			
1,3-Dichlorobenzene	35.6000	5.0	0.63	50.0000	ND	71.2	26 - 130			
1,3-Dichloropropane	37.3700	5.0	0.59	50.0000	ND	74.7	53 - 117			
1,4-Dichlorobenzene	35.2700	5.0	0.73	50.0000	ND	70.5	26 - 130			
2,2-Dichloropropane	35.7200	5.0	0.68	50.0000	ND	71.4	52 - 128			
2-Chlorotoluene	33.6500	5.0	0.68	50.0000	ND	67.3	34 - 126			
4-Chlorotoluene	33.3800	5.0	0.62	50.0000	ND	66.8	32 - 128			
4-Isopropyltoluene	29.5100	5.0	0.63	50.0000	ND	59.0	28 - 133			
Benzene	81.0900	5.0	0.59	100.000	ND	81.1	55 - 113			
Bromobenzene	39.0100	5.0	1.9	50.0000	ND	78.0	36 - 122			
Bromochloromethane	40.3200	5.0	3.1	50.0000	ND	80.6	50 - 118			
Bromodichloromethane	35.7900	5.0	1.0	50.0000	ND	71.6	51 - 117			
Bromoform	44.1500	5.0	0.70	50.0000	ND	88.3	39 - 130			
Bromomethane	47.3100	5.0	4.2	50.0000	ND	94.6	38 - 151			
Carbon disulfide	41.0600	5.0	1.2	50.0000	ND	82.1	38 - 126			
Carbon tetrachloride	47.5000	5.0	1.1	50.0000	ND	95.0	43 - 141			
Chlorobenzene	38.7800	5.0	0.64	50.0000	ND	77.6	42 - 122			
Chloroethane	43.4400	5.0	1.9	50.0000	ND	86.9	42 - 129			
Chloroform	39.0700	5.0	1.4	50.0000	ND	78.1	56 - 117			
Chloromethane	37.7900	5.0	1.9	50.0000	ND	75.6	35 - 127			
cis-1,2-Dichloroethene	41.5100	5.0	0.87	50.0000	ND	83.0	50 - 118			
cis-1,3-Dichloropropene	37.7800	5.0	0.79	50.0000	ND	75.6	45 - 118			
Di-isopropyl ether	33.2400	5.0	0.51	50.0000	ND	66.5	51 - 119			
Dibromochloromethane	41.6800	5.0	1.0	50.0000	ND	83.4	47 - 120			
Dibromomethane	39.1300	5.0	0.99	50.0000	ND	78.3	48 - 118			
Dichlorodifluoromethane	43.0600	5.0	2.2	50.0000	ND	86.1	43 - 126			
Ethyl Acetate	337.700	50	9.7	500.000	ND	67.5	22 - 145			
Ethyl Ether	322.530	50	7.3	500.000	ND	64.5	49 - 114			
Ethyl tert-butyl ether	37.3800	5.0	1.4	50.0000	ND	74.8	54 - 120			
Ethylbenzene	72.7100	5.0	0.65	100.000	ND	72.7	42 - 123			
Freon-113	42.3900	5.0	1.0	50.0000	ND	84.8	45 - 132			
Hexachlorobutadiene	15.9000	5.0	0.78	50.0000	ND	31.8	4 - 135			
Isopropylbenzene	34.8100	5.0	0.59	50.0000	ND	69.6	40 - 127			
m,p-Xylene	69.9300	10	1.2	100.000	ND	69.9	39 - 127			
Methylene chloride	35.4200	5.0	1.4	50.0000	ND	70.8	51 - 140			
MTBE	36.1600	5.0	0.50	50.0000	ND	72.3	52 - 120			
n-Butylbenzene	25.5300	5.0	0.75	50.0000	ND	51.1	19 - 141			
n-Propylbenzene	33.1600	5.0	0.55	50.0000	ND	66.3	34 - 131			
Naphthalene	28.8500	5.0	1.2	50.0000	ND	57.7	11 - 136			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
Matrix Spike (B7F0479-MS1) - Continued			**Source: 1702387-01**		Prepared: 6/23/2017 Analyzed: 6/23/2017					
o-Xylene	68.9700	5.0	0.86	100.000	ND	69.0	40 - 124			
sec-Butylbenzene	29.6600	5.0	0.79	50.0000	ND	59.3	29 - 132			
Styrene	37.6700	5.0	0.82	50.0000	ND	75.3	36 - 130			
tert-Amyl methyl ether	33.4500	5.0	1.5	50.0000	ND	66.9	49 - 119			
tert-Butanol	209.950	100	5.9	250.000	ND	84.0	29 - 138			
tert-Butylbenzene	31.6000	5.0	0.57	50.0000	ND	63.2	34 - 129			
Tetrachloroethene	43.1700	5.0	0.65	50.0000	ND	86.3	37 - 132			
Toluene	84.1200	5.0	0.80	100.000	ND	84.1	48 - 122			
trans-1,2-Dichloroethene	42.8400	5.0	1.5	50.0000	ND	85.7	51 - 123			
trans-1,3-Dichloropropene	34.3900	5.0	0.63	50.0000	ND	68.8	38 - 125			
Trichloroethene	62.1600	5.0	1.1	50.0000	ND	124	41 - 136			
Trichlorofluoromethane	43.2000	5.0	0.89	50.0000	ND	86.4	44 - 126			
Vinyl acetate	25.6000	50	5.7	500.000	ND	5.12	0 - 154			
Vinyl chloride	39.7300	5.0	2.0	50.0000	ND	79.5	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*42.28*			*50.0000*		*84.6*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*43.25*			*50.0000*		*86.5*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.71*			*50.0000*		*97.4*	*23 - 179*			
Surrogate: Toluene-d8	*49.55*			*50.0000*		*99.1*	*26 - 164*			
Matrix Spike Dup (B7F0479-MSD1)			**Source: 1702387-01**		Prepared: 6/23/2017 Analyzed: 6/23/2017					
1,1,1,2-Tetrachloroethane	43.2700	5.0	0.63	50.0000	ND	86.5	45 - 124	3.17	20	
1,1,1-Trichloroethane	42.1700	5.0	0.63	50.0000	ND	84.3	53 - 125	0.473	20	
1,1,2,2-Tetrachloroethane	2.72000	5.0	0.92	50.0000	ND	5.44	42 - 117	158	20	M2, R
1,1,2-Trichloroethane	43.2600	5.0	1.4	50.0000	ND	86.5	48 - 120	9.67	20	
1,1-Dichloroethane	37.5400	5.0	1.5	50.0000	ND	75.1	54 - 116	0.0266	20	
1,1-Dichloroethene	40.5100	5.0	0.69	50.0000	ND	81.0	47 - 123	4.46	20	
1,1-Dichloropropene	49.3100	5.0	2.4	50.0000	ND	98.6	48 - 126	5.80	20	
1,2,3-Trichloropropane	37.7500	5.0	1.2	50.0000	ND	75.5	46 - 118	6.45	20	
1,2,3-Trichlorobenzene	26.5700	5.0	1.1	50.0000	ND	53.1	1 - 132	7.90	20	
1,2,4-Trichlorobenzene	24.4800	5.0	0.96	50.0000	ND	49.0	2 - 138	7.81	20	
1,2,4-Trimethylbenzene	34.5400	5.0	0.53	50.0000	ND	69.1	32 - 129	6.58	20	
1,2-Dibromo-3-chloropropane	33.2300	10	1.1	50.0000	ND	66.5	34 - 130	6.13	20	
1,2-Dibromoethane	46.5800	5.0	0.80	50.0000	ND	93.2	45 - 125	15.0	20	
1,2-Dichlorobenzene	36.9900	5.0	0.51	50.0000	ND	74.0	25 - 130	6.82	20	
1,2-Dichloroethane	37.1200	5.0	0.53	50.0000	ND	74.2	51 - 119	6.97	20	
1,2-Dichloropropane	38.2200	5.0	0.76	50.0000	ND	76.4	54 - 113	6.09	20	
1,3,5-Trimethylbenzene	34.8200	5.0	0.58	50.0000	ND	69.6	34 - 128	9.19	20	
1,3-Dichlorobenzene	37.1200	5.0	0.63	50.0000	ND	74.2	26 - 130	4.18	20	
1,3-Dichloropropane	40.3900	5.0	0.59	50.0000	ND	80.8	53 - 117	7.77	20	
1,4-Dichlorobenzene	37.0700	5.0	0.73	50.0000	ND	74.1	26 - 130	4.98	20	
2,2-Dichloropropane	34.6100	5.0	0.68	50.0000	ND	69.2	52 - 128	3.16	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
Matrix Spike Dup (B7F0479-MSD1) - Continued			**Source: 1702387-01**		Prepared: 6/23/2017 Analyzed: 6/23/2017					
2-Chlorotoluene	34.8300	5.0	0.68	50.0000	ND	69.7	34 - 126	3.45	20	
4-Chlorotoluene	34.3800	5.0	0.62	50.0000	ND	68.8	32 - 128	2.95	20	
4-Isopropyltoluene	32.8900	5.0	0.63	50.0000	ND	65.8	28 - 133	10.8	20	
Benzene	86.1600	5.0	0.59	100.000	ND	86.2	55 - 113	6.06	20	
Bromobenzene	40.9800	5.0	1.9	50.0000	ND	82.0	36 - 122	4.93	20	
Bromochloromethane	43.3700	5.0	3.1	50.0000	ND	86.7	50 - 118	7.29	20	
Bromodichloromethane	39.9100	5.0	1.0	50.0000	ND	79.8	51 - 117	10.9	20	
Bromoform	47.7100	5.0	0.70	50.0000	ND	95.4	39 - 130	7.75	20	
Bromomethane	44.0700	5.0	4.2	50.0000	ND	88.1	38 - 151	7.09	20	
Carbon disulfide	39.8600	5.0	1.2	50.0000	ND	79.7	38 - 126	2.97	20	
Carbon tetrachloride	50.3700	5.0	1.1	50.0000	ND	101	43 - 141	5.86	20	
Chlorobenzene	41.0000	5.0	0.64	50.0000	ND	82.0	42 - 122	5.57	20	
Chloroethane	39.7100	5.0	1.9	50.0000	ND	79.4	42 - 129	8.97	20	
Chloroform	38.9800	5.0	1.4	50.0000	ND	78.0	56 - 117	0.231	20	
Chloromethane	36.6600	5.0	1.9	50.0000	ND	73.3	35 - 127	3.04	20	
cis-1,2-Dichloroethene	42.7700	5.0	0.87	50.0000	ND	85.5	50 - 118	2.99	20	
cis-1,3-Dichloropropene	39.5600	5.0	0.79	50.0000	ND	79.1	45 - 118	4.60	20	
Di-isopropyl ether	32.9200	5.0	0.51	50.0000	ND	65.8	51 - 119	0.967	20	
Dibromochloromethane	42.9700	5.0	1.0	50.0000	ND	85.9	47 - 120	3.05	20	
Dibromomethane	42.8800	5.0	0.99	50.0000	ND	85.8	48 - 118	9.15	20	
Dichlorodifluoromethane	43.9700	5.0	2.2	50.0000	ND	87.9	43 - 126	2.09	20	
Ethyl Acetate	229.330	50	9.7	500.000	ND	45.9	22 - 145	38.2	20	R
Ethyl Ether	321.830	50	7.3	500.000	ND	64.4	49 - 114	0.217	20	
Ethyl tert-butyl ether	37.9500	5.0	1.4	50.0000	ND	75.9	54 - 120	1.51	20	
Ethylbenzene	75.8800	5.0	0.65	100.000	ND	75.9	42 - 123	4.27	20	
Freon-113	43.0400	5.0	1.0	50.0000	ND	86.1	45 - 132	1.52	20	
Hexachlorobutadiene	19.4400	5.0	0.78	50.0000	ND	38.9	4 - 135	20.0	20	R
Isopropylbenzene	36.8300	5.0	0.59	50.0000	ND	73.7	40 - 127	5.64	20	
m,p-Xylene	73.3600	10	1.2	100.000	ND	73.4	39 - 127	4.79	20	
Methylene chloride	34.3400	5.0	1.4	50.0000	ND	68.7	51 - 140	3.10	20	
MTBE	36.5500	5.0	0.50	50.0000	ND	73.1	52 - 120	1.07	20	
n-Butylbenzene	29.3700	5.0	0.75	50.0000	ND	58.7	19 - 141	14.0	20	
n-Propylbenzene	35.2600	5.0	0.55	50.0000	ND	70.5	34 - 131	6.14	20	
Naphthalene	31.7500	5.0	1.2	50.0000	ND	63.5	11 - 136	9.57	20	
o-Xylene	72.2200	5.0	0.86	100.000	ND	72.2	40 - 124	4.60	20	
sec-Butylbenzene	33.1300	5.0	0.79	50.0000	ND	66.3	29 - 132	11.1	20	
Styrene	39.6900	5.0	0.82	50.0000	ND	79.4	36 - 130	5.22	20	
tert-Amyl methyl ether	33.6600	5.0	1.5	50.0000	ND	67.3	49 - 119	0.626	20	
tert-Butanol	236.690	100	5.9	250.000	ND	94.7	29 - 138	12.0	20	
tert-Butylbenzene	34.4400	5.0	0.57	50.0000	ND	68.9	34 - 129	8.60	20	
Tetrachloroethene	44.9200	5.0	0.65	50.0000	ND	89.8	37 - 132	3.97	20	
Toluene	88.6400	5.0	0.80	100.000	ND	88.6	48 - 122	5.23	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0479 - MSVOA_S (continued)										
Matrix Spike Dup (B7F0479-MSD1) - Continued			**Source: 1702387-01**		Prepared: 6/23/2017 Analyzed: 6/23/2017					
trans-1,2-Dichloroethene	44.0000	5.0	1.5	50.0000	ND	88.0	51 - 123	2.67	20	
trans-1,3-Dichloropropene	36.3600	5.0	0.63	50.0000	ND	72.7	38 - 125	5.57	20	
Trichloroethene	87.2500	5.0	1.1	50.0000	ND	174	41 - 136	33.6	20	M1, R
Trichlorofluoromethane	40.4000	5.0	0.89	50.0000	ND	80.8	44 - 126	6.70	20	
Vinyl acetate	ND	50	5.7	500.000	ND	NR	0 - 154	NR	20	
Vinyl chloride	37.7100	5.0	2.0	50.0000	ND	75.4	47 - 122	5.22	20	
Surrogate: 1,2-Dichloroethane-d4	*37.45*			*50.0000*		*74.9*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*43.85*			*50.0000*		*87.7*	*23 - 162*			
Surrogate: Dibromofluoromethan	*44.65*			*50.0000*		*89.3*	*23 - 179*			
Surrogate: Toluene-d8	*50.48*			*50.0000*		*101*	*26 - 164*			

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S										
Blank (B7F0506-BLK1)							Prepared: 6/26/2017 Analyzed: 6/26/2017			
1,1,1,2-Tetrachloroethane	ND	5.0	0.63							
1,1,1-Trichloroethane	ND	5.0	0.63							
1,1,2,2-Tetrachloroethane	ND	5.0	0.92							
1,1,2-Trichloroethane	ND	5.0	1.4							
1,1-Dichloroethane	ND	5.0	1.5							
1,1-Dichloroethene	ND	5.0	0.69							
1,1-Dichloropropene	ND	5.0	2.4							
1,2,3-Trichloropropane	ND	5.0	1.2							
1,2,3-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trichlorobenzene	ND	5.0	0.96							
1,2,4-Trimethylbenzene	ND	5.0	0.53							
1,2-Dibromo-3-chloropropane	ND	10	1.1							
1,2-Dibromoethane	ND	5.0	0.80							
1,2-Dichlorobenzene	ND	5.0	0.51							
1,2-Dichloroethane	ND	5.0	0.53							
1,2-Dichloropropane	ND	5.0	0.76							
1,3,5-Trimethylbenzene	ND	5.0	0.58							
1,3-Dichlorobenzene	ND	5.0	0.63							
1,3-Dichloropropane	ND	5.0	0.59							
1,4-Dichlorobenzene	ND	5.0	0.73							
2,2-Dichloropropane	ND	5.0	0.68							
2-Chlorotoluene	ND	5.0	0.68							
4-Chlorotoluene	ND	5.0	0.62							
4-Isopropyltoluene	ND	5.0	0.63							
Benzene	ND	5.0	0.59							
Bromobenzene	ND	5.0	1.9							
Bromochloromethane	ND	5.0	3.1							
Bromodichloromethane	ND	5.0	1.0							
Bromoform	ND	5.0	0.70							
Bromomethane	ND	5.0	4.2							
Carbon disulfide	ND	5.0	1.2							
Carbon tetrachloride	ND	5.0	1.1							
Chlorobenzene	ND	5.0	0.64							
Chloroethane	ND	5.0	1.9							
Chloroform	ND	5.0	1.4							
Chloromethane	ND	5.0	1.9							
cis-1,2-Dichloroethene	ND	5.0	0.87							
cis-1,3-Dichloropropene	ND	5.0	0.79							
Di-isopropyl ether	ND	5.0	0.51							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
Blank (B7F0506-BLK1) - Continued						Prepared: 6/26/2017 Analyzed: 6/26/2017				
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							
Surrogate: 1,2-Dichloroethane-d4	*36.81*			*50.0000*		*73.6*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*43.41*			*50.0000*		*86.8*	*23 - 162*			
Surrogate: Dibromofluoromethan	*43.66*			*50.0000*		*87.3*	*23 - 179*			
Surrogate: Toluene-d8	*48.29*			*50.0000*		*96.6*	*26 - 164*			
LCS (B7F0506-BS1)						Prepared: 6/26/2017 Analyzed: 6/26/2017				
1,1,1,2-Tetrachloroethane	56.0500	5.0	0.63	50.0000		112	78 - 119			
1,1,1-Trichloroethane	57.8500	5.0	0.63	50.0000		116	75 - 123			
1,1,2,2-Tetrachloroethane	43.7200	5.0	0.92	50.0000		87.4	65 - 117			
1,1,2-Trichloroethane	52.4500	5.0	1.4	50.0000		105	79 - 108			
1,1-Dichloroethane	49.6000	5.0	1.5	50.0000		99.2	69 - 120			
1,1-Dichloroethene	55.1100	5.0	0.69	50.0000		110	59 - 126			
1,1-Dichloropropene	60.3200	5.0	2.4	50.0000		121	76 - 121			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
LCS (B7F0506-BS1) - Continued						Prepared: 6/26/2017 Analyzed: 6/26/2017				
1,2,3-Trichloropropane	42.6100	5.0	1.2	50.0000		85.2	66 - 118			
1,2,3-Trichlorobenzene	54.7200	5.0	1.1	50.0000		109	75 - 116			
1,2,4-Trichlorobenzene	57.3500	5.0	0.96	50.0000		115	79 - 121			
1,2,4-Trimethylbenzene	50.2900	5.0	0.53	50.0000		101	80 - 118			
1,2-Dibromo-3-chloropropane	43.0100	10	1.1	50.0000		86.0	65 - 122			
1,2-Dibromoethane	52.7800	5.0	0.80	50.0000		106	77 - 115			
1,2-Dichlorobenzene	53.1100	5.0	0.51	50.0000		106	81 - 115			
1,2-Dichloroethane	49.0300	5.0	0.53	50.0000		98.1	70 - 122			
1,2-Dichloropropane	48.9400	5.0	0.76	50.0000		97.9	77 - 110			
1,3,5-Trimethylbenzene	50.5600	5.0	0.58	50.0000		101	79 - 119			
1,3-Dichlorobenzene	54.5900	5.0	0.63	50.0000		109	81 - 116			
1,3-Dichloropropane	48.3800	5.0	0.59	50.0000		96.8	79 - 113			
1,4-Dichlorobenzene	54.1300	5.0	0.73	50.0000		108	80 - 117			
2,2-Dichloropropane	49.7400	5.0	0.68	50.0000		99.5	70 - 129			
2-Chlorotoluene	49.0000	5.0	0.68	50.0000		98.0	76 - 119			
4-Chlorotoluene	48.8000	5.0	0.62	50.0000		97.6	79 - 119			
4-Isopropyltoluene	53.1200	5.0	0.63	50.0000		106	80 - 122			
Benzene	107.890	5.0	0.59	100.000		108	79 - 111			
Bromobenzene	51.1700	5.0	1.9	50.0000		102	77 - 114			
Bromochloromethane	57.4800	5.0	3.1	50.0000		115	69 - 117			
Bromodichloromethane	52.3200	5.0	1.0	50.0000		105	79 - 114			
Bromoform	57.2200	5.0	0.70	50.0000		114	72 - 122			
Bromomethane	60.7900	5.0	4.2	50.0000		122	47 - 176			
Carbon disulfide	55.0400	5.0	1.2	50.0000		110	50 - 133			
Carbon tetrachloride	63.3400	5.0	1.1	50.0000		127	68 - 143			
Chlorobenzene	52.8500	5.0	0.64	50.0000		106	81 - 113			
Chloroethane	55.8400	5.0	1.9	50.0000		112	47 - 148			
Chloroform	53.4500	5.0	1.4	50.0000		107	77 - 116			
Chloromethane	50.3700	5.0	1.9	50.0000		101	39 - 141			
cis-1,2-Dichloroethene	57.2600	5.0	0.87	50.0000		115	68 - 120			
cis-1,3-Dichloropropene	51.7700	5.0	0.79	50.0000		104	74 - 113			
Di-isopropyl ether	44.7400	5.0	0.51	50.0000		89.5	62 - 124			
Dibromochloromethane	53.8300	5.0	1.0	50.0000		108	78 - 114			
Dibromomethane	50.6300	5.0	0.99	50.0000		101	74 - 112			
Dichlorodifluoromethane	57.8500	5.0	2.2	50.0000		116	49 - 138			
Ethyl Acetate	453.120	50	9.7	500.000		90.6	63 - 131			
Ethyl Ether	441.100	50	7.3	500.000		88.2	56 - 123			
Ethyl tert-butyl ether	52.6600	5.0	1.4	50.0000		105	68 - 121			
Ethylbenzene	105.920	5.0	0.65	100.000		106	82 - 112			
Freon-113	61.7500	5.0	1.0	50.0000		124	65 - 133			
Hexachlorobutadiene	61.5600	5.0	0.78	50.0000		123	76 - 131			
Isopropylbenzene	51.1800	5.0	0.59	50.0000		102	77 - 122			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
LCS (B7F0506-BS1) - Continued					Prepared: 6/26/2017 Analyzed: 6/26/2017					
m,p-Xylene	103.580	10	1.2	100.000		104	80 - 116			
Methylene chloride	49.9900	5.0	1.4	50.0000		100	67 - 144			
MTBE	47.6700	5.0	0.50	50.0000		95.3	62 - 120			
n-Butylbenzene	53.1400	5.0	0.75	50.0000		106	78 - 134			
n-Propylbenzene	51.2000	5.0	0.55	50.0000		102	77 - 125			
Naphthalene	49.2600	5.0	1.2	50.0000		98.5	66 - 125			
o-Xylene	100.810	5.0	0.86	100.000		101	80 - 113			
sec-Butylbenzene	53.3300	5.0	0.79	50.0000		107	79 - 124			
Styrene	53.6500	5.0	0.82	50.0000		107	82 - 117			
tert-Amyl methyl ether	45.8200	5.0	1.5	50.0000		91.6	62 - 118			
tert-Butanol	214.410	100	5.9	250.000		85.8	35 - 127			
tert-Butylbenzene	52.3200	5.0	0.57	50.0000		105	78 - 121			
Tetrachloroethene	59.4200	5.0	0.65	50.0000		119	75 - 124			
Toluene	113.800	5.0	0.80	100.000		114	79 - 115			
trans-1,2-Dichloroethene	56.8200	5.0	1.5	50.0000		114	65 - 127			
trans-1,3-Dichloropropene	47.9600	5.0	0.63	50.0000		95.9	73 - 115			
Trichloroethene	59.8500	5.0	1.1	50.0000		120	77 - 119			L4
Trichlorofluoromethane	56.5500	5.0	0.89	50.0000		113	57 - 134			
Vinyl acetate	484.640	50	5.7	500.000		96.9	62 - 147			
Vinyl chloride	50.1400	5.0	2.0	50.0000		100	53 - 133			
Surrogate: 1,2-Dichloroethane-d4	*42.19*			*50.0000*		*84.4*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.49*			*50.0000*		*89.0*	*23 - 162*			
Surrogate: Dibromofluoromethan	*49.25*			*50.0000*		*98.5*	*23 - 179*			
Surrogate: Toluene-d8	*49.22*			*50.0000*		*98.4*	*26 - 164*			
Matrix Spike (B7F0506-MS1)			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
1,1,1,2-Tetrachloroethane	55.3000	5.0	0.63	50.0000	ND	111	45 - 124			
1,1,1-Trichloroethane	53.3700	5.0	0.63	50.0000	ND	107	53 - 125			
1,1,2,2-Tetrachloroethane	45.0300	5.0	0.92	50.0000	ND	90.1	42 - 117			
1,1,2-Trichloroethane	52.3200	5.0	1.4	50.0000	ND	105	48 - 120			
1,1-Dichloroethane	47.0300	5.0	1.5	50.0000	ND	94.1	54 - 116			
1,1-Dichloroethene	49.3900	5.0	0.69	50.0000	ND	98.8	47 - 123			
1,1-Dichloropropene	58.5100	5.0	2.4	50.0000	ND	117	48 - 126			
1,2,3-Trichloropropane	43.4100	5.0	1.2	50.0000	ND	86.8	46 - 118			
1,2,3-Trichlorobenzene	50.3400	5.0	1.1	50.0000	ND	101	1 - 132			
1,2,4-Trichlorobenzene	51.5200	5.0	0.96	50.0000	ND	103	2 - 138			
1,2,4-Trimethylbenzene	48.1300	5.0	0.53	50.0000	ND	96.3	32 - 129			
1,2-Dibromo-3-chloropropane	46.2300	10	1.1	50.0000	ND	92.5	34 - 130			
1,2-Dibromoethane	53.3800	5.0	0.80	50.0000	ND	107	45 - 125			
1,2-Dichlorobenzene	51.4900	5.0	0.51	50.0000	ND	103	25 - 130			
1,2-Dichloroethane	47.0200	5.0	0.53	50.0000	ND	94.0	51 - 119			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
Matrix Spike (B7F0506-MS1) - Continued			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
1,2-Dichloropropane	48.3600	5.0	0.76	50.0000	ND	96.7	54 - 113			
1,3,5-Trimethylbenzene	49.6100	5.0	0.58	50.0000	ND	99.2	34 - 128			
1,3-Dichlorobenzene	52.4000	5.0	0.63	50.0000	ND	105	26 - 130			
1,3-Dichloropropane	49.5000	5.0	0.59	50.0000	ND	99.0	53 - 117			
1,4-Dichlorobenzene	51.6600	5.0	0.73	50.0000	ND	103	26 - 130			
2,2-Dichloropropane	48.4900	5.0	0.68	50.0000	ND	97.0	52 - 128			
2-Chlorotoluene	47.5900	5.0	0.68	50.0000	ND	95.2	34 - 126			
4-Chlorotoluene	47.4900	5.0	0.62	50.0000	ND	95.0	32 - 128			
4-Isopropyltoluene	51.0000	5.0	0.63	50.0000	ND	102	28 - 133			
Benzene	104.120	5.0	0.59	100.000	ND	104	55 - 113			
Bromobenzene	51.5400	5.0	1.9	50.0000	ND	103	36 - 122			
Bromochloromethane	54.6400	5.0	3.1	50.0000	ND	109	50 - 118			
Bromodichloromethane	50.9900	5.0	1.0	50.0000	ND	102	51 - 117			
Bromoform	57.1600	5.0	0.70	50.0000	ND	114	39 - 130			
Bromomethane	54.5200	5.0	4.2	50.0000	ND	109	38 - 151			
Carbon disulfide	54.1000	5.0	1.2	50.0000	ND	108	38 - 126			
Carbon tetrachloride	61.0600	5.0	1.1	50.0000	ND	122	43 - 141			
Chlorobenzene	52.2000	5.0	0.64	50.0000	ND	104	42 - 122			
Chloroethane	46.6300	5.0	1.9	50.0000	ND	93.3	42 - 129			
Chloroform	50.6700	5.0	1.4	50.0000	ND	101	56 - 117			
Chloromethane	46.2100	5.0	1.9	50.0000	ND	92.4	35 - 127			
cis-1,2-Dichloroethene	51.4300	5.0	0.87	50.0000	ND	103	50 - 118			
cis-1,3-Dichloropropene	51.8300	5.0	0.79	50.0000	ND	104	45 - 118			
Di-isopropyl ether	43.2400	5.0	0.51	50.0000	ND	86.5	51 - 119			
Dibromochloromethane	53.2400	5.0	1.0	50.0000	ND	106	47 - 120			
Dibromomethane	52.7000	5.0	0.99	50.0000	ND	105	48 - 118			
Dichlorodifluoromethane	52.9800	5.0	2.2	50.0000	ND	106	43 - 126			
Ethyl Acetate	456.010	50	9.7	500.000	ND	91.2	22 - 145			
Ethyl Ether	401.830	50	7.3	500.000	ND	80.4	49 - 114			
Ethyl tert-butyl ether	50.9400	5.0	1.4	50.0000	ND	102	54 - 120			
Ethylbenzene	102.680	5.0	0.65	100.000	ND	103	42 - 123			
Freon-113	55.2100	5.0	1.0	50.0000	ND	110	45 - 132			
Hexachlorobutadiene	52.5600	5.0	0.78	50.0000	ND	105	4 - 135			
Isopropylbenzene	50.4200	5.0	0.59	50.0000	ND	101	40 - 127			
m,p-Xylene	100.450	10	1.2	100.000	ND	100	39 - 127			
Methylene chloride	46.9900	5.0	1.4	50.0000	ND	94.0	51 - 140			
MTBE	47.5900	5.0	0.50	50.0000	ND	95.2	52 - 120			
n-Butylbenzene	49.0200	5.0	0.75	50.0000	ND	98.0	19 - 141			
n-Propylbenzene	49.9500	5.0	0.55	50.0000	ND	99.9	34 - 131			
Naphthalene	47.9600	5.0	1.2	50.0000	ND	95.9	11 - 136			
o-Xylene	98.8600	5.0	0.86	100.000	ND	98.9	40 - 124			
sec-Butylbenzene	50.5900	5.0	0.79	50.0000	ND	101	29 - 132			

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
Matrix Spike (B7F0506-MS1) - Continued			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
Styrene	53.9100	5.0	0.82	50.0000	ND	108	36 - 130			
tert-Amyl methyl ether	46.2400	5.0	1.5	50.0000	ND	92.5	49 - 119			
tert-Butanol	214.230	100	5.9	250.000	ND	85.7	29 - 138			
tert-Butylbenzene	50.5700	5.0	0.57	50.0000	ND	101	34 - 129			
Tetrachloroethene	58.0900	5.0	0.65	50.0000	ND	116	37 - 132			
Toluene	109.800	5.0	0.80	100.000	ND	110	48 - 122			
trans-1,2-Dichloroethene	54.5100	5.0	1.5	50.0000	ND	109	51 - 123			
trans-1,3-Dichloropropene	47.2200	5.0	0.63	50.0000	ND	94.4	38 - 125			
Trichloroethene	57.1500	5.0	1.1	50.0000	ND	114	41 - 136			
Trichlorofluoromethane	51.5500	5.0	0.89	50.0000	ND	103	44 - 126			
Vinyl acetate	456.300	50	5.7	500.000	ND	91.3	0 - 154			
Vinyl chloride	45.8600	5.0	2.0	50.0000	ND	91.7	47 - 122			
Surrogate: 1,2-Dichloroethane-d4	*40.73*			*50.0000*		*81.5*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.96*			*50.0000*		*89.9*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.21*			*50.0000*		*96.4*	*23 - 179*			
Surrogate: Toluene-d8	*49.17*			*50.0000*		*98.3*	*26 - 164*			
Matrix Spike Dup (B7F0506-MSD1)			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
1,1,1,2-Tetrachloroethane	51.5500	5.0	0.63	50.0000	ND	103	45 - 124	7.02	20	
1,1,1-Trichloroethane	48.8400	5.0	0.63	50.0000	ND	97.7	53 - 125	8.86	20	
1,1,2,2-Tetrachloroethane	44.4300	5.0	0.92	50.0000	ND	88.9	42 - 117	1.34	20	
1,1,2-Trichloroethane	51.5100	5.0	1.4	50.0000	ND	103	48 - 120	1.56	20	
1,1-Dichloroethane	43.5900	5.0	1.5	50.0000	ND	87.2	54 - 116	7.59	20	
1,1-Dichloroethene	43.8300	5.0	0.69	50.0000	ND	87.7	47 - 123	11.9	20	
1,1-Dichloropropene	53.3300	5.0	2.4	50.0000	ND	107	48 - 126	9.26	20	
1,2,3-Trichloropropane	42.7600	5.0	1.2	50.0000	ND	85.5	46 - 118	1.51	20	
1,2,3-Trichlorobenzene	49.7900	5.0	1.1	50.0000	ND	99.6	1 - 132	1.10	20	
1,2,4-Trichlorobenzene	50.3500	5.0	0.96	50.0000	ND	101	2 - 138	2.30	20	
1,2,4-Trimethylbenzene	42.6000	5.0	0.53	50.0000	ND	85.2	32 - 129	12.2	20	
1,2-Dibromo-3-chloropropane	45.3500	10	1.1	50.0000	ND	90.7	34 - 130	1.92	20	
1,2-Dibromoethane	53.5700	5.0	0.80	50.0000	ND	107	45 - 125	0.355	20	
1,2-Dichlorobenzene	47.9700	5.0	0.51	50.0000	ND	95.9	25 - 130	7.08	20	
1,2-Dichloroethane	45.1300	5.0	0.53	50.0000	ND	90.3	51 - 119	4.10	20	
1,2-Dichloropropane	44.0100	5.0	0.76	50.0000	ND	88.0	54 - 113	9.42	20	
1,3,5-Trimethylbenzene	43.6500	5.0	0.58	50.0000	ND	87.3	34 - 128	12.8	20	
1,3-Dichlorobenzene	47.4600	5.0	0.63	50.0000	ND	94.9	26 - 130	9.89	20	
1,3-Dichloropropane	46.0500	5.0	0.59	50.0000	ND	92.1	53 - 117	7.22	20	
1,4-Dichlorobenzene	47.2200	5.0	0.73	50.0000	ND	94.4	26 - 130	8.98	20	
2,2-Dichloropropane	43.1600	5.0	0.68	50.0000	ND	86.3	52 - 128	11.6	20	
2-Chlorotoluene	42.3500	5.0	0.68	50.0000	ND	84.7	34 - 126	11.7	20	
4-Chlorotoluene	42.2800	5.0	0.62	50.0000	ND	84.6	32 - 128	11.6	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
Matrix Spike Dup (B7F0506-MSD1) - Continued			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
4-Isopropyltoluene	44.3900	5.0	0.63	50.0000	ND	88.8	28 - 133	13.9	20	
Benzene	94.9400	5.0	0.59	100.000	ND	94.9	55 - 113	9.22	20	
Bromobenzene	47.1200	5.0	1.9	50.0000	ND	94.2	36 - 122	8.96	20	
Bromochloromethane	51.3500	5.0	3.1	50.0000	ND	103	50 - 118	6.21	20	
Bromodichloromethane	47.2800	5.0	1.0	50.0000	ND	94.6	51 - 117	7.55	20	
Bromoform	56.9500	5.0	0.70	50.0000	ND	114	39 - 130	0.368	20	
Bromomethane	46.0200	5.0	4.2	50.0000	ND	92.0	38 - 151	16.9	20	
Carbon disulfide	47.3900	5.0	1.2	50.0000	ND	94.8	38 - 126	13.2	20	
Carbon tetrachloride	55.0200	5.0	1.1	50.0000	ND	110	43 - 141	10.4	20	
Chlorobenzene	47.1900	5.0	0.64	50.0000	ND	94.4	42 - 122	10.1	20	
Chloroethane	40.7500	5.0	1.9	50.0000	ND	81.5	42 - 129	13.5	20	
Chloroform	45.4700	5.0	1.4	50.0000	ND	90.9	56 - 117	10.8	20	
Chloromethane	41.3300	5.0	1.9	50.0000	ND	82.7	35 - 127	11.1	20	
cis-1,2-Dichloroethene	49.5600	5.0	0.87	50.0000	ND	99.1	50 - 118	3.70	20	
cis-1,3-Dichloropropene	49.8300	5.0	0.79	50.0000	ND	99.7	45 - 118	3.93	20	
Di-isopropyl ether	40.1300	5.0	0.51	50.0000	ND	80.3	51 - 119	7.46	20	
Dibromochloromethane	51.1800	5.0	1.0	50.0000	ND	102	47 - 120	3.95	20	
Dibromomethane	47.6400	5.0	0.99	50.0000	ND	95.3	48 - 118	10.1	20	
Dichlorodifluoromethane	47.5000	5.0	2.2	50.0000	ND	95.0	43 - 126	10.9	20	
Ethyl Acetate	449.800	50	9.7	500.000	ND	90.0	22 - 145	1.37	20	
Ethyl Ether	384.720	50	7.3	500.000	ND	76.9	49 - 114	4.35	20	
Ethyl tert-butyl ether	49.2700	5.0	1.4	50.0000	ND	98.5	54 - 120	3.33	20	
Ethylbenzene	91.2200	5.0	0.65	100.000	ND	91.2	42 - 123	11.8	20	
Freon-113	50.6400	5.0	1.0	50.0000	ND	101	45 - 132	8.63	20	
Hexachlorobutadiene	44.8400	5.0	0.78	50.0000	ND	89.7	4 - 135	15.9	20	
Isopropylbenzene	43.9800	5.0	0.59	50.0000	ND	88.0	40 - 127	13.6	20	
m,p-Xylene	88.7900	10	1.2	100.000	ND	88.8	39 - 127	12.3	20	
Methylene chloride	41.7600	5.0	1.4	50.0000	ND	83.5	51 - 140	11.8	20	
MTBE	46.0500	5.0	0.50	50.0000	ND	92.1	52 - 120	3.29	20	
n-Butylbenzene	42.1400	5.0	0.75	50.0000	ND	84.3	19 - 141	15.1	20	
n-Propylbenzene	43.5800	5.0	0.55	50.0000	ND	87.2	34 - 131	13.6	20	
Naphthalene	50.4100	5.0	1.2	50.0000	ND	101	11 - 136	4.98	20	
o-Xylene	88.4600	5.0	0.86	100.000	ND	88.5	40 - 124	11.1	20	
sec-Butylbenzene	44.5200	5.0	0.79	50.0000	ND	89.0	29 - 132	12.8	20	
Styrene	48.5400	5.0	0.82	50.0000	ND	97.1	36 - 130	10.5	20	
tert-Amyl methyl ether	44.2700	5.0	1.5	50.0000	ND	88.5	49 - 119	4.35	20	
tert-Butanol	224.830	100	5.9	250.000	ND	89.9	29 - 138	4.83	20	
tert-Butylbenzene	44.5900	5.0	0.57	50.0000	ND	89.2	34 - 129	12.6	20	
Tetrachloroethene	51.5600	5.0	0.65	50.0000	ND	103	37 - 132	11.9	20	
Toluene	101.170	5.0	0.80	100.000	ND	101	48 - 122	8.18	20	
trans-1,2-Dichloroethene	48.6600	5.0	1.5	50.0000	ND	97.3	51 - 123	11.3	20	
trans-1,3-Dichloropropene	44.6000	5.0	0.63	50.0000	ND	89.2	38 - 125	5.71	20	

Certificate of Analysis

GSA Engineering	Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez	Report To :	Dan Louks
Pacific Palisades , CA 90272	Reported :	06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7F0506 - MSVOA_S (continued)										
Matrix Spike Dup (B7F0506-MSD1) - Continued			**Source: 1702416-01**		Prepared: 6/26/2017 Analyzed: 6/26/2017					
Trichloroethene	53.6100	5.0	1.1	50.0000	ND	107	41 - 136	6.39	20	
Trichlorofluoromethane	47.0400	5.0	0.89	50.0000	ND	94.1	44 - 126	9.15	20	
Vinyl acetate	403.950	50	5.7	500.000	ND	80.8	0 - 154	12.2	20	
Vinyl chloride	41.7400	5.0	2.0	50.0000	ND	83.5	47 - 122	9.41	20	
Surrogate: 1,2-Dichloroethane-d4	*40.07*			*50.0000*		*80.1*	*12 - 186*			
Surrogate: 4-Bromofluorobenzene	*44.61*			*50.0000*		*89.2*	*23 - 162*			
Surrogate: Dibromofluoromethan	*48.82*			*50.0000*		*97.6*	*23 - 179*			
Surrogate: Toluene-d8	*48.24*			*50.0000*		*96.5*	*26 - 164*			

Certificate of Analysis

GSA Engineering		Project Number :	Former Crown Cleaners
16950 Avenida De Santa Ynez		Report To :	Dan Louks
Pacific Palisades , CA 90272		Reported :	06/28/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C: 3.8 °C		
☐ Other:	4. SEALED	☐	☑			

CUSTOMER

Company: GSA ENGINEERING, INC
Address:
City:
State:
Zip:
Tel:
Fax:

SEND REPORT TO:
Attn: DAN LOUKS
Email: dan@gsaengineering.net
Company: GSA ENGINEERING, INC.
Address: 16950 AVENIDA DE SANTA YNEZ
City: PACIFIC PALISADES State: CA Zip: 90272

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: MICHAEL ANSELMO
Email: ljosephllc@gmail.com
Company: LJOSEPH & ASS
Address: P.O. BOX 4832
City: OCEANSIDE, CA State: CA Zip: 92052

PROJECT SAMPLES

Project Name: FORMER CROWN CLEANERS
Project No.:
Sampler: DAN LOUKS
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis; Encircle Sample Matrix; Container; QA/QC

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	#	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4 = 4C; 5=Zn (Ac)2; 6=NaOH; 7=NAZS2O3	REMARKS
1	1702387-1	VP4-5	6/21/17	7:55	X								X						3	2		3	
2	-2	VP4-10		8:10	X																		
3	-3	VP4-15		8:30	X																		
4	-4	VP5-5		12:00	X																		
5	-5	VP5-10		12:10	X																		
6	-6	VP5-15		12:25	X																		
7	-7	VP10-5		9:05	X																		
8	-8	VP10-10		9:20	X																		
9	-9	VP10-15		9:35	X																		
10																							

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for fi ve (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-fi ve (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name _____ Signature _____

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
DAN R. LOUKS	6/21/17	14:15	[illegible]	6/21/17	1415
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

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CHAIN OF CUSTODY RECORD

Page 2 of 2

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	Condition	Y	N	Condition	Y	N
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☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☑			

CUSTOMER

Company: GSA ENGINEERING
Address:
City:
State:
Zip:
Tel:
Fax:

SEND REPORT TO:
Attn: DAN LOUKS
Email: dan@gsaengineering.net
Company: GSA ENGINEERING
Address: 16950 AVENIDA DE SANTA YNEZ
City: PACIFIC PALISADES
State: CA
Zip: 90272

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: MICHAEL ANSELMO
Email: ljosephltd@gmail.com
Company: LJOSEPH + ASS
Address: P.O. BOX 4832
City: OCEANSIDE
State: CA
Zip: 92052

PROJECT SAMPLES

Project Name: FORMER CROWN CLEANERS
Project No.:
Sampler: DAN LOUKS
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister	Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4 = 4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1702387-10	VP11-5	6/21/17	11:00	X										X				3	2		3	
2	-11	VP11-10		11:10	X										X								
3	-12	VP11-15		11:25	X										X								
4	-13	VP12-5		9:55	X										X								
5	-14	VP12-10		10:05	X										X								
6	-15	VP12-15		10:15	X										X								
7																							
8																							
9																							
10																							

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3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
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5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

DAN LOUKS — Submitter Print Name
Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
DAN R. LOUKS	6/21/17	14:15	FEDEX	6/21/17	1415
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

APPENDIX D

A & R Laboratories

Formerly Microbac Southern California
1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng — Ken ZHeng, President 07/03/2017 15:57:37
Laboratory Job No. (Certificate of Analysis No.)	1706-00245
Project Name / No.	24601 Raymond Way, Lake Forest, CA
Dates Sampled (from/to)	06/28/17 To 06/28/17
Dates Received (from/to)	06/28/17 To 06/28/17
Dates Reported (from/to)	07/03/17 To 7/3/2017
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
VP12-5	Toluene	**0.12**		µg/L	0.10	VP12-10	Tetrachloroethene	**0.15**		µg/L	0.10
VP12-10	Toluene	**0.36**		µg/L	0.10	VP12-15	Tetrachloroethene	**0.21**		µg/L	0.10
VP1-5	Tetrachloroethene	**0.16**		µg/L	0.10	VP1-5DUP	Tetrachloroethene	**0.11**		µg/L	0.10
VP1-10	Toluene	***0.050***	J	µg/L	0.10	VP1-15	Tetrachloroethene	**0.13**		µg/L	0.10
VP5-5	Tetrachloroethene	**0.86**		µg/L	0.10	VP5-10	Toluene	**0.28**		µg/L	0.10
VP5-15	Tetrachloroethene	**3.7**		µg/L	0.10	VP3-15	Tetrachloroethene	**0.51**		µg/L	0.10
VP2-5	Tetrachloroethene	***0.090***	J	µg/L	0.10	VP9-5	Tetrachloroethene	**1.1**		µg/L	0.10
VP9-5	Toluene	**0.15**		µg/L	0.10	VP9-10	Tetrachloroethene	**0.12**		µg/L	0.10
VP9-10	Toluene	**0.20**		µg/L	0.10	VP9-15	Tetrachloroethene	**0.10**		µg/L	0.10
VP6-10	Tetrachloroethene	**16**		µg/L	0.10	VP6-15	Tetrachloroethene	**35**		µg/L	0.10

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USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research

A & R Laboratories

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ONTARIO, CA 91761
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FDA#	2030513
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 001 **VP12-5** Date & Time Sampled: 06/28/17 @ 10:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	10:17	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:17	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 001 **VP12-5** Date & Time Sampled: 06/28/17 @ 10:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	10:17	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	10:17	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Toluene	**0.12**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ

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Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **VP12-5**						Date & Time Sampled:		06/28/17	@ 10:00	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:17	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	10:17	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Toluene-D8	98		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Sample: 002 **VP12-10**						Date & Time Sampled:		06/28/17	@ 10:25	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	10:40	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ

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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 002 **VP12-10** Date & Time Sampled: 06/28/17 @ 10:25
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:40	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ

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Invoice No.	79759
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Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 002 **VP12-10** Date & Time Sampled: 06/28/17 @ 10:25
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	10:40	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	10:40	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Tetrachloroethene	**0.15**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Toluene	**0.36**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:40	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	10:40	KZ

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Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **VP12-10**						Date & Time Sampled:		06/28/17	@	10:25
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
[VOC Surrogates]										
Dibromofluoromethane	113		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Toluene-D8	102		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Sample: 003 **VP12-15**						Date & Time Sampled:		06/28/17	@	10:58
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:08	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:08	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ

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FDA#	2030513
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 003 **VP12-15** Date & Time Sampled: 06/28/17 @ 10:58
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:08	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 003 **VP12-15** Date & Time Sampled: 06/28/17 @ 10:58
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:08	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Tetrachloroethene	**0.21**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:08	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:08	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ
Bromofluorobenzene	91		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 004 **VP1-5** Date & Time Sampled: 06/28/17 @ 11:16
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:31	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:31	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 004 **VP1-5** Date & Time Sampled: 06/28/17 @ 11:16
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:31	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:31	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Tetrachloroethene	**0.16**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **VP1-5**						Date & Time Sampled:		06/28/17	@ 11:16	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:31	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:31	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Sample: 005 **VP1-5DUP**						Date & Time Sampled:		06/28/17	@ 11:16	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:55	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ

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1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 005 **VP1-5DUP** Date & Time Sampled: 06/28/17 @ 11:16
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:55	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ

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1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 005 **VP1-5DUP** Date & Time Sampled: 06/28/17 @ 11:16
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:55	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:55	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Tetrachloroethene	**0.11**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:55	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:55	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **VP1-5DUP**						Date & Time Sampled:		06/28/17	@	11:16
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
[VOC Surrogates]										
Dibromofluoromethane	110		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Bromofluorobenzene	93		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Sample: 006 **VP1-10**						Date & Time Sampled:		06/28/17	@	11:55
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	12:18	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:18	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 006 **VP1-10** Date & Time Sampled: 06/28/17 @ 11:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	12:18	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 006 **VP1-10** Date & Time Sampled: 06/28/17 @ 11:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	12:18	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Toluene	***0.050***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:18	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	12:18	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 007 **VP1-15** Date & Time Sampled: 06/28/17 @ 12:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	12:41	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:41	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ

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Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 007 **VP1-15** Date & Time Sampled: 06/28/17 @ 12:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	12:41	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	12:41	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Tetrachloroethene	**0.13**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ

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Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **VP1-15**						Date & Time Sampled:		06/28/17	@ 12:20	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:41	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	12:41	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
[VOC Surrogates]										
Dibromofluoromethane	113		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Sample: 008 **VP5-5**						Date & Time Sampled:		06/28/17	@ 12:55	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:05	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ

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FDA#	2030513
LA City#	10261
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	2790
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 008 **VP5-5** Date & Time Sampled: 06/28/17 @ 12:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:05	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 008 **VP5-5** Date & Time Sampled: 06/28/17 @ 12:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:05	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:05	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Tetrachloroethene	**0.86**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:05	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:05	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **VP5-5**						Date & Time Sampled:		06/28/17	@	12:55
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Bromofluorobenzene	93		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Sample: 009 **VP5-10**						Date & Time Sampled:		06/28/17	@	13:18
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:29	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:29	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 009 **VP5-10** Date & Time Sampled: 06/28/17 @ 13:18
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:29	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 009 **VP5-10** Date & Time Sampled: 06/28/17 @ 13:18
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:29	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Toluene	**0.28**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:29	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:29	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 010 **VP5-15** Date & Time Sampled: 06/28/17 @ 13:47
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:56	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:56	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 010 **VP5-15** Date & Time Sampled: 06/28/17 @ 13:47
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:56	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:56	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Tetrachloroethene	**3.7**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ

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Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **VP5-15**						Date & Time Sampled:		06/28/17	@	13:47
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:56	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:56	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Toluene-D8	106		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Bromofluorobenzene	92		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Sample: 011 **VP3-5**						Date & Time Sampled:		06/28/17	@	14:09
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	2:19	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 011 **VP3-5** Date & Time Sampled: 06/28/17 @ 14:09
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:19	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ

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Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 011 **VP3-5** Date & Time Sampled: 06/28/17 @ 14:09
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	2:19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	2:19	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:19	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	2:19	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **VP3-5**						Date & Time Sampled:		06/28/17	@	14:09
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
[VOC Surrogates]										
Dibromofluoromethane	111		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Sample: 012 **VP3-10**						Date & Time Sampled:		06/28/17	@	14:36
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	2:42	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:42	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Sample: 012 **VP3-10** Date & Time Sampled: 06/28/17 @ 14:36
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	2:42	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Sample: 012 **VP3-10** Date & Time Sampled: 06/28/17 @ 14:36
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	2:42	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:42	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	2:42	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
[VOC Surrogates]										
Dibromofluoromethane	109		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ
Toluene-D8	101		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 013 **VP3-15** Date & Time Sampled: 06/28/17 @ 14:59
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:09	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:09	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 013 **VP3-15** Date & Time Sampled: 06/28/17 @ 14:59
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:09	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:09	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Tetrachloroethene	**0.51**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **VP3-15**						Date & Time Sampled:		06/28/17	@	14:59
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:09	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:09	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Sample: 014 **VP2-5**						Date & Time Sampled:		06/28/17	@	15:21
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:32	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 014 **VP2-5** Date & Time Sampled: 06/28/17 @ 15:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:32	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 014 **VP2-5** Date & Time Sampled: 06/28/17 @ 15:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:32	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:32	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Tetrachloroethene	***0.090***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:32	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:32	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **VP2-5**						Date & Time Sampled:		06/28/17	@	15:21
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
[VOC Surrogates]										
Dibromofluoromethane	119		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Sample: 015 **VP2-10**						Date & Time Sampled:		06/28/17	@	15:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:58	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:58	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 015 **VP2-10** Date & Time Sampled: 06/28/17 @ 15:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:58	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 015 **VP2-10** Date & Time Sampled: 06/28/17 @ 15:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:58	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:58	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:58	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ
Bromofluorobenzene	91		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 016 **VP2-15** Date & Time Sampled: 06/28/17 @ 16:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	4:20	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:20	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ

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Date Reported	07/03/17
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Invoice No.	79759
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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 **VP2-15**						Date & Time Sampled:		06/28/17	@ 16:10	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	4:20	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	4:20	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 **VP2-15**						Date & Time Sampled:		06/28/17	@	16:10
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:20	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	4:20	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Toluene-D8	106		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Sample: 017 **VP9-5**						Date & Time Sampled:		06/28/17	@	16:40
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	4:50	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ

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Date Received	06/28/17
Invoice No.	79759
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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 017 **VP9-5** Date & Time Sampled: 06/28/17 @ 16:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:50	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ

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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 017 **VP9-5** Date & Time Sampled: 06/28/17 @ 16:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	4:50	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	4:50	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Tetrachloroethene	**1.1**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Toluene	**0.15**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:50	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	4:50	KZ

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FDA#	2030513
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 **VP9-5**						Date & Time Sampled:		06/28/17	@	16:40
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Sample: 018 **VP9-10**						Date & Time Sampled:		06/28/17	@	17:00
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:12	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:12	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 018 **VP9-10** Date & Time Sampled: 06/28/17 @ 17:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:12	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 018 **VP9-10** Date & Time Sampled: 06/28/17 @ 17:00
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:12	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Tetrachloroethene	**0.12**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Toluene	**0.20**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:12	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:12	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ
Bromofluorobenzene	86		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 019 **VP9-15** Date & Time Sampled: 06/28/17 @ 17:25
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:35	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:35	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 019 **VP9-15** Date & Time Sampled: 06/28/17 @ 17:25
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:35	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:35	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Tetrachloroethene	**0.10**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 019 **VP9-15**						Date & Time Sampled:		06/28/17	@	17:25
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:35	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:35	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
[VOC Surrogates]										
Dibromofluoromethane	111		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Sample: 020 **VP6-10**						Date & Time Sampled:		06/28/17	@	17:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:57	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ

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	2790
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 020 **VP6-10** Date & Time Sampled: 06/28/17 @ 17:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:57	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 020 **VP6-10** Date & Time Sampled: 06/28/17 @ 17:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:57	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:57	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Tetrachloroethene	**16**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:57	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:57	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 020 **VP6-10**						Date & Time Sampled:		06/28/17	@	17:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Sample: 021 **VP6-15**						Date & Time Sampled:		06/28/17	@	18:10
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	6:20	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	6:20	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 021 **VP6-15** Date & Time Sampled: 06/28/17 @ 18:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	6:20	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/28/17
Invoice No.	79759
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Sample: 021 **VP6-15** Date & Time Sampled: 06/28/17 @ 18:10
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	6:20	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Tetrachloroethene	**35**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	6:20	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	6:20	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ
Toluene-D8	107		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ
Bromofluorobenzene	94		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ

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Respectfully Submitted: Ken Zheng

Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	**07/03/2017**
Date Received	**06/28/2017**
Date Sampled	**06/28/2017**
Invoice No.	**79759**
Customer #	**L092**
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest, CA

Method # EPA 8260B

QC Reference # 65660 **Date Analyzed:** 6/28/2017 **Technician:** KZ

Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021

Results

	LCS %REC	LCS %DUP	LCS %RPD	BLKSRR% REC
1,1-Dichloroethene	128	120	8	
Benzene	124	124	0	
Bromofluorobenzene				93
Chlorobenzene	125	113	12	
Dibromofluoromethan				121
Toluene	120	120	0	
Toluene-D8				103
Trichloroethene	127	110	17	

Control Ranges

	LCS %REC	LCS %RPD	BLKSRR%REC
1,1-Dichloroethene	70 - 130	0 - 25	
Benzene	70 - 130	0 - 25	
Bromofluorobenzene			70 - 130
Chlorobenzene	70 - 130	0 - 25	
Dibromofluoromethan			70 - 130
Toluene	70 - 130	0 - 25	
Toluene-D8			70 - 130
Trichloroethene	70 - 130	0 - 25	

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QUALITY CONTROL DATA REPORT

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

Date Reported	**07/03/2017**
Date Received	**06/28/2017**
Date Sampled	**06/28/2017**

Project: 24601 Raymond Way, Lake Forest, CA

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
65660	Acetone	<5.0000		µg/L	5.0000
	t-Amyl Methyl Ether (TAME)	<0.5000		µg/L	0.5000
	Benzene	<0.3600		µg/L	0.3600
	Bromobenzene	<0.5000		µg/L	0.5000
	Bromochloromethane	<0.5000		µg/L	0.5000
	Bromodichloromethane	<0.5000		µg/L	0.5000
	Bromoform	<0.5000		µg/L	0.5000
	Bromomethane	<0.5000		µg/L	0.5000
	t-Butanol (TBA)	<5.0000		µg/L	5.0000
	2-Butanone (MEK)	<5.0000		µg/L	5.0000
	n-Butylbenzene	<0.5000		µg/L	0.5000
	sec-Butylbenzene	<0.5000		µg/L	0.5000
	tert-Butylbenzene	<0.5000		µg/L	0.5000
	Carbon Disulfide	<5.0000		µg/L	5.0000
	Carbon Tetrachloride	<0.2500		µg/L	0.2500
	Chlorobenzene	<0.5000		µg/L	0.5000
	Chloroethane	<0.5000		µg/L	0.5000
	Chloroform	<0.5000		µg/L	0.5000
	Chloromethane	<0.5000		µg/L	0.5000
	2-Chlorotoluene	<0.5000		µg/L	0.5000
	4-Chlorotoluene	<0.5000		µg/L	0.5000
	Dibromochloromethane	<0.5000		µg/L	0.5000
	1,2-Dibromoethane (EDB)	<0.2000		µg/L	0.2000
	1,2-Dibromo-3-Chloropropane	<0.2000		µg/L	0.2000
	Dibromomethane	<0.5000		µg/L	0.5000
	1,2-Dichlorobenzene	<0.5000		µg/L	0.5000
	1,3-Dichlorobenzene	<0.5000		µg/L	0.5000
	1,4-Dichlorobenzene	<0.5000		µg/L	0.5000
	Dichlorodifluoromethane	<0.5000		µg/L	0.5000
	1,1-Dichloroethane	<0.5000		µg/L	0.5000
	1,2-Dichloroethane	<0.5000		µg/L	0.5000
	1,1-Dichloroethene	<0.5000		µg/L	0.5000
	cis-1,2-Dichloroethene	<0.5000		µg/L	0.5000
	trans-1,2-Dichloroethene	<0.5000		µg/L	0.5000
	1,2-Dichloropropane	<0.5000		µg/L	0.5000
	1,3-Dichloropropane	<0.5000		µg/L	0.5000
	2,2-Dichloropropane	<0.5000		µg/L	0.5000
	1,1-Dichloropropene	<0.5000		µg/L	0.5000
	cis-1,3-Dichloropropene	<0.5000		µg/L	0.5000
	trans-1,3-Dichloropropene	<0.5000		µg/L	0.5000
	Diisopropyl Ether (DiPE)	<0.5000		µg/L	0.5000
	Ethylbenzene	<0.5000		µg/L	0.5000
	Ethyl-t-Butyl Ether (EtBE)	<0.5000		µg/L	0.5000
	Hexachlorobutadiene	<0.5000		µg/L	0.5000
	2-Hexanone	<5.0000		µg/L	5.0000

Ref	Test Name	Result	Qualif	Units	MDL
	Isopropylbenzene	<0.5000		µg/L	0.5000
	4-Isopropyltoluene	<0.5000		µg/L	0.5000
	Methylene Chloride	<0.5000		µg/L	0.5000
	4-Methyl-2-Pentanone (MIBK)	<5.0000		µg/L	5.0000
	Methyl-t-butyl Ether (MtBE)	<0.5000		µg/L	0.5000
	Naphthalene	<0.3200		µg/L	0.3200
	n-Propylbenzene	<0.5000		µg/L	0.5000
	Styrene	<0.5000		µg/L	0.5000
	1,1,1,2-Tetrachloroethane	<0.5000		µg/L	0.5000
	1,1,2,2-Tetrachloroethane	<0.5000		µg/L	0.5000
	Tetrachloroethene	<0.5000		µg/L	0.5000
	Toluene	<0.5000		µg/L	0.5000
	1,2,3-Trichlorobenzene	<0.5000		µg/L	0.5000
	1,2,4-Trichlorobenzene	<0.5000		µg/L	0.5000
	1,1,1-Trichloroethane	<0.5000		µg/L	0.5000
	1,1,2-Trichloroethane	<0.5000		µg/L	0.5000
	Trichloroethene	<0.5000		µg/L	0.5000
	1,2,3-Trichloropropane	<0.2000		µg/L	0.2000
	Trichlorofluoromethane	<0.5000		µg/L	0.5000
	Trichlorotrifluoroethane	<0.5000		µg/L	0.5000
	1,2,4-Trimethylbenzene	<0.5000		µg/L	0.5000
	1,3,5-Trimethylbenzene	<0.5000		µg/L	0.5000
	Vinyl Chloride	<0.2500		µg/L	0.2500
	m,p-Xylenes	<1.0000		µg/L	1.0000
	o-Xylene	<0.5000		µg/L	0.5000
	Isopropanol (IPA)	<5.0000		µg/L	5.0000

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QUALITY CONTROL DATA REPORT

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

Date Reported	**07/03/2017**
Date Received	**06/28/2017**
Date Sampled	**06/28/2017**

Project: 24601 Raymond Way, Lake Forest, CA

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

A & R Laboratories
1650 S. Grove Ave., Ste C, Ontario, CA 91761
Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

BILL TO LJA - MICHAEL ANSELMO

A & R Work Order #: 1706-245

Client Name: GSA - Lake Forest / L. Joseph + Assoc
E-mail: ljosephllc@gmail.com
Address: 16950 Ave. De Santa Fe 8, RP CA 90272
Report Attention: Dan Louh
Phone #: (310) 567-5743
Fax: #
Sampled By: ARL
Project No./ Name: Former Crane Co
Project Site: 24601 Raymond Way, Lake Forest

☐ Chilled
☒ Intact
☐ Seal

Analyses Requested

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli						Remarks
-1	VP12-5	6/28/17	10:00	Aq		250ml G	X														Less 1 min purge some Water
-2	VP12-10		10:25																		3PV
-3	VP12-15		10:58																		
-4	VP1-5		11:16																		
-5	VP1-5 dup		11:16																		
-6	VP1-10		11:55																		
-7	VP1-15		12:20																		
-8	VP5-5		12:55																		
-9	VP5-10		13:18																		
-10	VP5-15		13:47																		
-11	VP3-5		14:09																		
-12	VP3-10		14:36																		
-13	VP3-15		14:59																		
-14	VP2-5		15:21																		
-15	VP2-10		15:50																		

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	GSA	6/28/17	18:00				
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature]	Fare	6/28/17	18:00

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product

Preservative Code: IC=Ice, HC=HCl, HN=HNO_3, SH=NaOH, ST=$Na_2S_2O_3$, HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag, G=Glass Container, ST= Steel Tube, B= Brass Tube, P=Plastic Bottle, V=VOA Vial, E= EnCore

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E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1706-265

Client Name: GSA - Lake Forest / L. Joseph + Assoc.
E-mail: ljosephllc@gmail.com
Address: 16950 AVE. DE SANTA INEZ, PP CA 90272
Report Attention: Dan Lewis
Phone #: (310) 562-5748
Fax: #
Sampled By: ARL
Project No./ Name: Former Crown CL
Project Site: 24601 Raymond Way, Lake Forest.

☐ Chilled
☒ Intact
☐ Seal

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks
-16	VP2-15	6/28/17	16:10	Air		250ml Cf	X									3 PV
-17	VP9-5	↓	16:40	↓		↓	↓									↓
-18	VP9-10		17:00													
-19	VP9-15		17:25													
-20	VP6-10		17:50													
-21	VP6-15		18:10													

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	GSA	6/28/17	18:00				
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature]	A&R	6/28/17	18:00

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product

Preservative Code: IC=Ice, HC=HCl, HN=HNO_3, SH=NaOH, ST=$Na_2S_2O_3$, HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag, G=Glass Container, ST= Steel Tube, B= Brass Tube, P=Plastic Bottle, V=VOA Vial, E= EnCore

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng — Ken ZHeng, President 07/03/2017 17:11:57
Laboratory Job No. (Certificate of Analysis No.)	1706-00278
Project Name / No.	24601 Raymond Way, Lake Forest CA
Dates Sampled (from/to)	06/30/17 To 06/30/17
Dates Received (from/to)	06/30/17 To 06/30/17
Dates Reported (from/to)	07/03/17 To 7/3/2017
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
VP10-5	Tetrachloroethene	***0.050***	J	µg/L	0.10	VP10-15	Tetrachloroethene	***0.050***	J	µg/L	0.10
VP4-5	Tetrachloroethene	**0.47**		µg/L	0.10	VP4-10	Tetrachloroethene	**0.15**		µg/L	0.10
VP4-15	Tetrachloroethene	**7.9**		µg/L	0.10	VP8-5	Tetrachloroethene	**6.2**		µg/L	0.10
VP8-5	Trichloroethene	***0.090***	J	µg/L	0.10	VP8-10	Tetrachloroethene	***0.090***	J	µg/L	0.10
VP8-15	Tetrachloroethene	**0.12**		µg/L	0.10	VP7-5	Tetrachloroethene	**13**		µg/L	0.10
VP7-5	Trichloroethene	**0.60**		µg/L	0.10	VP7-5	cis-1,2-Dichloroethene	**0.33**		µg/L	0.10
VP7-10	Tetrachloroethene	**0.57**		µg/L	0.10	VP7-10	Trichloroethene	**0.23**		µg/L	0.10
VP7-10	cis-1,2-Dichloroethene	**0.10**		µg/L	0.10	VP7-15	Tetrachloroethene	**4.1**		µg/L	0.10
VP7-15	Trichloroethene	***0.080***	J	µg/L	0.10	VP7-15	cis-1,2-Dichloroethene	***0.090***	J	µg/L	0.10
VP11-5	Tetrachloroethene	**0.13**		µg/L	0.10	VP11-10	Tetrachloroethene	**0.15**		µg/L	0.10
VP11-15	Tetrachloroethene	***0.090***	J	µg/L	0.10	VP11-15DUP	Tetrachloroethene	***0.070***	J	µg/L	0.10

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 001 **VP10-5** Date & Time Sampled: 06/30/17 @ 13:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	1:35	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	1:35	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 001 **VP10-5** Date & Time Sampled: 06/30/17 @ 13:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	1:35	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	1:35	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Tetrachloroethene	***0.050***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 001 **VP10-5** Date & Time Sampled: 06/30/17 @ 13:20
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	1:35	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	1:35	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	06/30/17	1:35	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	1:35	AR
Bromofluorobenzene	118		%REC	EPA 8260B			70-130	06/30/17	1:35	AR

Sample: 002 **VP10-10** Date & Time Sampled: 06/30/17 @ 13:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	2:19	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 002 **VP10-10** Date & Time Sampled: 06/30/17 @ 13:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:19	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR

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Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 002 **VP10-10** Date & Time Sampled: 06/30/17 @ 13:48
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	2:19	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	2:19	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **VP10-10** Sample Matrix: **Soil Vapor** Purge Volume Sampled: **3**					Date & Time Sampled:			06/30/17	@	13:48
.....continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:19	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	2:19	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
[VOC Surrogates]										
Dibromofluoromethane	108		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Toluene-D8	96		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Bromofluorobenzene	121		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Sample: 003 **VP10-15** Sample Matrix: **Soil Vapor** Purge Volume Sampled: **3**					Date & Time Sampled:			06/30/17	@	14:31
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	2:43	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR

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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 003 **VP10-15** Date & Time Sampled: 06/30/17 @ 14:31
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:43	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 003 **VP10-15** Date & Time Sampled: 06/30/17 @ 14:31
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	2:43	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	2:43	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Tetrachloroethene	***0.050***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:43	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	2:43	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 **VP10-15**						Date & Time Sampled:		06/30/17	@	14:31
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Toluene-D8	96		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Bromofluorobenzene	107		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Sample: 004 **VP4-5**						Date & Time Sampled:		06/30/17	@	15:21
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	3:31	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:31	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 004 **VP4-5** Date & Time Sampled: 06/30/17 @ 15:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	3:31	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 004 **VP4-5** Date & Time Sampled: 06/30/17 @ 15:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	3:31	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Tetrachloroethene	**0.47**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:31	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	3:31	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	3:31	AR
Toluene-D8	78		%REC	EPA 8260B			70-130	06/30/17	3:31	AR
Bromofluorobenzene	112		%REC	EPA 8260B			70-130	06/30/17	3:31	AR

Sample: 005 **VP4-10** Date & Time Sampled: 06/30/17 @ 15:39
Sample Matrix: **Soil Vapor**

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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 005 **VP4-10** Date & Time Sampled: 06/30/17 @ 15:39
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	3:56	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:56	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 005 **VP4-10** Date & Time Sampled: 06/30/17 @ 15:39
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	3:56	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	3:56	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Tetrachloroethene	**0.15**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR

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MICHAEL ANSELMO
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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **VP4-10**					Date & Time Sampled:			06/30/17	@	15:39
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:56	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	3:56	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Toluene-D8	91		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Bromofluorobenzene	109		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Sample: 006 **VP4-15**					Date & Time Sampled:			06/30/17	@	16:03
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	4:21	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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CERTIFICATE OF ANALYSIS

1706-00278

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 006 **VP4-15** Date & Time Sampled: 06/30/17 @ 16:03
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:21	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 006 **VP4-15** Date & Time Sampled: 06/30/17 @ 16:03
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	4:21	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	4:21	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Tetrachloroethene	**7.9**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **VP4-15**						Date & Time Sampled:		06/30/17	@	16:03
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:21	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	4:21	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Toluene-D8	93		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Sample: 007 **VP8-5**						Date & Time Sampled:		06/30/17	@	16:29
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	4:47	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 007 **VP8-5** Date & Time Sampled: 06/30/17 @ 16:29
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:47	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 007 **VP8-5** Date & Time Sampled: 06/30/17 @ 16:29
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	4:47	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	4:47	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Tetrachloroethene	**6.2**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Trichloroethene	***0.090***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:47	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	4:47	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR

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441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **VP8-5**						Date & Time Sampled:		06/30/17	@	16:29
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Bromofluorobenzene	122		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Sample: 008 **VP8-10**						Date & Time Sampled:		06/30/17	@	16:55
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	5:12	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:12	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR

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Invoice No.	79771
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Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 008 **VP8-10** Date & Time Sampled: 06/30/17 @ 16:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	5:12	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 008 **VP8-10** Date & Time Sampled: 06/30/17 @ 16:55
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	5:12	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Tetrachloroethene	***0.090***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:12	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	5:12	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	5:12	AR
Toluene-D8	95		%REC	EPA 8260B			70-130	06/30/17	5:12	AR
Bromofluorobenzene	98		%REC	EPA 8260B			70-130	06/30/17	5:12	AR

Sample: 009 **VP8-15** Date & Time Sampled: 06/30/17 @ 17:21
Sample Matrix: **Soil Vapor**

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CERTIFICATE OF ANALYSIS

1706-00278

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441 CALLE CORAZON
OCEANSIDE, CA 92052

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Project: 24601 Raymond Way, Lake Forest CA

Sample: 009 **VP8-15** Date & Time Sampled: 06/30/17 @ 17:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	5:36	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:36	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR

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OCEANSIDE, CA 92052

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Invoice No.	79771
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Project: 24601 Raymond Way, Lake Forest CA

Sample: 009 **VP8-15** Date & Time Sampled: 06/30/17 @ 17:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	5:36	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	5:36	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Tetrachloroethene	**0.12**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 **VP8-15**						Date & Time Sampled:		06/30/17	@ 17:21	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:36	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	5:36	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Bromofluorobenzene	123		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Sample: 010 **VP7-5**						Date & Time Sampled:		06/30/17	@ 17:44	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:00	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 010 **VP7-5** Date & Time Sampled: 06/30/17 @ 17:44
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:00	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
cis-1,2-Dichloroethene	**0.33**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 010 **VP7-5** Date & Time Sampled: 06/30/17 @ 17:44
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	6:00	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	6:00	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Tetrachloroethene	**13**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Trichloroethene	**0.60**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **VP7-5**						Date & Time Sampled:		06/30/17	@	17:44
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:00	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	6:00	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
[VOC Surrogates]										
Dibromofluoromethane	101		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Bromofluorobenzene	106		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Sample: 011 **VP7-10**						Date & Time Sampled:		06/30/17	@	18:08
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:24	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR

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Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 011 **VP7-10** Date & Time Sampled: 06/30/17 @ 18:08
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:24	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:24	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:24	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
cis-1,2-Dichloroethene	**0.10**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 011 **VP7-10** Date & Time Sampled: 06/30/17 @ 18:08
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	6:24	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	6:24	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Tetrachloroethene	**0.57**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Trichloroethene	**0.23**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:24	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:24	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	6:24	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR

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USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research

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FDA#	2030513
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Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **VP7-10**						Date & Time Sampled:		06/30/17	@	18:08
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Bromofluorobenzene	107		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Sample: 012 **VP7-15**						Date & Time Sampled:		06/30/17	@	18:32
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:47	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:47	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 012 **VP7-15** Date & Time Sampled: 06/30/17 @ 18:32
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
cis-1,2-Dichloroethene	***0.090***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	6:47	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR

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Invoice No.	79771
Cust #	L092
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Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 012 **VP7-15** Date & Time Sampled: 06/30/17 @ 18:32
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	6:47	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Tetrachloroethene	**4.1**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Trichloroethene	***0.080***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:47	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	6:47	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	06/30/17	6:47	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	6:47	AR
Bromofluorobenzene	108		%REC	EPA 8260B			70-130	06/30/17	6:47	AR

Sample: 013 **VP11-5** Date & Time Sampled: 06/30/17 @ 18:52
Sample Matrix: **Soil Vapor**

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Project: 24601 Raymond Way, Lake Forest CA

Sample: 013 **VP11-5** Date & Time Sampled: 06/30/17 @ 18:52
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	7:12	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:12	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 013 **VP11-5** Date & Time Sampled: 06/30/17 @ 18:52
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	7:12	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	7:12	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Tetrachloroethene	**0.13**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR

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MICHAEL ANSELMO
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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **VP11-5**						Date & Time Sampled:		06/30/17	@	18:52
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:12	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	7:12	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Sample: 014 **VP11-10**						Date & Time Sampled:		06/30/17	@	19:21
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	7:38	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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CERTIFICATE OF ANALYSIS

1706-00278

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441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 014 **VP11-10** Date & Time Sampled: 06/30/17 @ 19:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:38	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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Date Reported	07/03/17
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Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 014 **VP11-10** Date & Time Sampled: 06/30/17 @ 19:21
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	7:38	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	7:38	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Tetrachloroethene	**0.15**		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 **VP11-10**					Date & Time Sampled:			06/30/17	@	19:21
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:38	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	7:38	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Toluene-D8	95		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Bromofluorobenzene	105		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Sample: 015 **VP11-15**					Date & Time Sampled:			06/30/17	@	19:46
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	8:04	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR

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1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 015 **VP11-15** Date & Time Sampled: 06/30/17 @ 19:46
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:04	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR

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OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 015 **VP11-15** Date & Time Sampled: 06/30/17 @ 19:46
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	8:04	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	8:04	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Tetrachloroethene	***0.090***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:04	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	8:04	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR

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Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 **VP11-15**						Date & Time Sampled:		06/30/17	@	19:46
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Sample: 016 **VP11-15DUP**						Date & Time Sampled:		06/30/17	@	19:46
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	8:31	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:31	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR

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Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 016 **VP11-15DUP** Date & Time Sampled: 06/30/17 @ 19:46
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	8:31	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR

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USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research

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FDA#	2030513
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	2790
	2122

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	07/03/17
Date Received	06/30/17
Invoice No.	79771
Cust #	L092
Permit Number	
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Sample: 016 **VP11-15DUP** Date & Time Sampled: 06/30/17 @ 19:46
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	8:31	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Tetrachloroethene	***0.070***	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:31	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	8:31	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	8:31	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	8:31	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	8:31	AR

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Respectfully Submitted: Ken Zheng

Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported	**07/03/2017**
Date Received	**06/30/2017**
Date Sampled	**06/30/2017**
Invoice No.	**79771**
Customer #	**L092**
Customer P.O.	

Project: 24601 Raymond Way, Lake Forest CA

Method # **EPA 8260B**

QC Reference # 65700 **Date Analyzed:** 6/30/2017 **Technician:** AR

Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016

Results	LCS %REC	LCS %DUP	LCS %RPD	Control Ranges LCS %REC	Control Ranges LCS %RPD
1,1-Dichloroethene	90	96	6	70 - 130	0 - 25
Benzene	92	95	3	70 - 130	0 - 25
Chlorobenzene	95	91	4	70 - 130	0 - 25
Toluene	89	93	4	70 - 130	0 - 25
Trichloroethene	92	98	6	70 - 130	0 - 25

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QUALITY CONTROL DATA REPORT

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

Date Reported	**07/03/2017**
Date Received	**06/30/2017**
Date Sampled	**06/30/2017**

Project: 24601 Raymond Way, Lake Forest CA

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
65700	Acetone	<0.50		µg/L	0.50
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050
	Benzene	<0.036		µg/L	0.036
	Bromobenzene	<0.050		µg/L	0.050
	Bromochloromethane	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050
	Bromoform	<0.050		µg/L	0.050
	Bromomethane	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50
	2-Butanone (MEK)	<0.50		µg/L	0.50
	n-Butylbenzene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050
	tert-Butylbenzene	<0.050		µg/L	0.050
	Carbon Disulfide	<0.50		µg/L	0.50
	Carbon Tetrachloride	<0.025		µg/L	0.025
	Chlorobenzene	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050
	Chloromethane	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050
	4-Chlorotoluene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.020		µg/L	0.020
	1,2-Dibromo-3-Chloropropane	<0.020		µg/L	0.020
	Dibromomethane	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050
	1,3-Dichlorobenzene	<0.050		µg/L	0.050
	1,4-Dichlorobenzene	<0.050		µg/L	0.050
	Dichlorodifluoromethane	<0.050		µg/L	0.050
	1,1-Dichloroethane	<0.050		µg/L	0.050
	1,2-Dichloroethane	<0.050		µg/L	0.050
	1,1-Dichloroethene	<0.050		µg/L	0.050
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050
	1,2-Dichloropropane	<0.050		µg/L	0.050
	1,3-Dichloropropane	<0.050		µg/L	0.050
	2,2-Dichloropropane	<0.050		µg/L	0.050
	1,1-Dichloropropene	<0.050		µg/L	0.050
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050
	Diisopropyl Ether (DiPE)	<0.050		µg/L	0.050
	Ethylbenzene	<0.050		µg/L	0.050
	Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	0.050
	Hexachlorobutadiene	<0.050		µg/L	0.050
	2-Hexanone	<0.50		µg/L	0.50

Ref	Test Name	Result	Qualif	Units	MDL
	Isopropylbenzene	<0.050		µg/L	0.050
	4-Isopropyltoluene	<0.050		µg/L	0.050
	Methylene Chloride	<0.05		µg/L	0.05
	4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	0.050
	Naphthalene	<0.032		µg/L	0.032
	n-Propylbenzene	<0.050		µg/L	0.050
	Styrene	<0.050		µg/L	0.050
	1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	1,1,2,2-Tetrachloroethane	<0.05		µg/L	0.05
	Tetrachloroethene	<0.050		µg/L	0.050
	Toluene	<0.050		µg/L	0.050
	1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	1,1,1-Trichloroethane	<0.050		µg/L	0.050
	1,1,2-Trichloroethane	<0.050		µg/L	0.050
	Trichloroethene	<0.050		µg/L	0.050
	1,2,3-Trichloropropane	<0.020		µg/L	0.020
	Trichlorofluoromethane	<0.050		µg/L	0.050
	Trichlorotrifluoroethane	<0.050		µg/L	0.050
	1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	Vinyl Chloride	<0.025		µg/L	0.025
	m,p-Xylenes	<0.10		µg/L	0.10
	o-Xylene	<0.050		µg/L	0.050
	Isopropanol (IPA)	<0.50		µg/L	0.50

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QUALITY CONTROL DATA REPORT

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

Date Reported	**07/03/2017**
Date Received	**06/30/2017**
Date Sampled	**06/30/2017**

Project: 24601 Raymond Way, Lake Forest CA

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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CHAIN OF CUSTODY

BILL TO LJA - Michael Anselmo

A & R Work Order #: 1706-278

Client Name: GSA ENG. / L. JOSEPH + ASSOC.
E-mail: ljosephllc@gmail.com
Address: 16950 AVE. DE SANTA FAEZ PP CA 90272
Report Attention: DAN LOUH
Phone #: (310)527-5710
Fax: #
Sampled By: Alondra
Project No./ Name: FORMER CREDIT CLEANERS
Project Site: 24601 Raymond Way, Lake Forest

☐ Chilled
☒ Intact
☐ Seal

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal

Analyses Requested: EPA8260B (VOCs & Oxygenates); EPA8260B(BTEX & Oxygenates); LUFT / 8015 (Gasoline); LUFT / 8015 (Diesel); EPA8081A (Organochlorine Pesticides); EPA 8082 (PCBs); EPA 8015M (Carbon Chain C4-C40); EPA 6010B/7000 (CAM 17 Metals); Micro: Plate Cnt., Coliform, E-Coli

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks
1	VP10 - 5	6/30/17	13:20	Air	NA	250 ml GB	X									3PV
2	VP10 - 10		13:48													Sulf
3	VP10 - 15		14:31													low flow
4	VP4 - 5		15:21													
5	VP4 - 10		15:39													
6	VP4 - 15		16:03													low flow
7	VP8 - 5		16:29													
8	VP8 - 10		16:55													
9	VP8 - 15		17:21													low flow
10	VP7 - 5		17:44													low flow
11	VP7 - 10		18:08													
12	VP7 - 15		18:32													low flow
13	VP11 - 5		18:52													
14	VP11 - 10		19:21													
15	VP11 - 15		19:46													
16	VP11 - 15 DUP		19:46													

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	GSA	6/30/17	19:30	[signature]	A&R	6/30/17	19:30
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste; SL=Sludge; SS=Soil/Sediment; AR=Air; PP=Pure Product

Preservative Code: IC=Ice; HC=HCl; HN=HNO_3; SH=NaOH; ST=$Na_2S_2O_3$; HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag; G=Glass Container; ST= Steel Tube; B= Brass Tube; P=Plastic Bottle; V=VOA Vial; E= EnCore

APPENDIX E

USEPA SG-SCREEN
Version 2.0, 04/2003

DTSC Modification
December 2014

Department of Toxic Substances Control
Vapor Intrusion Screening Model - Soil Gas

DATA ENTRY SHEET

Scenario: Commercial
Chemical: Tetrachloroethylene

Results Summary

Soil Gas Conc. ($\mu g/m^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu g/m^3$)	Cancer Risk	Noncancer Hazard
1.30E+04	4.7E-04	6.1E+00	2.9E-06	4.0E-02

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	1.30E+04			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	152.5	24	LS		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
LS	1.62	0.39	0.076	5

MORE ↓

Lookup Receptor Parameters

	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH $(hour)^{-1}$
NEW=> Commercial	70	25	25	250	8	1
					(NEW)	(NEW)

END

USEPA SG-SCREEN
Version 2.0, 04/2003

DTSC Modification
December 2014

Department of Toxic Substances Control
Vapor Intrusion Screening Model - Soil Gas

DATA ENTRY SHEET

Scenario: Commercial
Chemical: Tetrachloroethylene

Results Summary

Soil Gas Conc. ($\mu g/m^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu g/m^3$)	Cancer Risk	Noncancer Hazard
1.60E+04	2.8E-04	4.4E+00	2.1E-06	2.9E-02

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	1.60E+04			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	305	24	LS		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
LS	1.62	0.39	0.076	5

MORE ↓

Lookup Receptor Parameters

	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH $(hour)^{-1}$
NEW=> Commercial	70	25	25	250	8	1
					(NEW)	(NEW)

END

USEPA SG-SCREEN
Version 2.0, 04/2003

DTSC Modification
December 2014

Department of Toxic Substances Control
Vapor Intrusion Screening Model - Soil Gas

DATA ENTRY SHEET

Scenario: Commercial
Chemical: Tetrachloroethylene

Results Summary				
Soil Gas Conc. ($\mu g/m^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu g/m^3$)	Cancer Risk	Noncancer Hazard
3.50E+04	2.0E-04	6.9E+00	3.3E-06	4.5E-02

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
127184	3.50E+04			Tetrachloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	457.5	24	LS		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
LS	1.62	0.39	0.076	5

MORE ↓

Lookup Receptor Parameters

	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH $(hour)^{-1}$
NEW=> Commercial	70	25	25	250	8	1
					(NEW)	(NEW)

END

APPENDIX E – PHASE II ENVIRONMENTAL SITE ASSESSMENT

CONVERSE CONSULTANTS

Phase II Environmental Site Assessment Report

23591 El Toro Road and 24551 Raymond Way
Lake Forest, California

Converse Project No. 19-42-162-02
August 6, 2019
Revised April 21, 2020

Prepared For:

National Community Renaissance of California
9421 Haven Avenue
Rancho Cucamonga, California 91730

Prepared By:

Converse Consultants
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Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

August 6, 2019
Revised April 21, 2020

National Community Renaissance of California
9421 Haven Avenue
Rancho Cucamonga, California 91730

Attention: Ms. Lorna Contreras
lcontreras@nationalcore.org

Subject: **PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT**
23591 El Toro Road and 24551 Raymond Way
Lake Forest, California
Converse Project No. 19-42-162-02

Ms. Contreras:

Converse Consultants (Converse) is pleased to submit the attached report that summarizes the activities and the results of a *Phase II Environmental Site Assessment (Phase II ESA)* that was conducted at the referenced property.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Michael Van Fleet or Norman Eke at (626) 930-1267 or (626) 930-1260, respectively.

CONVERSE CONSULTANTS

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Table of Contents

Page

1.0 INTRODUCTION 1

2.0 BACKGROUND 2

2.1 Site Description and Features 2

2.1.1 Current Uses of the Site 2

2.1.2 Location and Legal Description 2

2.1.3 Site and Vicinity General Characteristics 2

2.2 Physical Setting 2

2.2.1 Topography 2

2.2.2 Geology 2

2.2.3 Hydrogeology 3

2.3 Site History and Land Use 3

2.4 Adjacent Property Land Use 3

2.5 Summary of Previous Assessment Reports 4

3.0 WORK PERFORMED AND RATIONALE 5

3.1 Scope of Assessment 5

3.1.1 Target Analytes 5

3.1.2 Target Analytes First Entered the Environment 5

3.1.3 Environmental Media and Locations Most Likely to Have the Highest Concentrations of Target Analytes 5

3.2 Soil Vapor Sample Collection 5

3.3 Indoor/Outdoor Air Sample Collection 6

3.4 Field Quality Assurance/Quality Control 6

3.5 Chemical Analytical Methods 6

4.0 PRESENTATION AND EVALUATION OF RESULTS 7

4.1 Subsurface Conditions 7

4.2 Analytical Results 7

4.2.1 Soil Vapor Samples 7

4.2.2 Indoor/Outdoor Air Samples 7

4.3 Data Quality Assurance/Quality Control 8

4.3.1 Hold Times 8

4.3.2 Laboratory Quality Assurance 8

4.3.3 Practical Quantitation Limits 8

5.0 INTERPRETATION AND CONCLUSIONS 9

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5.1 RECs and Potential Release Area(s) 9
5.2 Conceptual Model Validation/Adequacy of Investigations 9
5.3 Absence, Presence, Degree, Extent of Target Analytes 9
5.4 Other Concerns 10
5.4.1 Significant Assumptions 10
5.4.2 Limitations and Exceptions 10
5.4.3 Special Terms and Conditions 10
5.5 Conclusions/Objectives Met 10
6.0 RECOMMENDATIONS 12
7.0 RELIANCE 13
8.0 REFERENCES AND SOURCES OF INFORMATION 14

FIGURES

Figure 1 – Site Location Map
Figure 2 – Sample Locations

TABLES

Table 1 – Soil Vapor Analytical Results
Table 2 – Indoor/Outdoor Air Analytical Results

APPENDICES

Appendix A – Laboratory Analytical Reports

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1.0 Introduction

This report presents the results of the Converse Phase II Environmental Site Assessment (ESA) performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County, California, referred to as the Site in this report. Converse was retained by National Community Renaissance of California (National CORE) to conduct this Phase II ESA.

Converse performed a Phase I ESA at the Site and summarized the findings in a Phase I ESA dated July 5, 2019, revised April 21, 2020. The assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the Site except for the following:

- The ongoing open site investigation of tetrachloroethylene (PCE) contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

Based on the findings of that Phase I ESA, Converse recommended further assessment to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Site.

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2.0 Background

2.1 Site Description and Features

Details in the following sections regarding the Site and surrounding areas were obtained from the Converse Phase I ESA dated April 21, 2020.

2.1.1 Current Uses of the Site

The Site is owned by Kircher Family Partners, and is developed with two (2) commercial office buildings.

2.1.2 Location and Legal Description

The Site is located at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California. The Site is located north of the intersection of El Toro Road and Raymond Way. The Site is located approximately 0.56-miles northeast of Interstate 5 (San Diego Freeway). The Site consists of one (1) parcel of land and is approximately 3.76-acres in area. The Orange County Assessor's Parcel Number (APN) for the Site is 617-441-02. The location of the Site is indicated on **Figure 1**.

2.1.3 Site and Vicinity General Characteristics

The Site consists of one (1) single L-shaped parcel (APN 617-441-02) totaling 3.76 acres. The Site is generally level with asphalt-paved parking and is developed with two (2) two-story commercial office buildings. The Site fronts onto El Toro Road to the southeast, and Raymond Way to the northwest, with the proposed development project fronting onto Raymond Way. Properties in the general area are used for commercial and residential purposes.

2.2 Physical Setting

2.2.1 Topography

The Site is located approximately 400 feet above mean sea level with surface topography sloping towards the north/northeast (United States Geological Survey [USGS] Topographic Map, Lake Forest, CA).

2.2.2 Geology

The Site is underlain by unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (Division of Mines and Geology, geologic Map of California, 2010).

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2.2.3 Hydrogeology

According to data obtained from the State Water Resources Control Board's Geotracker database, results of groundwater monitoring on the southwestern/western adjoining property indicate that groundwater levels in March of 2019 were measured to be between 19 and 26 feet beneath ground surface (bgs). Groundwater flow direction was measured to be to the northeast.

2.3 Site History and Land Use

From as early as 1931 to 1974, the majority of the Site was undeveloped land. During that time period, a strip of land located along the southeastern property boundary was developed for agricultural use. The Site was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

2.4 Adjacent Property Land Use

North:	Residential
Northeast:	Residential
Northwest:	Raymond Way followed by residential.
South:	Commercial shopping center (24601 Raymond Way).
Southeast:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
Southwest:	Commercial shopping center (24601 Raymond Way).
East:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
West:	Raymond Way followed by US Post Office (24552 Raymond Way).

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2.5 Summary of Previous Assessment Reports

Converse performed a Phase I ESA at the Site and summarized the results in a Phase I ESA Report dated April 21, 2020. The assessment revealed no evidence of RECs in connection with the Site except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

Based on the findings of Phase I ESA, Converse recommended further assessment to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Site.

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3.0 Work Performed and Rationale

3.1 Scope of Assessment

A conceptual model was developed based on data obtained from the prior assessment reports.

3.1.1 Target Analytes

Information gathered from the Phase I ESA completed by Converse indicated presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Site.

3.1.2 Target Analytes First Entered the Environment

The target analytes would have first entered the environment by surface spills, equipment leaks or releases to the surface soil.

3.1.3 Environmental Media and Locations Most Likely to Have the Highest Concentrations of Target Analytes

The environmental media most likely to have the highest concentrations of the target analytes are soil and soil vapor.

This *Phase II ESA* consisted of the following primary elements:

- Evaluate the potential for volatile organic compounds (VOCs) in the shallow subsurface soil vapor and indoor air due to known contamination originating from the adjoining property related to historic uses of that property.
- Identify if potential target analytes are present at concentrations greater than threshold criteria.

3.2 Soil Vapor Sample Collection

Five (5) borings were advanced to 15 feet bgs, and two (2) additional borings were advanced to 5 feet bgs. All borings were completed using direct push technology. Four (4) of the 15-foot borings were located in the courtyard (SV1) and around the perimeter (SV2, SV3, and SV4) of the Site building located at 23591 El Toro Road. One (1) 15-foot boring (SV5) was located around the perimeter of the Site building located at 24551 Raymond Way. The two (2) 5-foot borings (SV6 and SV7) were

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installed in the parking area between the two onsite buildings. Sample locations are indicated on **Figure 2**.

Soil vapor probes were installed in each of the borings at depths of 5 and/or 15 feet bgs (12 probes total). Soil vapor sampling was conducted in general accordance with CalEPA Active Soil Gas Advisory dated July 2015. Soil vapor samples were collected no sooner than 2 hours after the probes were installed to allow subsurface conditions to equilibrate. Vapor samples were collected in glass syringes and analyzed in an onsite mobile laboratory.

3.3 Indoor/Outdoor Air Sample Collection

Indoor Air Samples were collected from four (4) locations in ground-floor units of the Site buildings (3 at 23591 El Toro Road (IA-1, IA-2, and IA-3), and 1 at 24551 Raymond Way (IA-4)). Samples of the outdoor air were also collected from the courtyard area of each of the two (2) Site buildings (OA-1 and OA-2) to evaluate background concentrations. Sample locations are indicated on **Figure 2.** All indoor/outdoor ambient air samples were collected in 6-liter summa canisters over an approximate 24-hour period.

3.4 Field Quality Assurance/Quality Control

The following are some of the quality assurance and quality control measures that were taken to evaluate the quality of the data generated:

- Standard EPA sample handling protocol including chain-of-custody control were followed.
- New dedicated sampling equipment (Teflon tubing) were used for the collection of samples.

3.5 Chemical Analytical Methods

The soil vapor samples were analyzed onsite for VOCs in accordance with EPA Method 8260B by A&R Laboratories, Inc. (A&L) using a mobile laboratory. A&L is certified by the State of California Department Health Services for the analyses conducted.

The indoor/outdoor air samples were submitted under chain of custody documentation to Pace Analytical in Mount Juliet, Tennessee for analysis for VOCs in accordance with EPA Method TO-15. The laboratory is certified by the State of California Department Health Services for the analyses conducted.

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4.0 Presentation and Evaluation of Results

4.1 Subsurface Conditions

Groundwater was not encountered in any of the borings completed to a maximum depth of 15 feet bgs during this assessment.

4.2 Analytical Results

A summary of the results is provided below. Soil vapor and indoor/outdoor air sample results are summarized on **Tables 1 and 2**, respectively. Copies of the laboratory analytical reports are included in **Appendix A.**

Indoor air screening levels presented in the department of Toxic Substances Control (DTSC) Human Health Risk Assessment (HHRA) Notes #3 and #5, and/or EPA Regional Screening Levels (RSLs) were used for the evaluation of reported concentrations. Screening levels for the compounds reported in the soil vapors were calculated using an attenuation factor of 500 (DTSC Vapor Intrusion Guidance, October 2011) applied to Indoor Air screening levels.

4.2.1 Soil Vapor Samples

Benzene, Toluene, Ethylbenzene, and m,p-Xylenes (BTEX) were the only analytes detected in soil vapor samples. These analytes were detected in both of the shallow borings SV6-5' and SV7-5' completed within the parking lot. No VOCs were reported in any of the soil vapor samples collected from locations adjacent to the onsite structures.

With the exception of benzene, all reported concentrations of BTEX were less than their respective screening level. Benzene was reported in samples SV6-5 and SV7-5 at concentrations of 160 and 150 micrograms per cubic meter (ug/m^3), respectively. These concentrations are greater than the screening level for residential land use of 48.5 ug/m^3, but are less than the screening level for commercial land use of 210 ug/m^3.

4.2.2 Indoor/Outdoor Air Samples

The following seven (7) VOCs were reported in one or more of the four (4) indoor/outdoor air samples and two (2) outdoor air sample: Chloromethane, Ethanol, Trichlorofluoromethane (Freon 11), Dichlorodifluoromethane (Freon 12), methylene chloride, toluene, and styrene.

The maximum concentrations of all reported compounds in indoor and outdoor air samples are significantly less than their respective screening

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levels for residential and commercial land use. It is noted that no screening levels are published for ethanol.

4.3 Data Quality Assurance/Quality Control

4.3.1 Hold Times

All soil vapor and indoor/outdoor air samples were transported to the laboratories under chain-of-custody documentation and were analyzed within appropriate hold times.

4.3.2 Laboratory Quality Assurance

The laboratories provided data to estimate precision, accuracy, and bias. The laboratory reports indicated that the method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives for soil and soil vapor.

4.3.3 Practical Quantitation Limits

Practical quantitation limits (PQL) and method detection limits (MDL) for soil vapor and indoor/outdoor air samples were provided by the laboratories and are included on the reports in **Appendix A**.

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5.0 Interpretation and Conclusions

5.1 RECs and Potential Release Area(s)

Converse performed a Phase I ESA at the Site and summarized the findings in a Phase I ESA dated April 21, 2020. The assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the Site except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

5.2 Conceptual Model Validation/Adequacy of Investigations

It is our opinion that the field and analytical data validated the conceptual model, and the investigation adequately evaluated the identified objectives of this *Phase II ESA Report*.

5.3 Absence, Presence, Degree, Extent of Target Analytes

Based upon the results of the *Phase II ESA*, there appear to be no significant impacts to the Site with regard to VOCs originating from the adjoining property related to historic uses of that property.

PCE, a compound associated with historic dry cleaning operations, and known to be present on the adjoining property from historic releases, was not detected in any of the soil vapor or ambient air samples collected from the Site.

Several of the VOCs detected in indoor air samples are commonly associated with refrigerants. These compounds are not of concern at the concentrations reported.

BTEX, which were reported in soil vapor samples from borings SV6 and SV7, located within the parking lot, are likely related to the asphalt cover of the lot, or from minor fuel leaks from cars parked in the lot. Benzene does not pose a vapor intrusion risk to the Site in its current configuration since the detections of it were limited to the parking lot where there are not currently any occupied structures. Benzene was not detected in any of the samples around current structures.

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It is our opinion that these reported benzene detections will also not pose a significant vapor intrusion risk to potential future redevelopment of the Site based on the following:

- The screening levels used in this report were calculated based on current development of the Site. The screening level for benzene would change from 48.5 to 97 ug/m^3 if we assume future redevelopment of the Site, which would bring the reported concentrations (150 and 160 ug/m^3) much closer to the revised screening level of 97 ug/m^3. An exceedance of a screening level is not an automatic indicator that there is an unacceptable risk, instead, it may simply indicate that the condition requires further evaluation.
- Further evaluation of exceedances may include looking at the potential effects of redevelopment. If there is a plan to redevelop the site and place structures in the area of the current parking lot, it is presumed that redevelopment activities (over excavation and recompacting) will result in at least a minor reduction in concentrations, likely to below the current screening level. Also, the potential sources of the benzene will be removed (asphalt and/or vehicles), preventing future impacts.

5.4 Other Concerns

5.4.1 Significant Assumptions

No significant assumptions were made during this assessment.

5.4.2 Limitations and Exceptions

No limitations or exceptions were encountered during the course of this *Phase II ESA*.

5.4.3 Special Terms and Conditions

No special terms or conditions need to be noted in this *Phase II ESA* report.

5.5 Conclusions/Objectives Met

Converse has performed a *Phase II ESA* at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California in conformance with the scope and limitations of ASTM, E1903-11 and the following objectives:

- Evaluate the potential for volatile organic compounds (VOCs) in the shallow subsurface soil vapor and indoor air due to known contamination originating from the adjoining property related to historic uses of that property.

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- Identify if potential target analytes are present at concentrations greater than threshold criteria.

Converse presents the following finds from this assessment:

- The maximum concentrations of all reported VOCs in the indoor and outdoor air samples were less than their respective screening levels for residential and commercial land use.
- No VOCs were reported in any of the soil vapor samples collected from locations adjacent to the onsite structures (SV1 through SV5).
- Concentrations of BTEX were reported in both of the soil vapor samples from borings located in the parking lot (SV6 and SV7). With the exception of benzene, all reported BTEX concentrations were less than their respective screening level. The benzene concentrations of 160 and 150 ug/m^3 are greater than the screening level for residential land use of 48.5 ug/m^3, but are less than the screening level for commercial land use of 210 ug/m^3.

Based on these findings Converse concludes the following:

- The Site does not appear to be impacted from known PCE contamination originating from the adjoining property.
- Several of the VOCs detected in indoor and outdoor air samples are commonly associated with refrigerants. All reported VOC concentrations in the indoor air samples are less than their respective screening levels for residential land use.
- There are no environmental concern related to the potential use of current Site building for residential purposes.
- The maximum reported concentrations of BTEX in soil vapor samples are relatively typical of conditions beneath an asphalt paved parking lot, and are not considered to be a significant concern. The concentrations are less than the commercial screening level, which is acceptable for the current, and reported planned continued future, use as a parking lot. If the proposed development plans change and the areas where borings SV6 and SV7 were located are intended to be developed for use as something other than parking lots, it is expected that concentrations would be reduced by activities such as grading, over excavation, and recompaction. Additionally, it is noted that the potential health risk to future Site occupants posed by the current concentrations is well within discretionary risk management levels.
- It is our opinion that the objectives of the Phase II ESA were met, and no additional assessment is necessary to assess the objectives of the Phase II ESA.

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6.0 6.0 Recommendations

It is our opinion that no additional assessment is necessary to address the objectives of the Phase II ESA

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7.0 Reliance

This report is for the sole benefit and exclusive use of National CORE accordance with the terms and conditions under which these services have been provided. The preparation of this report has been in accordance with generally accepted environmental practices. No other warranty, either express or implied, is made. This report should not be regarded as a guarantee that no further contamination beyond that which could be detected within the scope of this assessment is present at the Site.

This report should not be regarded as a guarantee that no further contamination, beyond that which could be detected within the scope of this assessment, is present at the Site. Converse makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others. It is possible that information exists beyond the scope of this assessment. It is not possible to absolutely confirm that no hazardous materials and/or substances exist at the Site. If none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence of such materials, but merely the results of the evaluation of the Site at the time of the assessment. Also, events may occur after the Site visit, which may result in contamination of the Site. Additional information, which was not found or available to Converse at the time of report preparation, may result in a modification of the conclusions and recommendations presented.

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Title: _____

Date: _____

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8.0 References and Sources of Information

California State Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB), Los Angeles Region, Advisory-Active Soil Gas Investigations, July 2015.

Converse Consultants, Phase I Environmental Site Assessment Report, 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California, July 5, 2019, revised April 21, 2020.

DTSC, Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), October 2011.

DTSC, Human Health Risk Assessment (HHRA) Note Number 3, DTSC Modified Screening, April 2019.

DTSC, Human Health Risk Assessment (HHRA) Note Number 5, Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE), August 2014.

USEPA, Regional Screening Levels, May 2019.

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Figures

Figures

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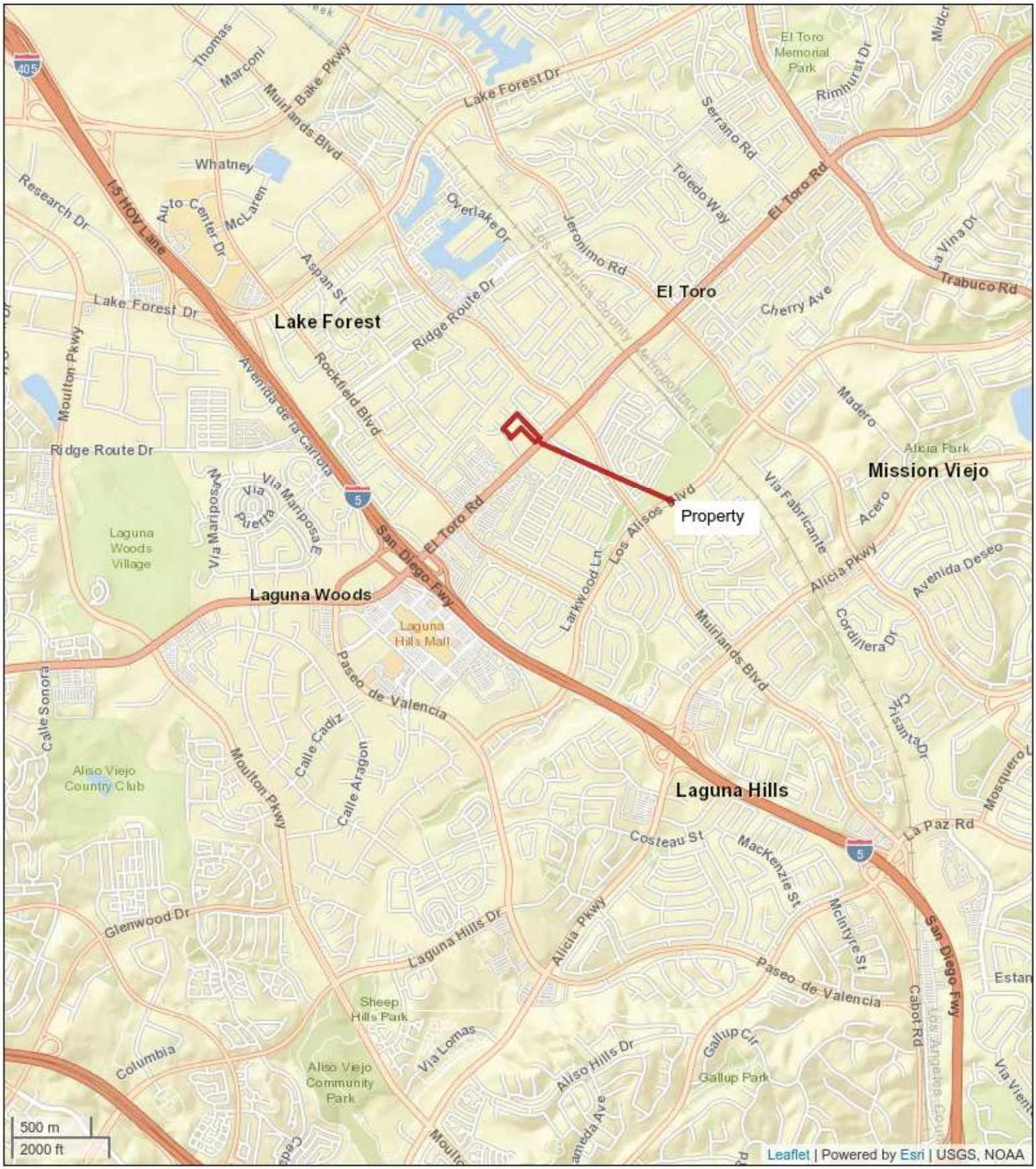

Figure 1 - Property Location Map

National Core

23591 El Toro Road and 24551 Raymond Way

Lake Forest, California

Samples Locations

23591 El Toro Road and 24551 Raymond Way
Lake Forest, California

Project No:
19-42-162-02

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FIGURE 2

Tables

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Table 1
Soil Vapor Sample Analytical Results
2391 El Toro Road and 24551 Raymond Way
Lake Fiorest, California

Sample	Sample Date	Benzene (ug/m^3)	Ethylbenzene (ug/m^3)	Toluene (ug/m^3)	m,p-□ylenes (ug/m^3)	All Other VOCs
SV1-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV1-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV2-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV2-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV3-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV3-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV4-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV4-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV5-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV5-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV6-5'	7/19/2019	**160**	**60**	**80**	**120**	ND
SV7-5'	7/19/2019	**150**	**60**	**70**	**100**	ND
Maximum Concentration ug/m^3		**160**	**60.00**	**80.00**	**120**	--
Indoor Air Screening Level ug/m^3	Residential	0.097	1,000	310	100	
	Commercial / Industrial	0.42	4,400	1,300	440	--
Attenuation Factor (existing residential construction)		500	500	500	500	--
Soil Vapor Screening Level ug/m^3	Residential	**48.5**	**500,000**	**155,000**	**50,000**	--
	Commercial / Industrial	**210**	**2,200,000**	**650,000**	**220,000**	--

Screening levels for indoor air based on DTSC Human Health Risk Assessment (HHRA) Note 3, Table 3, or RSLs.

ug/m^3 micrograms per cubic meter
ND Not detected
RSL EPA Regional Screeing Level
VOCs Volatile Organic Compounds

Table 2
Indoor and Outdoor Air Analytical Results
23591 El Toro Road and 24551 Raymond WAY
Lakeforest, California

Sample	IA-1	IA-2	IA-3	IA-4	OA-1	OA-2	Maximum Concentration (ug/m^3)	Indoor Air Screening Level (ug/m^3)	
Sample Date	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019		Residential	Commercial / Industrial
CHLOROMETHANE	**1.54**	**1.58**	**1.28**	**1.56**	**0.983**	**1.03**	**1.58**	94	390
ETHANOL	**618**	**313**	**326**	**617**	**10.2**	**17.1**	**618**	--	--
TRICHLOROFLUOROMETHANE (FREON 11)	**1.53**	**1.54**	**1.41**	**1.41**	**1.54**	**1.51**	**1.54**	1,300	5,300
DICHLORODIFLUOROMETHANE (FREON 12)	**2.86**	**2.37**	**2.70**	**2.74**	**1.68**	**1.76**	**2.86**	100	4,400
METHYLENE CHLORIDE	<0.983	**1.18**	<0.694	<0.694	**6.71**	<0.694	**6.71**	420	1,800
STYRENE	<0.851	<0.851	**2.95**	<0.851	<0.851	<0.851	**2.95**	940	3,900
TOLUENE	**1.30**	**1.74**	**1.84**	**1.41**	**1.53**	<0.753	**1.84**	310	1300
ALL OTHER VOCs	ND	ND	ND	ND	ND	ND	--	--	--

Indoor air screening levels presented in DTSC Human Health Risk Assessment (HHRA) Notes #3 and #5, and/or EPA Regional Screening Levels (RSLs) were used

ug/m^3 micrograms per cubic meter

ND Not detected

Appendix A

ANALYTICAL REPORT

July 24, 2019

Converse Consultants - Monrovia, CA

Sample Delivery Group:	L1120715
Samples Received:	07/20/2019
Project Number:	
Description:	
Report To:	Michael Van Fleet 717 S. Myrtle Avenue Monrovia, CA 91016

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Ds: Detection Summary	5
Sr: Sample Results	6
IA-1 L1120715-01	6
IA-2 L1120715-02	7
IA-4 L1120715-03	8
OA-2 L1120715-04	9
Qc: Quality Control Summary	10
Volatile Organic Compounds (MS) by Method TO-15	10
Gl: Glossary of Terms	16
Al: Accreditations & Locations	17
Sc: Sample Chain of Custody	18

IA-1 L1120715-01 Air

Collected by	Collected date/time	Received date/time
	07/18/19 11:20	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 01:11	07/23/19 01:11	CAW	Mt. Juliet, TN

IA-2 L1120715-02 Air

Collected by	Collected date/time	Received date/time
	07/18/19 11:10	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 01:52	07/23/19 01:52	CAW	Mt. Juliet, TN

IA-4 L1120715-03 Air

Collected by	Collected date/time	Received date/time
	07/18/19 11:25	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 02:31	07/23/19 02:31	CAW	Mt. Juliet, TN

OA-2 L1120715-04 Air

Collected by	Collected date/time	Received date/time
	07/18/19 11:30	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315381	1	07/22/19 18:58	07/22/19 18:58	MBF	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford

Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Client ID	Lab Sample ID	Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
IA-1	L1120715-01	Chloromethane	74-87-3	50.50	0.200	0.413	0.744	1.54		1	WG1315376
IA-1	L1120715-01	Ethanol	64-17-5	46.10	0.630	1.19	328	618	E	1	WG1315376
IA-1	L1120715-01	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.273	1.53		1	WG1315376
IA-1	L1120715-01	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.579	2.86		1	WG1315376
IA-1	L1120715-01	Toluene	108-88-3	92.10	0.200	0.753	0.346	1.30		1	WG1315376
IA-2	L1120715-02	Chloromethane	74-87-3	50.50	0.200	0.413	0.764	1.58		1	WG1315376
IA-2	L1120715-02	Ethanol	64-17-5	46.10	0.630	1.19	166	313	E	1	WG1315376
IA-2	L1120715-02	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315376
IA-2	L1120715-02	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.479	2.37		1	WG1315376
IA-2	L1120715-02	Methylene Chloride	75-09-2	84.90	0.200	0.694	0.339	1.18	B	1	WG1315376
IA-2	L1120715-02	Toluene	108-88-3	92.10	0.200	0.753	0.462	1.74		1	WG1315376
IA-4	L1120715-03	Chloromethane	74-87-3	50.50	0.200	0.413	0.756	1.56		1	WG1315376
IA-4	L1120715-03	Ethanol	64-17-5	46.10	0.630	1.19	327	617	E	1	WG1315376
IA-4	L1120715-03	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315376
IA-4	L1120715-03	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.554	2.74		1	WG1315376
IA-4	L1120715-03	Toluene	108-88-3	92.10	0.200	0.753	0.374	1.41		1	WG1315376
OA-2	L1120715-04	Chloromethane	74-87-3	50.50	0.200	0.413	0.501	1.03		1	WG1315381
OA-2	L1120715-04	Ethanol	64-17-5	46.10	0.630	1.19	9.09	17.1		1	WG1315381
OA-2	L1120715-04	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.269	1.51		1	WG1315381
OA-2	L1120715-04	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.355	1.76		1	WG1315381
OA-2	L1120715-04	TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	73.5	304		1	WG1315381

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.744	1.54		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	328	618	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.273	1.53		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.579	2.86		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.346	1.30		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG1315376

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.764	1.58		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	166	313	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.479	2.37		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.339	1.18	B	1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.462	1.74		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1315376

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.756	1.56		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	327	617	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.554	2.74		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.374	1.41		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*104*				WG1315376

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315381
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315381
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315381
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315381
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315381
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315381
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315381
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315381
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315381
Chloromethane	74-87-3	50.50	0.200	0.413	0.501	1.03		1	WG1315381
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315381
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315381
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315381
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315381
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315381
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315381
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315381
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315381
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315381
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315381
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315381
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315381
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315381
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315381
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315381
Ethanol	64-17-5	46.10	0.630	1.19	9.09	17.1		1	WG1315381
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315381
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.269	1.51		1	WG1315381
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.355	1.76		1	WG1315381
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315381
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315381
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315381
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315381
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315381
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315381
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315381
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315381
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315381
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315381
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315381
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315381
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315381
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315381
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315381
Toluene	108-88-3	92.10	0.200	0.753	ND	ND		1	WG1315381
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315381
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315381
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315381
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315381
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315381
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315381
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315381
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315381
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315381
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	73.5	304		1	WG1315381
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*86.1*				WG1315381

Method Blank (MB)

(MB) R3433222-3 07/22/19 10:02

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	0.0660	J	0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

Method Blank (MB)

(MB) R3433222-3 07/22/19 10:02

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	12.0	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*98.0*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433222-1 07/22/19 08:46 • (LCSD) R3433222-2 07/22/19 09:23

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.31	3.66	88.4	97.5	55.0-148			9.84	25
Dichlorodifluoromethane	3.75	4.02	4.02	107	107	64.0-139			0.00311	25
1,2-Dichlorotetrafluoroethane	3.75	3.91	4.00	104	107	70.0-130			2.10	25
Chloromethane	3.75	4.09	4.08	109	109	70.0-130			0.332	25
Vinyl chloride	3.75	3.96	4.10	106	109	70.0-130			3.50	25
Bromomethane	3.75	3.78	4.10	101	109	70.0-130			8.13	25
Chloroethane	3.75	3.88	4.21	103	112	70.0-130			8.17	25
Trichlorofluoromethane	3.75	3.71	4.14	99.0	110	70.0-130			10.9	25
1,1,2-Trichlorotrifluoroethane	3.75	3.92	3.95	105	105	70.0-130			0.592	25
1,1-Dichloroethene	3.75	3.90	3.98	104	106	70.0-130			2.09	25
1,1-Dichloroethane	3.75	4.01	4.02	107	107	70.0-130			0.0357	25
Methylene Chloride	3.75	3.77	3.82	100	102	70.0-130			1.36	25
MTBE	3.75	3.87	3.97	103	106	70.0-130			2.41	25
trans-1,2-Dichloroethene	3.75	3.96	3.96	106	106	70.0-130			0.0354	25
n-Hexane	3.75	4.07	4.17	108	111	70.0-130			2.56	25
Methyl Ethyl Ketone	3.75	3.94	4.05	105	108	70.0-130			2.79	25
cis-1,2-Dichloroethene	3.75	4.00	3.94	107	105	70.0-130			1.39	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433222-1 07/22/19 08:46 • (LCSD) R3433222-2 07/22/19 09:23

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroform	3.75	3.97	4.02	106	107	70.0-130			1.31	25
1,1,1-Trichloroethane	3.75	3.95	4.06	105	108	70.0-130			2.62	25
Carbon tetrachloride	3.75	3.98	3.97	106	106	70.0-130			0.291	25
Benzene	3.75	4.05	4.13	108	110	70.0-130			2.03	25
1,2-Dichloroethane	3.75	4.01	4.03	107	107	70.0-130			0.330	25
Trichloroethylene	3.75	4.00	4.12	107	110	70.0-130			2.78	25
1,2-Dichloropropane	3.75	4.14	4.24	110	113	70.0-130			2.44	25
1,4-Dioxane	3.75	4.00	4.20	107	112	70.0-140			4.78	25
Bromodichloromethane	3.75	4.00	4.06	107	108	70.0-130			1.57	25
cis-1,3-Dichloropropene	3.75	4.08	4.20	109	112	70.0-130			2.76	25
4-Methyl-2-pentanone (MIBK)	3.75	4.04	4.22	108	113	70.0-139			4.33	25
Toluene	3.75	4.16	4.29	111	115	70.0-130			3.19	25
trans-1,3-Dichloropropene	3.75	4.04	4.27	108	114	70.0-130			5.38	25
1,1,2-Trichloroethane	3.75	4.00	4.14	107	111	70.0-130			3.58	25
Tetrachloroethylene	3.75	4.08	4.19	109	112	70.0-130			2.72	25
Methyl Butyl Ketone	3.75	4.24	4.47	113	119	70.0-149			5.24	25
Dibromochloromethane	3.75	4.15	4.22	111	113	70.0-130			1.70	25
1,2-Dibromoethane	3.75	4.11	4.25	110	113	70.0-130			3.51	25
Chlorobenzene	3.75	4.14	4.29	111	114	70.0-130			3.50	25
Ethylbenzene	3.75	4.06	4.23	108	113	70.0-130			4.15	25
m&p-Xylene	7.50	8.19	8.59	109	115	70.0-130			4.81	25
o-Xylene	3.75	4.11	4.24	110	113	70.0-130			3.12	25
Styrene	3.75	4.22	4.34	112	116	70.0-130			2.83	25
Bromoform	3.75	4.18	4.30	112	115	70.0-130			2.74	25
1,1,2,2-Tetrachloroethane	3.75	4.05	4.29	108	114	70.0-130			5.75	25
1,3,5-Trimethylbenzene	3.75	4.05	4.30	108	115	70.0-130			5.93	25
1,2,4-Trimethylbenzene	3.75	4.12	4.32	110	115	70.0-130			4.70	25
1,3-Dichlorobenzene	3.75	4.17	4.38	111	117	70.0-130			4.89	25
1,4-Dichlorobenzene	3.75	4.24	4.46	113	119	70.0-130			5.04	25
Benzyl Chloride	3.75	4.30	4.58	115	122	70.0-152			6.18	25
1,2-Dichlorobenzene	3.75	4.15	4.42	111	118	70.0-130			6.26	25
1,2,4-Trichlorobenzene	3.75	4.03	4.26	107	114	70.0-160			5.71	25
Hexachloro-1,3-butadiene	3.75	4.07	4.21	108	112	70.0-151			3.43	25
Naphthalene	3.75	4.11	4.27	110	114	70.0-159			3.69	25
TPH (GC/MS) Low Fraction	203	209	216	103	107	70.0-130			3.39	25
2-Chlorotoluene	3.75	4.12	4.37	110	116	70.0-130			5.93	25
Tetrahydrofuran	3.75	3.87	3.98	103	106	70.0-137			2.66	25
Isopropylbenzene	3.75	4.04	4.27	108	114	70.0-130			5.57	25
(S) 1,4-Bromofluorobenzene				*99.6*	*103*	*60.0-140*				

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	*86.9*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.67	3.66	97.8	97.6	55.0-148			0.149	25
Dichlorodifluoromethane	3.75	3.45	3.33	92.0	88.7	64.0-139			3.68	25
1,2-Dichlorotetrafluoroethane	3.75	3.85	3.83	103	102	70.0-130			0.472	25
Chloromethane	3.75	3.87	3.89	103	104	70.0-130			0.695	25
Vinyl chloride	3.75	4.16	4.09	111	109	70.0-130			1.76	25
Bromomethane	3.75	4.39	4.45	117	119	70.0-130			1.46	25
Chloroethane	3.75	4.25	4.32	113	115	70.0-130			1.61	25
Trichlorofluoromethane	3.75	3.78	3.83	101	102	70.0-130			1.18	25
1,1,2-Trichlorotrifluoroethane	3.75	3.82	3.81	102	102	70.0-130			0.195	25
1,1-Dichloroethene	3.75	3.75	3.71	99.9	99.0	70.0-130			0.901	25
1,1-Dichloroethane	3.75	3.76	3.74	100	99.6	70.0-130			0.635	25
Methylene Chloride	3.75	3.74	3.73	99.7	99.4	70.0-130			0.283	25
MTBE	3.75	3.69	3.67	98.3	97.8	70.0-130			0.452	25
trans-1,2-Dichloroethene	3.75	3.72	3.71	99.1	98.8	70.0-130			0.271	25
n-Hexane	3.75	3.74	3.71	99.8	98.8	70.0-130			0.956	25
Methyl Ethyl Ketone	3.75	3.80	3.77	101	101	70.0-130			0.703	25
cis-1,2-Dichloroethene	3.75	3.78	3.75	101	100	70.0-130			0.741	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroform	3.75	3.81	3.80	102	101	70.0-130			0.427	25
1,1,1-Trichloroethane	3.75	3.87	3.87	103	103	70.0-130			0.0875	25
Carbon tetrachloride	3.75	3.89	3.89	104	104	70.0-130			0.0889	25
Benzene	3.75	3.78	3.77	101	100	70.0-130			0.454	25
1,2-Dichloroethane	3.75	3.92	3.89	105	104	70.0-130			0.829	25
Trichloroethylene	3.75	3.88	3.88	103	104	70.0-130			0.0548	25
1,2-Dichloropropane	3.75	3.84	3.85	102	103	70.0-130			0.310	25
1,4-Dioxane	3.75	3.84	3.84	102	102	70.0-140			0.0707	25
Bromodichloromethane	3.75	3.89	3.87	104	103	70.0-130			0.636	25
cis-1,3-Dichloropropene	3.75	3.82	3.77	102	101	70.0-130			1.40	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	4.09	109	109	70.0-139			0.327	25
Toluene	3.75	3.92	3.92	105	104	70.0-130			0.168	25
trans-1,3-Dichloropropene	3.75	3.89	3.86	104	103	70.0-130			0.872	25
1,1,2-Trichloroethane	3.75	3.92	3.95	105	105	70.0-130			0.677	25
Tetrachloroethylene	3.75	4.20	4.23	112	113	70.0-130			0.752	25
Methyl Butyl Ketone	3.75	4.36	4.31	116	115	70.0-149			1.20	25
Dibromochloromethane	3.75	4.34	4.39	116	117	70.0-130			1.01	25
1,2-Dibromoethane	3.75	4.39	4.41	117	118	70.0-130			0.617	25
Chlorobenzene	3.75	4.44	4.49	118	120	70.0-130			1.11	25
Ethylbenzene	3.75	3.90	3.88	104	104	70.0-130			0.328	25
m&p-Xylene	7.50	7.60	7.59	101	101	70.0-130			0.152	25
o-Xylene	3.75	3.84	3.81	102	102	70.0-130			0.853	25
Styrene	3.75	3.92	3.91	104	104	70.0-130			0.174	25
Bromoform	3.75	4.03	4.04	108	108	70.0-130			0.215	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.90	105	104	70.0-130			0.585	25
1,3,5-Trimethylbenzene	3.75	3.98	3.95	106	105	70.0-130			0.883	25
1,2,4-Trimethylbenzene	3.75	3.94	3.91	105	104	70.0-130			0.658	25
1,3-Dichlorobenzene	3.75	4.08	4.07	109	108	70.0-130			0.399	25
1,4-Dichlorobenzene	3.75	4.23	4.22	113	113	70.0-130			0.148	25
Benzyl Chloride	3.75	4.09	4.08	109	109	70.0-152			0.276	25
1,2-Dichlorobenzene	3.75	4.01	4.02	107	107	70.0-130			0.0918	25
1,2,4-Trichlorobenzene	3.75	4.20	3.74	112	99.7	70.0-160			11.5	25
Hexachloro-1,3-butadiene	3.75	4.04	3.52	108	93.9	70.0-151			13.8	25
Naphthalene	3.75	3.93	3.51	105	93.6	70.0-159			11.2	25
TPH (GC/MS) Low Fraction	203	200	195	99.0	96.3	70.0-130			2.74	25
2-Chlorotoluene	3.75	3.95	3.92	105	104	70.0-130			0.968	25
Tetrahydrofuran	3.75	3.94	3.93	105	105	70.0-137			0.150	25
Isopropylbenzene	3.75	3.88	3.87	103	103	70.0-130			0.0876	25
(S) 1,4-Bromofluorobenzene				*91.3*	*90.6*	*60.0-140*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.

Converse Consultants - Monrovia, CA

717 S. Myrtle Avenue
Monrovia, CA 91016

Billing Information:
Accounts Payable- Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Pres Chk

Report to: Michael Van Fleet

Email To: mvanfleet@converseconsultants.com

Project Description:

City/State Collected:

Phone: 626-930-1267
Fax:

Client Project #

Lab Project #: CONCONMCA-LAKEFOREST

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1120715

Table #

Acctnum: CONCONMCA
Template: T152932
Prelogin: P719380
TSR: 110 - Brian Ford
PB: BF 7/12/14
Shipped Via: FedEx Saver

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa	Remarks	Sample # (lab only)
IA-1	G	Air	~~7/18/14~~	7/18/14	1120	1	✓	CA 15 9854	-01
IA-2	G	Air		7/18/14	1110	1	✓	9741	02
IA-4	G	Air		7/18/14	1125	1	✓	8841	03
~~IA~~ OA-2	G	Air		7/18/14	1130	1	✓	8778	04
		Air							
		Air							
		Air							
		Air							
		Air							
		Air							

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 4791 8846 1853

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	7/19/14	10:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb °C Bottles Received: 4	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 7/20/14 Time: 0845	Hold: Condition: NCF / OK

ANALYTICAL REPORT

July 24, 2019

Converse Consultants - Monrovia, CA

Sample Delivery Group:	L1120740
Samples Received:	07/20/2019
Project Number:	1942-162-00(02)
Description:	
Report To:	Michael Van Fleet 717 S. Myrtle Avenue Monrovia, CA 91016

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Ds: Detection Summary	5
Sr: Sample Results	6
OA-1 L1120740-01	6
IA-3 L1120740-02	7
Qc: Quality Control Summary	8
Volatile Organic Compounds (MS) by Method TO-15	8
Gl: Glossary of Terms	14
Al: Accreditations & Locations	15
Sc: Sample Chain of Custody	16

OA-1 L1120740-01 Air

Collected by	Collected date/time	Received date/time
Brian Kelly	07/18/19 11:40	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315381	1	07/22/19 23:47	07/22/19 23:47	MBF	Mt. Juliet, TN

IA-3 L1120740-02 Air

Collected by	Collected date/time	Received date/time
Brian Kelly	07/18/19 11:15	07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315816	1	07/23/19 14:51	07/23/19 14:51	AMC	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford

Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Client ID	Lab Sample ID	Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
OA-1	L1120740-01	Chloromethane	74-87-3	50.50	0.200	0.413	0.476	0.983		1	WG1315381
OA-1	L1120740-01	Ethanol	64-17-5	46.10	0.630	1.19	5.42	10.2		1	WG1315381
OA-1	L1120740-01	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315381
OA-1	L1120740-01	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.339	1.68		1	WG1315381
OA-1	L1120740-01	Methylene Chloride	75-09-2	84.90	0.200	0.694	1.93	6.71		1	WG1315381
OA-1	L1120740-01	Toluene	108-88-3	92.10	0.200	0.753	0.407	1.53		1	WG1315381
IA-3	L1120740-02	Chloromethane	74-87-3	50.50	0.200	0.413	0.619	1.28		1	WG1315816
IA-3	L1120740-02	Ethanol	64-17-5	46.10	0.630	1.19	173	326	E	1	WG1315816
IA-3	L1120740-02	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315816
IA-3	L1120740-02	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.546	2.70		1	WG1315816
IA-3	L1120740-02	Styrene	100-42-5	104	0.200	0.851	0.692	2.95		1	WG1315816
IA-3	L1120740-02	Toluene	108-88-3	92.10	0.200	0.753	0.489	1.84		1	WG1315816

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315381
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315381
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315381
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315381
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315381
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315381
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315381
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315381
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315381
Chloromethane	74-87-3	50.50	0.200	0.413	0.476	0.983		1	WG1315381
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315381
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315381
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315381
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315381
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315381
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315381
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315381
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315381
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315381
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315381
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315381
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315381
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315381
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315381
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315381
Ethanol	64-17-5	46.10	0.630	1.19	5.42	10.2		1	WG1315381
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315381
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315381
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.339	1.68		1	WG1315381
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315381
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315381
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315381
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315381
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315381
Methylene Chloride	75-09-2	84.90	0.200	0.694	1.93	6.71		1	WG1315381
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315381
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315381
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315381
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315381
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315381
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315381
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315381
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315381
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315381
Toluene	108-88-3	92.10	0.200	0.753	0.407	1.53		1	WG1315381
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315381
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315381
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315381
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315381
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315381
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315381
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315381
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315381
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315381
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315381
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*88.2*				WG1315381

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315816
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315816
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315816
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315816
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315816
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315816
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315816
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315816
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315816
Chloromethane	74-87-3	50.50	0.200	0.413	0.619	1.28		1	WG1315816
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315816
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315816
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315816
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315816
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315816
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315816
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315816
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315816
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315816
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315816
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315816
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315816
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315816
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315816
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315816
Ethanol	64-17-5	46.10	0.630	1.19	173	326	E	1	WG1315816
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315816
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315816
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.546	2.70		1	WG1315816
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315816
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315816
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315816
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315816
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315816
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315816
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315816
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315816
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315816
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315816
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315816
Styrene	100-42-5	104	0.200	0.851	0.692	2.95		1	WG1315816
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315816
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315816
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315816
Toluene	108-88-3	92.10	0.200	0.753	0.489	1.84		1	WG1315816
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315816
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315816
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315816
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315816
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315816
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315816
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315816
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315816
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315816
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315816
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.6*				WG1315816

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	*86.9*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.67	3.66	97.8	97.6	55.0-148			0.149	25
Dichlorodifluoromethane	3.75	3.45	3.33	92.0	88.7	64.0-139			3.68	25
1,2-Dichlorotetrafluoroethane	3.75	3.85	3.83	103	102	70.0-130			0.472	25
Chloromethane	3.75	3.87	3.89	103	104	70.0-130			0.695	25
Vinyl chloride	3.75	4.16	4.09	111	109	70.0-130			1.76	25
Bromomethane	3.75	4.39	4.45	117	119	70.0-130			1.46	25
Chloroethane	3.75	4.25	4.32	113	115	70.0-130			1.61	25
Trichlorofluoromethane	3.75	3.78	3.83	101	102	70.0-130			1.18	25
1,1,2-Trichlorotrifluoroethane	3.75	3.82	3.81	102	102	70.0-130			0.195	25
1,1-Dichloroethene	3.75	3.75	3.71	99.9	99.0	70.0-130			0.901	25
1,1-Dichloroethane	3.75	3.76	3.74	100	99.6	70.0-130			0.635	25
Methylene Chloride	3.75	3.74	3.73	99.7	99.4	70.0-130			0.283	25
MTBE	3.75	3.69	3.67	98.3	97.8	70.0-130			0.452	25
trans-1,2-Dichloroethene	3.75	3.72	3.71	99.1	98.8	70.0-130			0.271	25
n-Hexane	3.75	3.74	3.71	99.8	98.8	70.0-130			0.956	25
Methyl Ethyl Ketone	3.75	3.80	3.77	101	101	70.0-130			0.703	25
cis-1,2-Dichloroethene	3.75	3.78	3.75	101	100	70.0-130			0.741	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroform	3.75	3.81	3.80	102	101	70.0-130			0.427	25
1,1,1-Trichloroethane	3.75	3.87	3.87	103	103	70.0-130			0.0875	25
Carbon tetrachloride	3.75	3.89	3.89	104	104	70.0-130			0.0889	25
Benzene	3.75	3.78	3.77	101	100	70.0-130			0.454	25
1,2-Dichloroethane	3.75	3.92	3.89	105	104	70.0-130			0.829	25
Trichloroethylene	3.75	3.88	3.88	103	104	70.0-130			0.0548	25
1,2-Dichloropropane	3.75	3.84	3.85	102	103	70.0-130			0.310	25
1,4-Dioxane	3.75	3.84	3.84	102	102	70.0-140			0.0707	25
Bromodichloromethane	3.75	3.89	3.87	104	103	70.0-130			0.636	25
cis-1,3-Dichloropropene	3.75	3.82	3.77	102	101	70.0-130			1.40	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	4.09	109	109	70.0-139			0.327	25
Toluene	3.75	3.92	3.92	105	104	70.0-130			0.168	25
trans-1,3-Dichloropropene	3.75	3.89	3.86	104	103	70.0-130			0.872	25
1,1,2-Trichloroethane	3.75	3.92	3.95	105	105	70.0-130			0.677	25
Tetrachloroethylene	3.75	4.20	4.23	112	113	70.0-130			0.752	25
Methyl Butyl Ketone	3.75	4.36	4.31	116	115	70.0-149			1.20	25
Dibromochloromethane	3.75	4.34	4.39	116	117	70.0-130			1.01	25
1,2-Dibromoethane	3.75	4.39	4.41	117	118	70.0-130			0.617	25
Chlorobenzene	3.75	4.44	4.49	118	120	70.0-130			1.11	25
Ethylbenzene	3.75	3.90	3.88	104	104	70.0-130			0.328	25
m&p-Xylene	7.50	7.60	7.59	101	101	70.0-130			0.152	25
o-Xylene	3.75	3.84	3.81	102	102	70.0-130			0.853	25
Styrene	3.75	3.92	3.91	104	104	70.0-130			0.174	25
Bromoform	3.75	4.03	4.04	108	108	70.0-130			0.215	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.90	105	104	70.0-130			0.585	25
1,3,5-Trimethylbenzene	3.75	3.98	3.95	106	105	70.0-130			0.883	25
1,2,4-Trimethylbenzene	3.75	3.94	3.91	105	104	70.0-130			0.658	25
1,3-Dichlorobenzene	3.75	4.08	4.07	109	108	70.0-130			0.399	25
1,4-Dichlorobenzene	3.75	4.23	4.22	113	113	70.0-130			0.148	25
Benzyl Chloride	3.75	4.09	4.08	109	109	70.0-152			0.276	25
1,2-Dichlorobenzene	3.75	4.01	4.02	107	107	70.0-130			0.0918	25
1,2,4-Trichlorobenzene	3.75	4.20	3.74	112	99.7	70.0-160			11.5	25
Hexachloro-1,3-butadiene	3.75	4.04	3.52	108	93.9	70.0-151			13.8	25
Naphthalene	3.75	3.93	3.51	105	93.6	70.0-159			11.2	25
TPH (GC/MS) Low Fraction	203	200	195	99.0	96.3	70.0-130			2.74	25
2-Chlorotoluene	3.75	3.95	3.92	105	104	70.0-130			0.968	25
Tetrahydrofuran	3.75	3.94	3.93	105	105	70.0-137			0.150	25
Isopropylbenzene	3.75	3.88	3.87	103	103	70.0-130			0.0876	25
(S) 1,4-Bromofluorobenzene				*91.3*	*90.6*	*60.0-140*				

Method Blank (MB)

(MB) R3433600-3 07/23/19 09:51

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	0.127	J	0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	0.0829	J	0.0603	0.200
1,3-Dichlorobenzene	0.122	J	0.0597	0.200
1,4-Dichlorobenzene	0.159	J	0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
Isopropylbenzene	U		0.0563	0.200
n-Hexane	U		0.0457	0.200
Methylene Chloride	0.0661	J	0.0465	0.200
Methyl Butyl Ketone	0.0814	J	0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

Method Blank (MB)

(MB) R3433600-3 07/23/19 09:51

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
1,2,4-Trichlorobenzene	0.217	J	0.148	0.630
Toluene	U		0.0499	0.200
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	0.343	J	0.0832	0.630
TPH (GC/MS) Low Fraction	24.9	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*95.6*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433600-1 07/23/19 08:22 • (LCSD) R3433600-2 07/23/19 09:05

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	4.08	4.06	109	108	55.0-148			0.540	25
Dichlorodifluoromethane	3.75	4.33	4.41	116	118	64.0-139			1.82	25
1,2-Dichlorotetrafluoroethane	3.75	4.35	4.44	116	118	70.0-130			2.20	25
Chloromethane	3.75	4.39	4.50	117	120	70.0-130			2.55	25
Vinyl chloride	3.75	4.36	4.41	116	118	70.0-130			1.11	25
Bromomethane	3.75	4.34	4.49	116	120	70.0-130			3.46	25
Chloroethane	3.75	4.28	4.44	114	118	70.0-130			3.54	25
Trichlorofluoromethane	3.75	4.37	4.40	117	117	70.0-130			0.661	25
1,1,2-Trichlorotrifluoroethane	3.75	4.35	4.48	116	119	70.0-130			3.03	25
1,1-Dichloroethene	3.75	4.28	4.37	114	117	70.0-130			2.10	25
MTBE	3.75	4.27	4.36	114	116	70.0-130			2.10	25
1,1-Dichloroethane	3.75	4.31	4.41	115	118	70.0-130			2.32	25
n-Hexane	3.75	4.36	4.43	116	118	70.0-130			1.65	25
Methylene Chloride	3.75	4.05	4.23	108	113	70.0-130			4.27	25
trans-1,2-Dichloroethene	3.75	4.31	4.42	115	118	70.0-130			2.57	25
Methyl Ethyl Ketone	3.75	4.45	4.46	119	119	70.0-130			0.0443	25
Benzene	3.75	4.35	4.47	116	119	70.0-130			2.67	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433600-1 07/23/19 08:22 • (LCSD) R3433600-2 07/23/19 09:05

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,2-Dichloroethene	3.75	4.34	4.42	116	118	70.0-130			1.80	25
Chloroform	3.75	4.36	4.41	116	118	70.0-130			1.16	25
1,1,1-Trichloroethane	3.75	4.38	4.48	117	119	70.0-130			2.13	25
Carbon tetrachloride	3.75	4.30	4.42	115	118	70.0-130			2.61	25
1,2-Dichloroethane	3.75	4.35	4.42	116	118	70.0-130			1.54	25
Toluene	3.75	4.29	4.37	114	117	70.0-130			2.05	25
Trichloroethylene	3.75	4.61	4.62	123	123	70.0-130			0.290	25
1,2-Dichloropropane	3.75	4.44	4.48	118	120	70.0-130			1.03	25
1,4-Dioxane	3.75	4.31	4.40	115	117	70.0-140			2.02	25
Bromodichloromethane	3.75	4.41	4.46	118	119	70.0-130			1.10	25
cis-1,3-Dichloropropene	3.75	4.37	4.41	116	118	70.0-130			0.977	25
4-Methyl-2-pentanone (MIBK)	3.75	4.47	4.43	119	118	70.0-139			0.733	25
trans-1,3-Dichloropropene	3.75	4.32	4.36	115	116	70.0-130			0.870	25
1,1,2-Trichloroethane	3.75	4.49	4.50	120	120	70.0-130			0.156	25
Ethylbenzene	3.75	4.39	4.43	117	118	70.0-130			0.855	25
m&p-Xylene	7.50	8.86	8.86	118	118	70.0-130			0.104	25
Tetrachloroethylene	3.75	4.27	4.34	114	116	70.0-130			1.54	25
Methyl Butyl Ketone	3.75	4.49	4.52	120	120	70.0-149			0.608	25
o-Xylene	3.75	4.36	4.38	116	117	70.0-130			0.360	25
Dibromochloromethane	3.75	4.41	4.44	118	118	70.0-130			0.604	25
1,2-Dibromoethane	3.75	4.45	4.50	119	120	70.0-130			1.19	25
Chlorobenzene	3.75	4.42	4.48	118	119	70.0-130			1.23	25
Styrene	3.75	4.50	4.49	120	120	70.0-130			0.0843	25
Bromoform	3.75	4.47	4.50	119	120	70.0-130			0.660	25
1,1,2,2-Tetrachloroethane	3.75	4.18	4.17	111	111	70.0-130			0.248	25
1,3,5-Trimethylbenzene	3.75	4.34	4.40	116	117	70.0-130			1.28	25
1,2,4-Trimethylbenzene	3.75	4.35	4.37	116	117	70.0-130			0.465	25
1,3-Dichlorobenzene	3.75	4.46	4.48	119	119	70.0-130			0.360	25
TPH (GC/MS) Low Fraction	203	235	232	116	115	70.0-130			1.33	25
1,4-Dichlorobenzene	3.75	4.54	4.63	121	124	70.0-130			1.97	25
Benzyl Chloride	3.75	4.63	4.66	124	124	70.0-152			0.546	25
1,2-Dichlorobenzene	3.75	4.39	4.40	117	117	70.0-130			0.222	25
1,2,4-Trichlorobenzene	3.75	5.05	5.10	135	136	70.0-160			0.980	25
Hexachloro-1,3-butadiene	3.75	4.61	4.57	123	122	70.0-151			0.782	25
Naphthalene	3.75	4.95	4.96	132	132	70.0-159			0.238	25
2-Chlorotoluene	3.75	4.35	4.38	116	117	70.0-130			0.802	25
Tetrahydrofuran	3.75	4.34	4.35	116	116	70.0-137			0.273	25
Isopropylbenzene	3.75	4.39	4.37	117	117	70.0-130			0.554	25
(S) 1,4-Bromofluorobenzene				*100*	*98.3*	*60.0-140*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.

Converse Consultants - Monrovia, CA

717 S. Myrtle Avenue
Monrovia, CA 91016

Billing Information:
Accounts Payable- Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Pres Chk

Report to: Michael Van Fleet

Email To: mvanfleet@converseconsultants.com

Project Description:

City/State Collected:

Phone: 626-930-1267
Fax: 714 444 9660

Client Project # 1942-162-00(02)

Lab Project # CONCONMCA-LAKEFOREST

Collected by (print): Brian Kelly

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ____

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative: TO-15 Summa

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Remarks	Sample # (lab only)
~~AO~~ OA-1	G	Air		7/18/19	1140		5850	01
IA-3	G	Air		7/18/19	1115		6984	
9833 (Can ID)	—	—		—	—		unused	
6947 (Can ID)	—	—		—	—		unused	

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1128745

M085

Acctnum: CONCONMCA
Template: T152932
Prelogin: P719380
TSR: 110 - Brian Ford
PB: BF 7/22/19
Shipped Via: FedEX Saver

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 4794 8846 1842

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
[signature]	07/19/19	10:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: Amb 2	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 7/20/19 Time: 0845	Hold: / Condition: NCF / OK

A & R Laboratories, Inc.

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · MOBILE LABORATORIES
FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng — Ken ZHeng, President 07/24/2019 14:34:40
Laboratory Job No. (Certificate of Analysis No.)	1907-00157
Project Name / No.	23591 El Toro Rd., Lake Forest, CA 92630
Dates Sampled (from/to)	07/19/19 To 07/19/19
Dates Received (from/to)	07/19/19 To 07/19/19
Dates Reported (from/to)	07/24/19 To 7/24/2019
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
SV7-5'	Benzene	**0.15**		µg/L	0.025	SV7-5'	Ethylbenzene	**0.060**		µg/L	0.050
SV7-5'	Toluene	**0.070**		µg/L	0.050	SV7-5'	m,p-Xylenes	**0.10**		µg/L	0.10
SV6-5'	Benzene	**0.16**		µg/L	0.025	SV6-5'	Ethylbenzene	**0.060**		µg/L	0.050
SV6-5'	Toluene	**0.080**		µg/L	0.050	SV6-5'	m,p-Xylenes	**0.12**		µg/L	0.10

The data and information on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon condition that it is not to be reproduced, wholly or in part, for advertising or other purposes without approval from the laboratory.

USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 001 **SV1-15'** Date & Time Sampled: 07/19/19 @ 10:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	10:40	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	10:40	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL

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LA City#	10261
ELAP#'s	2789
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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 001 **SV1-15'** Date & Time Sampled: 07/19/19 @ 10:30
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	10:40	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	10:40	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 **SV1-15'**						Date & Time Sampled:		07/19/19	@	10:30
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	10:40	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	10:40	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
[VOC Surrogates]										
Dibromofluoromethane	96		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Bromofluorobenzene	98		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Sample: 002 **SV1-5'**						Date & Time Sampled:		07/19/19	@	10:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:03	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 002 **SV1-5'** Date & Time Sampled: 07/19/19 @ 10:50
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:03	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL

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Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SV1-5'**						Date & Time Sampled:		07/19/19	@	10:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:03	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:03	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:03	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:03	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 **SV1-5'**						Date & Time Sampled:		07/19/19	@	10:50
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
[VOC Surrogates]										
Dibromofluoromethane	98		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Toluene-D8	104		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Sample: 003 **SV3-15'**						Date & Time Sampled:		07/19/19	@	11:09
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:25	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:25	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 003 **SV3-15'** Date & Time Sampled: 07/19/19 @ 11:09
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:25	AL

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1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 003 **SV3-15'** Date & Time Sampled: 07/19/19 @ 11:09
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:25	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:25	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:25	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	07/19/19	11:25	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	11:25	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	11:25	AL

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SV3-5'**						Date & Time Sampled:		07/19/19	@ 11:31	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:48	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:48	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL

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Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 004 **SV3-5'** Date & Time Sampled: 07/19/19 @ 11:31
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:48	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:48	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 **SV3-5'**						Date & Time Sampled:		07/19/19	@ 11:31	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:48	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:48	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
[VOC Surrogates]										
Dibromofluoromethane	106		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Sample: 005 **SV2-15'**						Date & Time Sampled:		07/19/19	@ 11:54	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:11	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 005 **SV2-15'** Date & Time Sampled: 07/19/19 @ 11:54
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:11	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 005 **SV2-15'** Date & Time Sampled: 07/19/19 @ 11:54
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:11	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:11	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:11	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:11	AL

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INTERPHASE
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Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 **SV2-15'**						Date & Time Sampled:		07/19/19	@	11:54
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Sample: 006 **SV2-5'**						Date & Time Sampled:		07/19/19	@	12:17
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:34	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:34	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 006 **SV2-5'** Date & Time Sampled: 07/19/19 @ 12:17
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:34	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 **SV2-5'**						Date & Time Sampled:		07/19/19	@ 12:17	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:34	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:34	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:34	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	07/19/19	12:34	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	12:34	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:34	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SV2-5' DUP**						Date & Time Sampled:		07/19/19	@ 12:40	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:57	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:57	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 007 **SV2-5' DUP** Date & Time Sampled: 07/19/19 @ 12:40
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:57	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:57	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL

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USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 **SV2-5' DUP**						Date & Time Sampled:		07/19/19	@	12:40
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:57	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:57	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Toluene-D8	107		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Sample: 008 **SV4-15'**						Date & Time Sampled:		07/19/19	@	13:03
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	1:21	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 008 **SV4-15'** Date & Time Sampled: 07/19/19 @ 13:03
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	1:21	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL

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1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 008 **SV4-15'** Date & Time Sampled: 07/19/19 @ 13:03
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	1:21	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	1:21	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	1:21	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	1:21	AL

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 **SV4-15'**						Date & Time Sampled:		07/19/19	@	13:03
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Sample: 009 **SV4-5'**						Date & Time Sampled:		07/19/19	@	13:27
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	1:44	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	1:44	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL

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LOS ANGELES, CA 90040

Date Reported	07/24/19
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Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 009 **SV4-5'** Date & Time Sampled: 07/19/19 @ 13:27
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	1:44	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 009 **SV4-5'** Date & Time Sampled: 07/19/19 @ 13:27
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	1:44	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	1:44	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	1:44	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	07/19/19	1:44	AL
Toluene-D8	109		%REC	EPA 8260B			70-130	07/19/19	1:44	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	1:44	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 010 **SV7-5'** Date & Time Sampled: 07/19/19 @ 13:52
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Benzene	**0.15**		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:08	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:08	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 010 **SV7-5'** Date & Time Sampled: 07/19/19 @ 13:52
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Ethylbenzene	**0.060**		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:08	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:08	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Toluene	**0.070**		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL

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1907-00157

INTERPHASE
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LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 **SV7-5'**						Date & Time Sampled:		07/19/19	@	13:52
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:08	AL
m,p-Xylenes	**0.10**		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:08	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Toluene-D8	107		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Sample: 011 **SV6-5'**						Date & Time Sampled:		07/19/19	@	14:14
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Benzene	**0.16**		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:31	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL

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LA City#	10261
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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 011 **SV6-5'** Date & Time Sampled: 07/19/19 @ 14:14
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:31	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 011 **SV6-5'** Date & Time Sampled: 07/19/19 @ 14:14
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Ethylbenzene	**0.060**		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:31	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:31	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Toluene	**0.080**		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:31	AL
m,p-Xylenes	**0.12**		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:31	AL

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INTERPHASE
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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 **SV6-5'**						Date & Time Sampled:		07/19/19	@	14:14
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Sample: 012 **SV5-15'**						Date & Time Sampled:		07/19/19	@	14:38
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:54	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:54	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL

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Date Reported	07/24/19
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Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 012 **SV5-15'** Date & Time Sampled: 07/19/19 @ 14:38
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:54	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 012 **SV5-15'** Date & Time Sampled: 07/19/19 @ 14:38
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:54	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:54	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:54	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
[VOC Surrogates]										
Dibromofluoromethane	108		%REC	EPA 8260B			70-130	07/19/19	2:54	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	2:54	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	2:54	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **SV5-5'**						Date & Time Sampled:		07/19/19	@ 15:01	
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	3:16	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	3:16	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Sample: 013 **SV5-5'** Date & Time Sampled: 07/19/19 @ 15:01
Sample Matrix: **Soil Vapor**
Purge Volume Sampled: **3**
.....continued

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	3:16	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	3:16	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL

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INTERPHASE
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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported	07/24/19
Date Received	07/19/19
Invoice No.	86321
Cust #	1567
Permit Number	
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 **SV5-5'**						Date & Time Sampled:		07/19/19	@	15:01
Sample Matrix: **Soil Vapor**										
Purge Volume Sampled: **3**										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	3:16	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	3:16	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
[VOC Surrogates]										
Dibromofluoromethane	107		%REC	EPA 8260B			70-130	07/19/19	3:16	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	3:16	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	3:16	AL

Respectfully Submitted: Ken Zheng

Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

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For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

1907-00157

INTERPHASE
LOS ANGELES, CA 90040

Date Reported	**07/24/2019**
Date Received	**07/19/2019**
Date Sampled	**07/19/2019**
Invoice No.	**86321**
Customer #	**1567**
Customer P.O.	

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Method # **EPA 8260B**

QC Reference # 83308 **Date Analyzed:** 7/19/2019 **Technician:** AL

Samples 001 002 003 004 005 006 007 008 009 010 011 012 013

Results

	LCS %REC	BLKSRR% REC
1,1-Dichloroethene	85	
Benzene	101	
Bromofluorobenzene		100
Chlorobenzene	103	
Dibromofluoromethan		104
Toluene	111	
Toluene-D8		105
Trichloroethene	108	

Control Ranges

LCS %REC	BLKSRR%REC
70 - 130	
70 - 130	
	50 - 150
70 - 130	
	50 - 150
70 - 130	
	50 - 150
70 - 130	

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QUALITY CONTROL DATA REPORT

1907-00157

INTERPHASE

Date Reported	**07/24/2019**
Date Received	**07/19/2019**
Date Sampled	**07/19/2019**

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL
83308	Acetone	<0.2500		µg/L	0.2500
	t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	0.0250
	Benzene	<0.0180		µg/L	0.0180
	Bromobenzene	<0.0250		µg/L	0.0250
	Bromochloromethane	<0.0250		µg/L	0.0250
	Bromodichloromethane	<0.0250		µg/L	0.0250
	Bromoform	<0.0250		µg/L	0.0250
	Bromomethane	<0.0250		µg/L	0.0250
	t-Butanol (TBA)	<0.2500		µg/L	0.2500
	2-Butanone (MEK)	<0.2500		µg/L	0.2500
	n-Butylbenzene	<0.0250		µg/L	0.0250
	sec-Butylbenzene	<0.0250		µg/L	0.0250
	tert-Butylbenzene	<0.0250		µg/L	0.0250
	Carbon Disulfide	<0.2500		µg/L	0.2500
	Carbon Tetrachloride	<0.0125		µg/L	0.0125
	Chlorobenzene	<0.0250		µg/L	0.0250
	Chloroethane	<0.0250		µg/L	0.0250
	Chloroform	<0.0250		µg/L	0.0250
	Chloromethane	<0.0250		µg/L	0.0250
	2-Chlorotoluene	<0.0250		µg/L	0.0250
	4-Chlorotoluene	<0.0250		µg/L	0.0250
	Dibromochloromethane	<0.0250		µg/L	0.0250
	1,2-Dibromoethane (EDB)	<0.0100		µg/L	0.0100
	1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	0.0100
	Dibromomethane	<0.0250		µg/L	0.0250
	1,2-Dichlorobenzene	<0.0250		µg/L	0.0250
	1,3-Dichlorobenzene	<0.0250		µg/L	0.0250
	1,4-Dichlorobenzene	<0.0250		µg/L	0.0250
	Dichlorodifluoromethane	<0.0250		µg/L	0.0250
	1,1-Dichloroethane	<0.0250		µg/L	0.0250
	1,2-Dichloroethane	<0.0250		µg/L	0.0250
	1,1-Dichloroethene	<0.0250		µg/L	0.0250
	cis-1,2-Dichloroethene	<0.0250		µg/L	0.0250
	trans-1,2-Dichloroethene	<0.0250		µg/L	0.0250
	1,2-Dichloropropane	<0.0250		µg/L	0.0250
	1,3-Dichloropropane	<0.0250		µg/L	0.0250
	2,2-Dichloropropane	<0.0250		µg/L	0.0250
	1,1-Dichloropropene	<0.0250		µg/L	0.0250
	cis-1,3-Dichloropropene	<0.0250		µg/L	0.0250
	trans-1,3-Dichloropropene	<0.0250		µg/L	0.0250
	Diisopropyl Ether (DiPE)	<0.0250		µg/L	0.0250
	Ethylbenzene	<0.0250		µg/L	0.0250
	Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	0.0250
	Hexachlorobutadiene	<0.0250		µg/L	0.0250
	2-Hexanone	<0.2500		µg/L	0.2500

Ref	Test Name	Result	Qualif	Units	MDL
	Isopropylbenzene	<0.0250		µg/L	0.0250
	4-Isopropyltoluene	<0.0250		µg/L	0.0250
	Methylene Chloride	<0.0250		µg/L	0.0250
	4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	0.2500
	Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	0.0250
	Naphthalene	<0.0160		µg/L	0.0160
	n-Propylbenzene	<0.0250		µg/L	0.0250
	Styrene	<0.0250		µg/L	0.0250
	1,1,1,2-Tetrachloroethane	<0.0250		µg/L	0.0250
	1,1,2,2-Tetrachloroethane	<0.0250		µg/L	0.0250
	Tetrachloroethene	<0.0250		µg/L	0.0250
	Toluene	<0.0250		µg/L	0.0250
	1,2,3-Trichlorobenzene	<0.0250		µg/L	0.0250
	1,2,4-Trichlorobenzene	<0.0250		µg/L	0.0250
	1,1,1-Trichloroethane	<0.0250		µg/L	0.0250
	1,1,2-Trichloroethane	<0.0250		µg/L	0.0250
	Trichloroethene	<0.0250		µg/L	0.0250
	1,2,3-Trichloropropane	<0.0100		µg/L	0.0100
	Trichlorofluoromethane	<0.0250		µg/L	0.0250
	Trichlorotrifluoroethane	<0.0250		µg/L	0.0250
	1,2,4-Trimethylbenzene	<0.0250		µg/L	0.0250
	1,3,5-Trimethylbenzene	<0.0250		µg/L	0.0250
	Vinyl Chloride	<0.0040		µg/L	0.0040
	m,p-Xylenes	<0.0500		µg/L	0.0500
	o-Xylene	<0.0250		µg/L	0.0250
	Isopropanol (IPA)	<0.2500		µg/L	0.2500

A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C
ONTAIRO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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QUALITY CONTROL DATA REPORT

1907-00157

INTERPHASE

Date Reported	**07/24/2019**
Date Received	**07/19/2019**
Date Sampled	**07/19/2019**

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

A & R Laboratories
1650 S. Grove Ave., Ste C, Ontario, CA 91761
Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1907-157

Client Name: InterPhase
E-mail: OFFICE@INTERPHASEENVIRONMENTAL.COM
Address: 6200 PEACHTREE ST., LOS ANGELES, CA 90040
Report Attention: Gilbert Mendoza
Phone #: (323) 301-0076
Fax: #
Sampled By: Ashlee Lynch
Project No./ Name:
Project Site: 23541 El Toro Rd Lake Forest, CA 92630

☐ Chilled
☒ Intact
☐ Seal

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal
Mobile

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli						Remarks
1	SV1 - 15'	7/19/19	10:30	Air	NA	250mL Glass Bottle	X														
2	SV1 - 5'		10:50				X														
3	SV3-15'		11:09				X														
4	SV3-5'		11:31				X														
5	SV2-15'		11:54				X														
6	SV2-5'		12:17				X														
7	SV2-5' DUP		12:40				X														
8	SV4-15'		13:03				X														
9	SV4-5'		13:27				X														
10	SV7-5'		13:52				X														
11	SV6-5'		14:14				X														
12	SV5-15'		14:38				X														
13	SV5-5'		15:01				X														

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Converse	7/19/19	15:36	[signature]	A&R	7/19/19	15:35
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product

Preservative Code: IC=Ice, HC=HCl, HN=HNO_3, SH=NaOH, ST=$Na_2S_2O_3$, HS=H_2SO_4

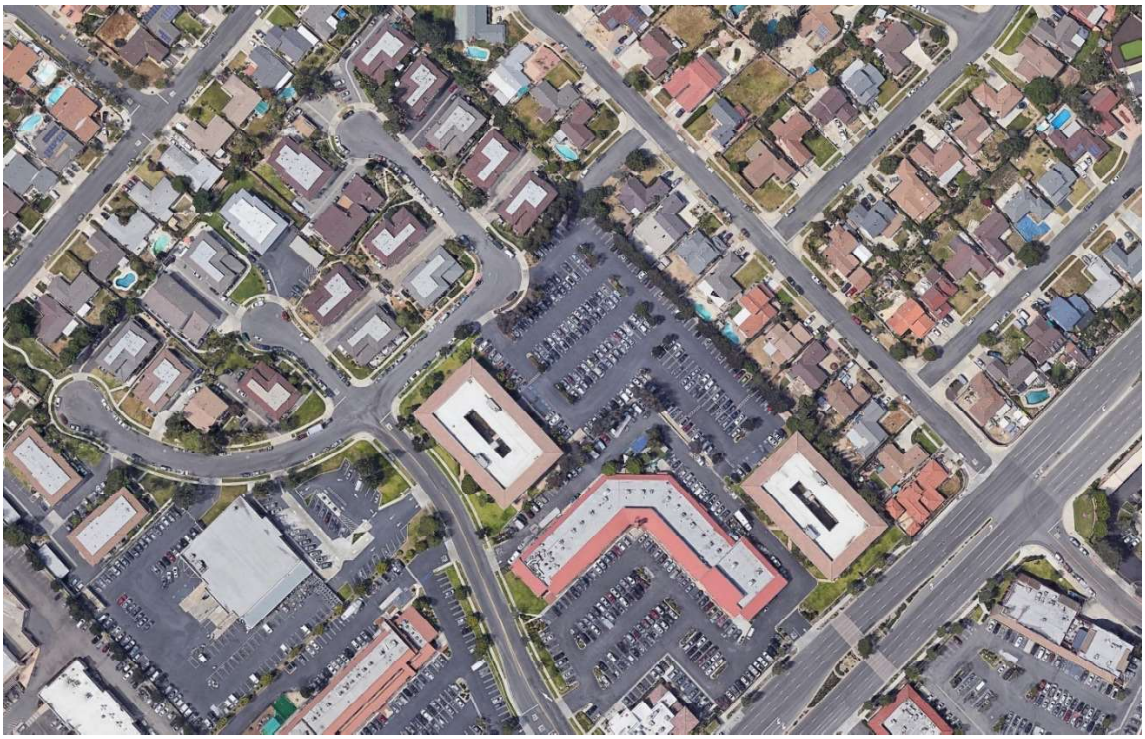
*Sample Container Types: T=Tedlar Air Bag, G=Glass Container, ST= Steel Tube, B= Brass Tube, P=Plastic Bottle, V=VOA Vial, E= EnCore

APPENDIX F – PRELIMINARY HYDROLOGICAL REPORT

PRELIMINARY HYDROLOGY REPORT MOUNTAIN VIEW AFFORDABLE HOUSING COMMUNITY

24551 RAYMOND WAY, LAKE FOREST, CA

May 12, 2020



PREPARED FOR:
National CORE

PREPARED BY:
Apryl Weidl, P.E.

rrm design group
10 E. Figueroa Street, Ste. 200
Santa Barbara, CA 93101
(805) 963-8283

Table of Contents

Purpose of Report 2
Location 2
Background 3
Method of Analysis 3
Conclusions 5

EXHIBIT A ..... PRE-DEVELOPMENT HYDROLOGY MAP
EXHIBIT B ..... POST-DEVELOPMENT HYDROLOGY MAP

ATTACHMENT 1 ..... SOILS MAPS
ATTACHMENT 2 ..... FEMA MAP WEBSITE IMAGE
ATTACHMENT 3 ..... TIME OF CONCENTRATION NOMOGRAPH
ATTACHMENT 4 ..... HYDROLOGY CALCULATIONS

Purpose of Report

The purpose of this report is to assess the project site, identify the pre-development and post-development drainage conditions, and identify storm water facilities to meet the requirements of the Orange County Hydrology Manual (Orange County Environmental Management Agency, 1986). The Mountain View Affordable Housing Community project proposes to demolish an existing commercial building and construct a single three- to four-story multifamily housing facility and associated parking.

Location

The proposed affordable housing project is located at 24551 Raymond Way in Lake Forest, California on a 3.76 acre site which has been previously developed. Currently the site contains two existing commercial buildings and a surface parking lot. The proposed project includes a lot split dividing the parcel into two separate parcels. The proposed development will occur on Parcel 1. Other than required stormwater treatment measures, no development is proposed on Parcel 2. The proposed development on Parcel 1 includes the demolition of the existing commercial building and the construction of a single building varying from three to four stories in height. The building will contain 71 residential units and a community center. A playground, teen center, and barbeque area are proposed outside of the building. The existing parking lot will be reconfigured for the change in use of the site. See the project vicinity map in Figure 1 below.

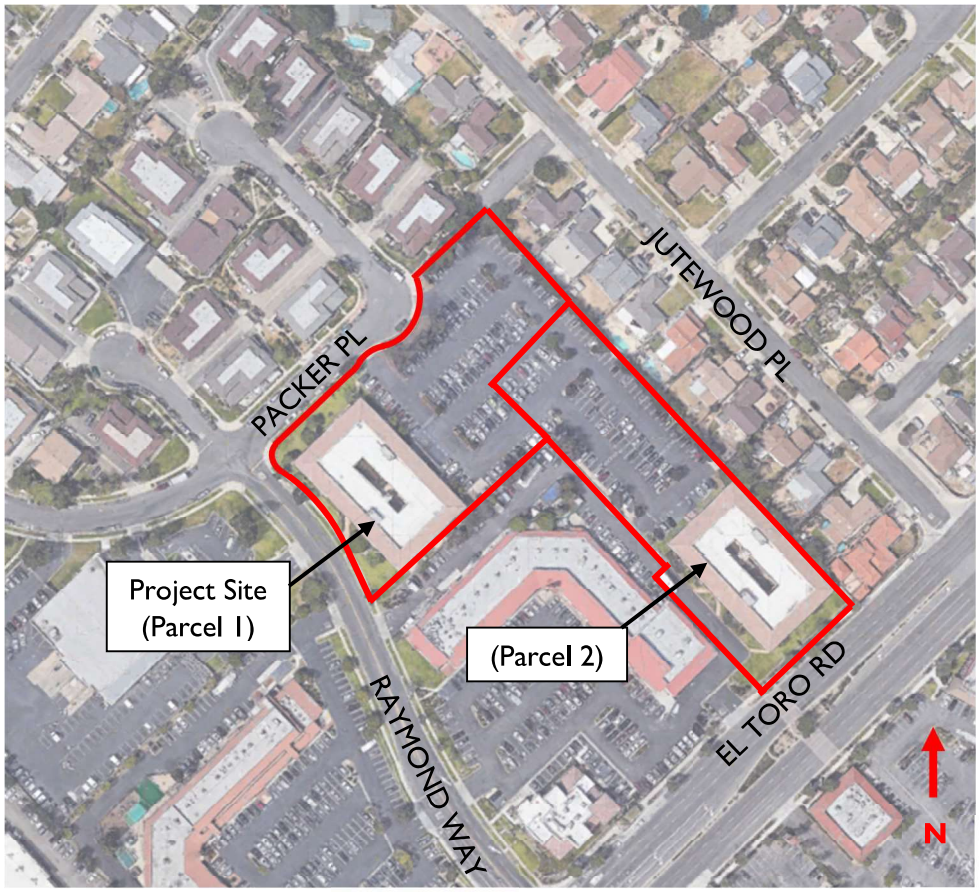


Figure 1. Project Vicinity Map

Background

The site is currently occupied by a commercial building and a parking lot. Soils belong to Hydrologic Soil Group D, see Orange County Soils Map (Orange County Environmental Management Agency, 1986) in Attachment 1.

Currently, drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place, see Existing Hydrology Map, Exhibit A. Runoff from Drainage Area X1 flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane. Runoff from Drainage Area X2 from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the Raymond Way and Packer Place intersection. Runoff from Drainage Area X3 flows to El Toro Road and enters the municipal storm drain system through an inlet on El Toro Road. The drainage boundary for this analysis will follow the property line as depicted in the Existing Hydrology Map, Exhibit A.

Time of Concentration

The existing and proposed time of concentrations for each drainage area are shown in Table 1. Calculations are provided in Attachment 3.

Table 1. Time of Concentration

Drainage Area	Time of Concentration (min)
X1	7.3
X2	6.3
X3	6.4
A	10.0
B	7.9

Proposed Development

The proposed development will maintain existing drainage patterns and discharge locations, see Proposed Hydrology Map, Exhibit B. To address stormwater quality and retention, dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume, per the separate Post-Construction Stormwater Management Plan. Together, Parcels 1 and 2 have been divided into three drainage areas: A, B and X3.

- Runoff from drainage area 'A' will be collected by the on-site storm drain system and directed to a dry well system near the southern corner of the site. Overflow from the dry well and storage chamber system will flow out through the curb and enter the municipal storm drain system through inlets located near the eastern corner of the Raymond Way/Packer Place intersection.
- Runoff from drainage area 'B' will flow overland through the parking lot and be collected by the on-site storm drain system which will outlet into a dry well and storage chamber system near the driveway entry to the site. Overflow from the dry wells will outlet through the curb face on Packer Place. Runoff will enter the municipal storm drain system through an inlet at the end of the Bendricon Lane cul-de-sac.

- Runoff from drainage area 'X3' will flow to the southeast and be captured in a proposed dry well and chamber system. Overflow will continue to flow toward El Toro Road as it has historically.

The site currently falls in Zone 'X' with a minimal chance of flood hazard according to FEMA NFHL, see Attachment 2 for FIRMette download from FEMA interactive maps (Federal Emergency Management Agency, 2009).

Method of Analysis

The approach to analyze the runoff from the project site follows the Orange County Hydrology Manual requirements. The hydrologic analysis is a comparison of the pre-project condition to the post-project condition.

The proposed project will increase the time of concentration from 7.3 minutes to 10 minutes. See calculation in Attachment 3. This increase in time of concentration results in a reduced peak flow generated from the project site and eliminates the need for detention.

The method of analysis as described in the Orange County Hydrology Manual for local facilities utilized for this project is the Rational Method as outlined in Section D of the manual.

Step 1. Draw drainage area on a topographic map. See Exhibits A and B.

Step 2. Determine Time of Concentration. See Attachment 3.

Step 3. Determine Intensity from Figure B-3. See Attachment 4.

Step 4. Calculate area-averaged maximum loss rate, F_m. See Attachment 4.

$$F_m = a_p F_p \quad \text{(equation C.7 from OC Hydrology Manual)}$$

a_p = fraction of pervious area coverage F_p= maximum loss rate of pervious area from table C.2.

TABLE C.2.
MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Step 5. Determine area of watershed tributary to the point of concentration. See Exhibits A and B.

Step 6. Compute peak flows for the point of concentration for each storm event. See calculations in Attachment 4 and a summary in Tables 2, 3 and 4.

$$Q = 0.90(I - F_m)A$$

Table 2. Peak Flows to Raymond Way

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.95	1.68
25-Year	2.33	2.01
100-Year	3.00	2.58

Table 3. Peak Flows to Packer Place

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	7.62	7.09
25-Year	9.10	8.46
100-Year	11.67	10.84

Table 4. Peak Flows to El Toro Road

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.58	1.58
25-Year	1.89	1.89
100-Year	2.44	2.44

Conclusions

Based on the findings of this report, the proposed drainage design for this project meets applicable standards and requirements of the Orange County Hydrology Manual. The proposed drainage plan is consistent with the historical drainage patterns for the site. There is an increase in the time of concentration decreasing the peak flow of runoff from the site. Therefore, the proposed development:

- Reduces the post-development peak flow of runoff to that of the pre-development rate for the hydrological analysis for all storm events at all outlet locations.

References

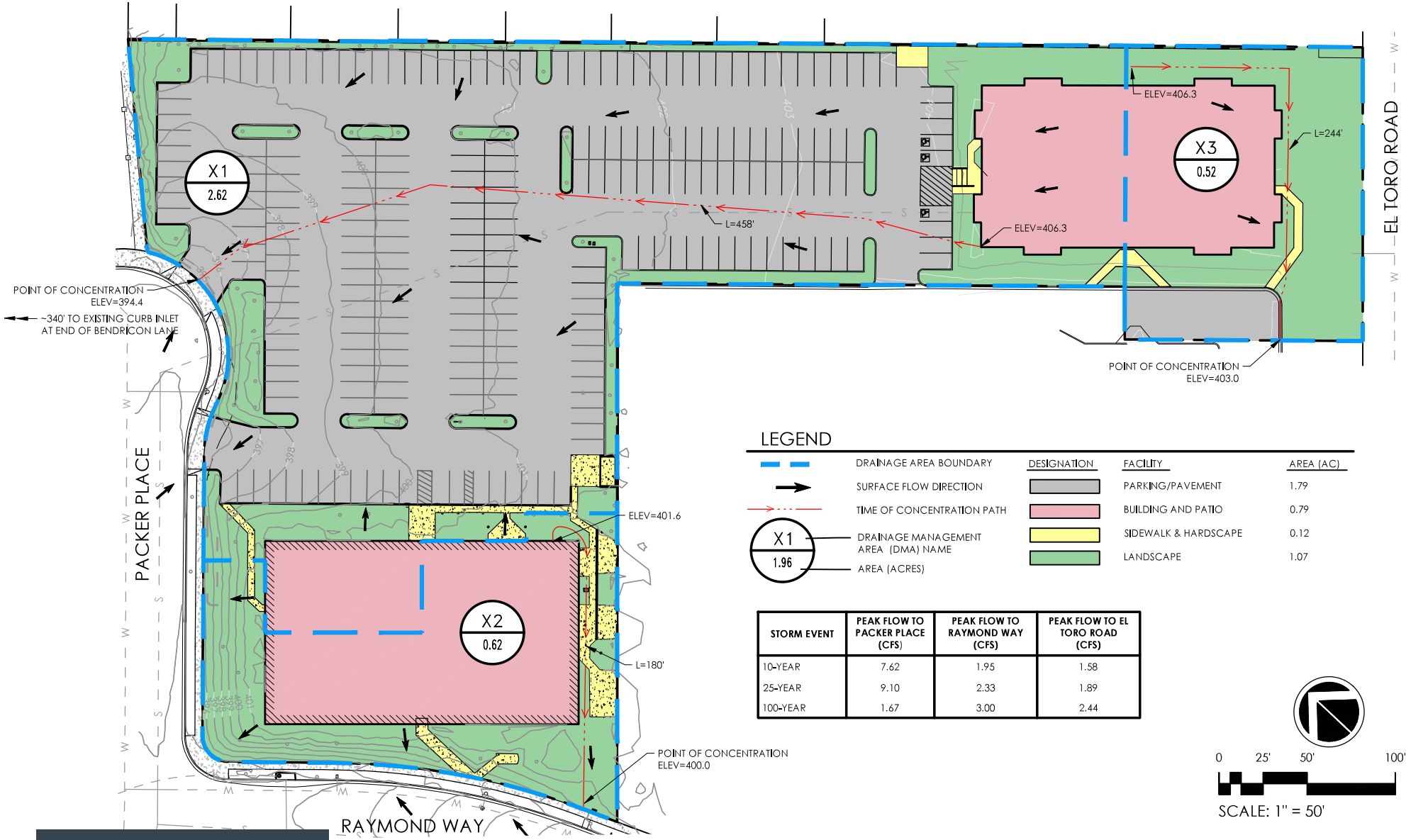
Federal Emergency Management Agency. (2009, December 3). *FEMA Flood Map Service Center*. Retrieved from https://msc.fema.gov/

Orange County Environmental Management Agency. (1986). *Orange County Hydrology Manual.*

EXHIBITS

EXHIBIT A

Pre-Development Hydrology Map



LEGEND

		DESIGNATION	FACILITY	AREA (AC)
	DRAINAGE AREA BOUNDARY		PARKING/PAVEMENT	1.79
	SURFACE FLOW DIRECTION		BUILDING AND PATIO	0.79
	TIME OF CONCENTRATION PATH		SIDEWALK & HARDSCAPE	0.12
X1	DRAINAGE MANAGEMENT AREA (DMA) NAME		LANDSCAPE	1.07
1.96	AREA (ACRES)			

STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.62	1.95	1.58
25-YEAR	9.10	2.33	1.89
100-YEAR	1.67	3.00	2.44

0 25' 50' 100'

SCALE: 1" = 50'

rrm design group

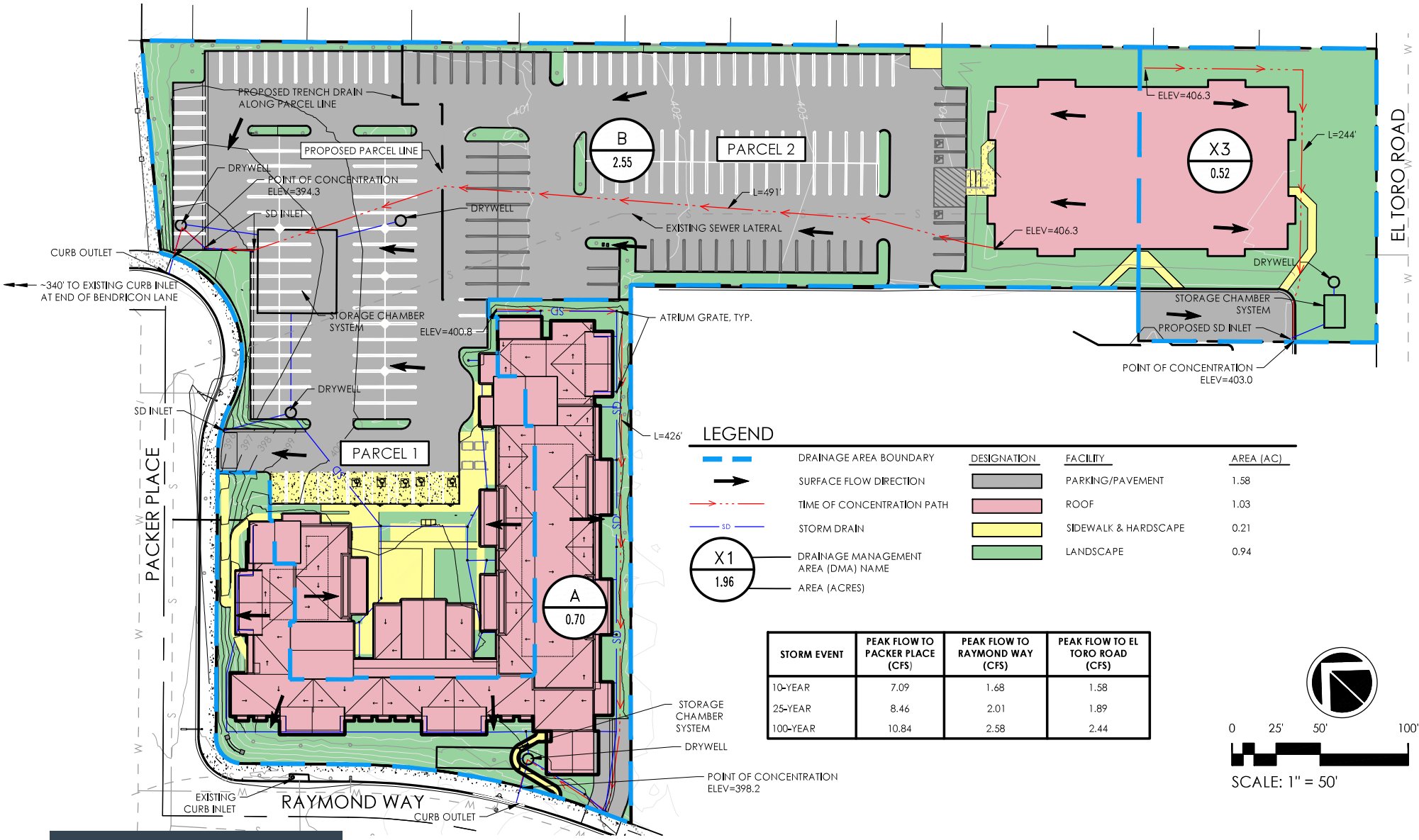
EXHIBIT A-EXISTING HYDROLOGY MAP

MAY 7, 2020

24551 RAYMOND WAY, LAKE FOREST, CA

EXHIBIT B

Post-Development Hydrology Map



STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.09	1.68	1.58
25-YEAR	8.46	2.01	1.89
100-YEAR	10.84	2.58	2.44

rrm design group

EXHIBIT B-PROPOSED HYDROLOGY MAP

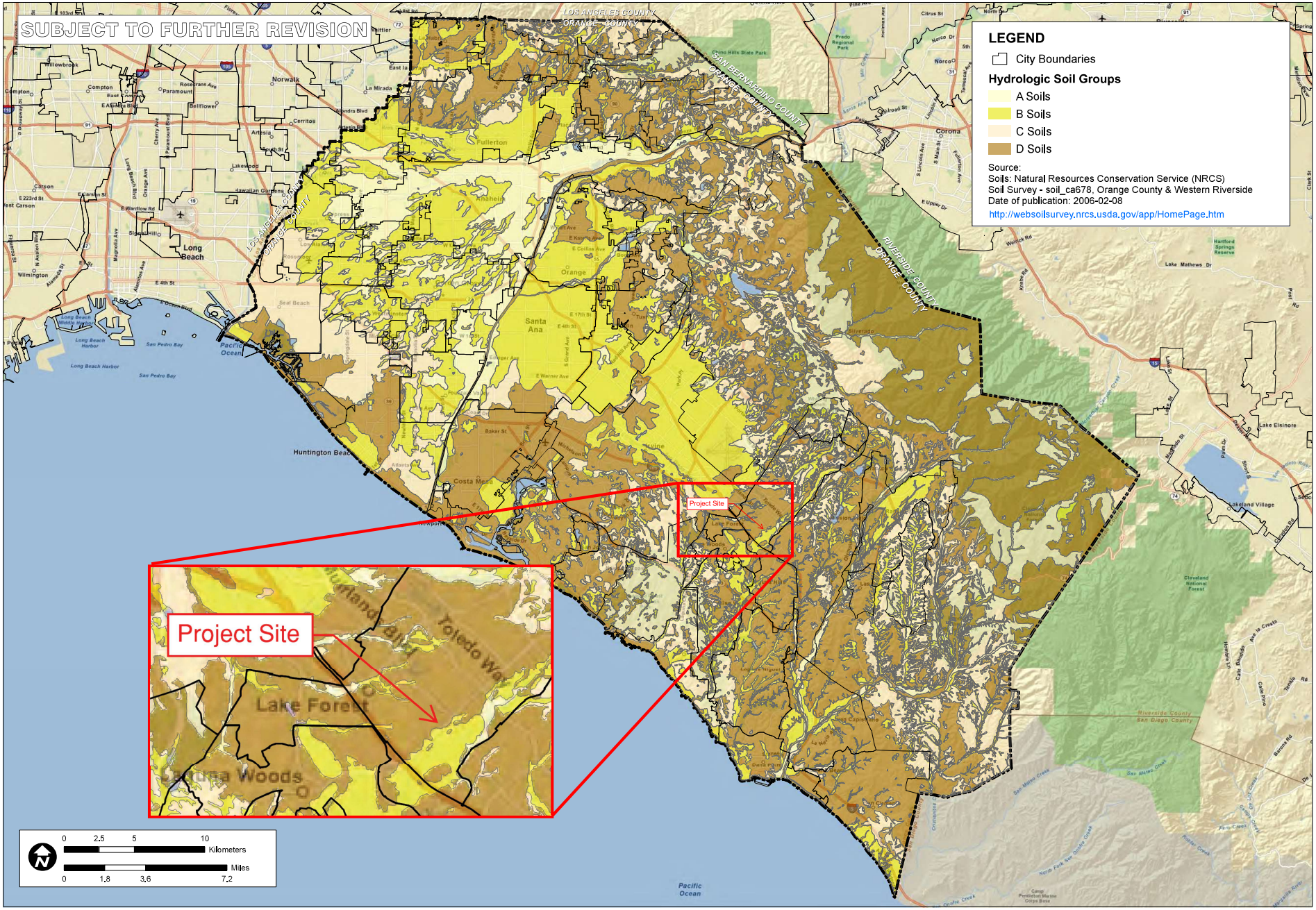
MAY 11, 2020

24551 RAYMOND WAY, LAKE FOREST, CA

ATTACHMENTS

ATTACHMENT 1

Soils Maps



TITLE
NRCS HYDROLOGIC SOILS GROUPS

JOB
ORANGE COUNTY INFILTRATION STUDY
ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE
XVI-2a

P:\9526E\6-GIS\Mxds\Reports\Infiltrationfeasability_20110215\9526E_FigureXVI-2a_HydroSoils_20110215.mxd

ATTACHMENT 2

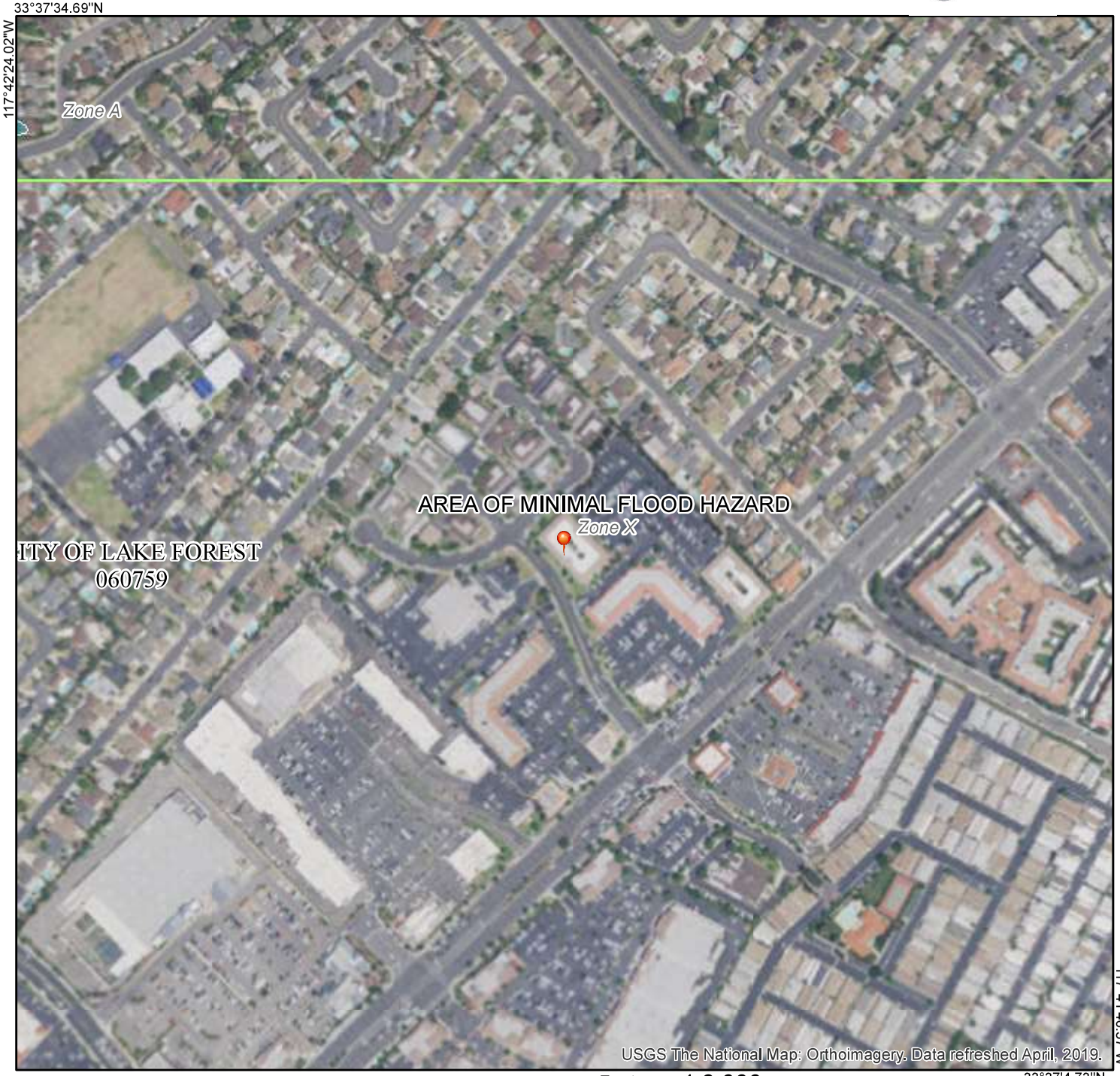
FEMA Flood Map

National Flood Hazard Layer FIRMette

FEMA

33°37'34.69"N

117°42'24.02"W



117°41'46.57"W

33°37'4.73"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

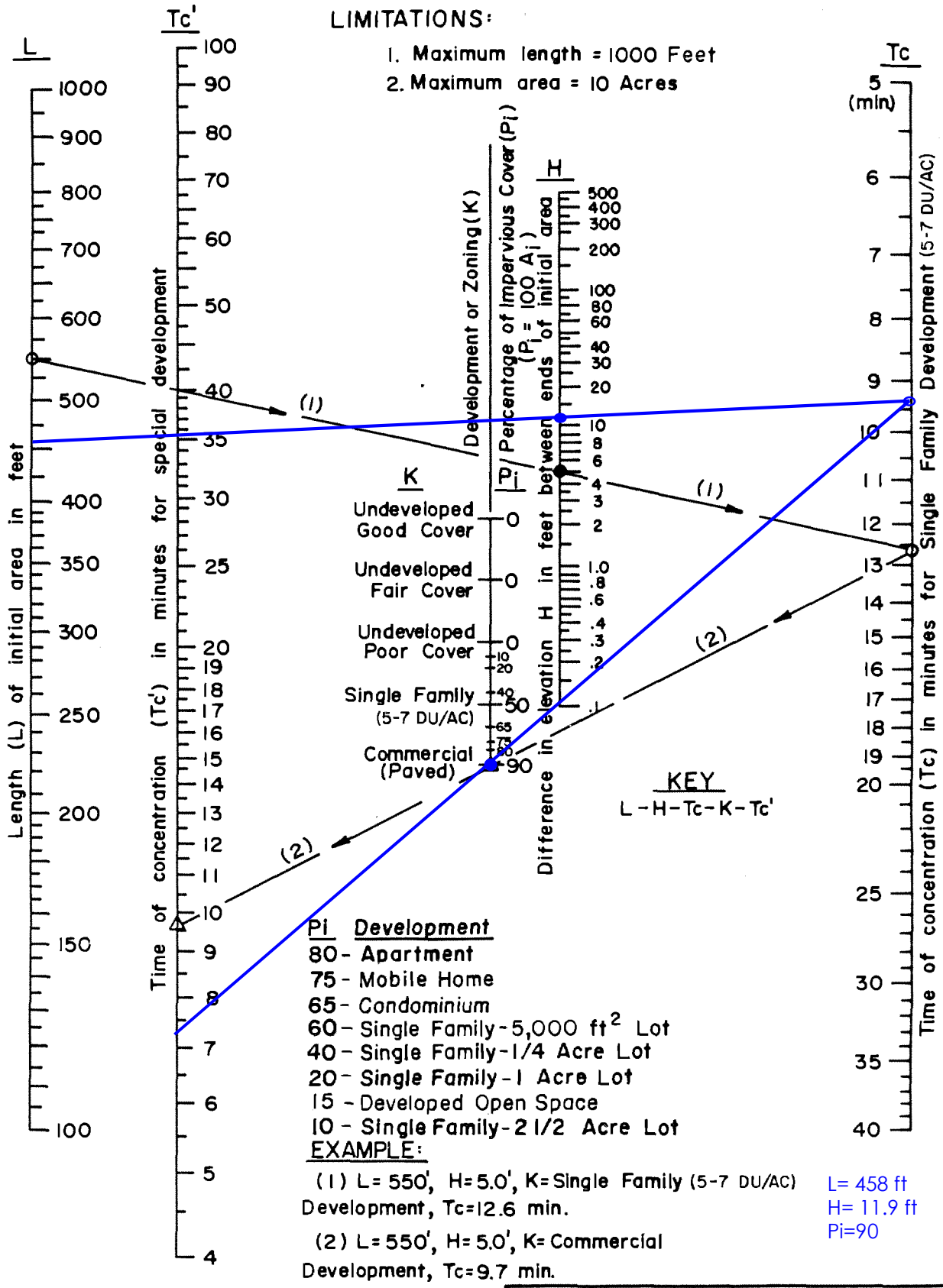
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/7/2019 at 7:20:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENT 3

Time of Concentration Nomograph



ORANGE COUNTY

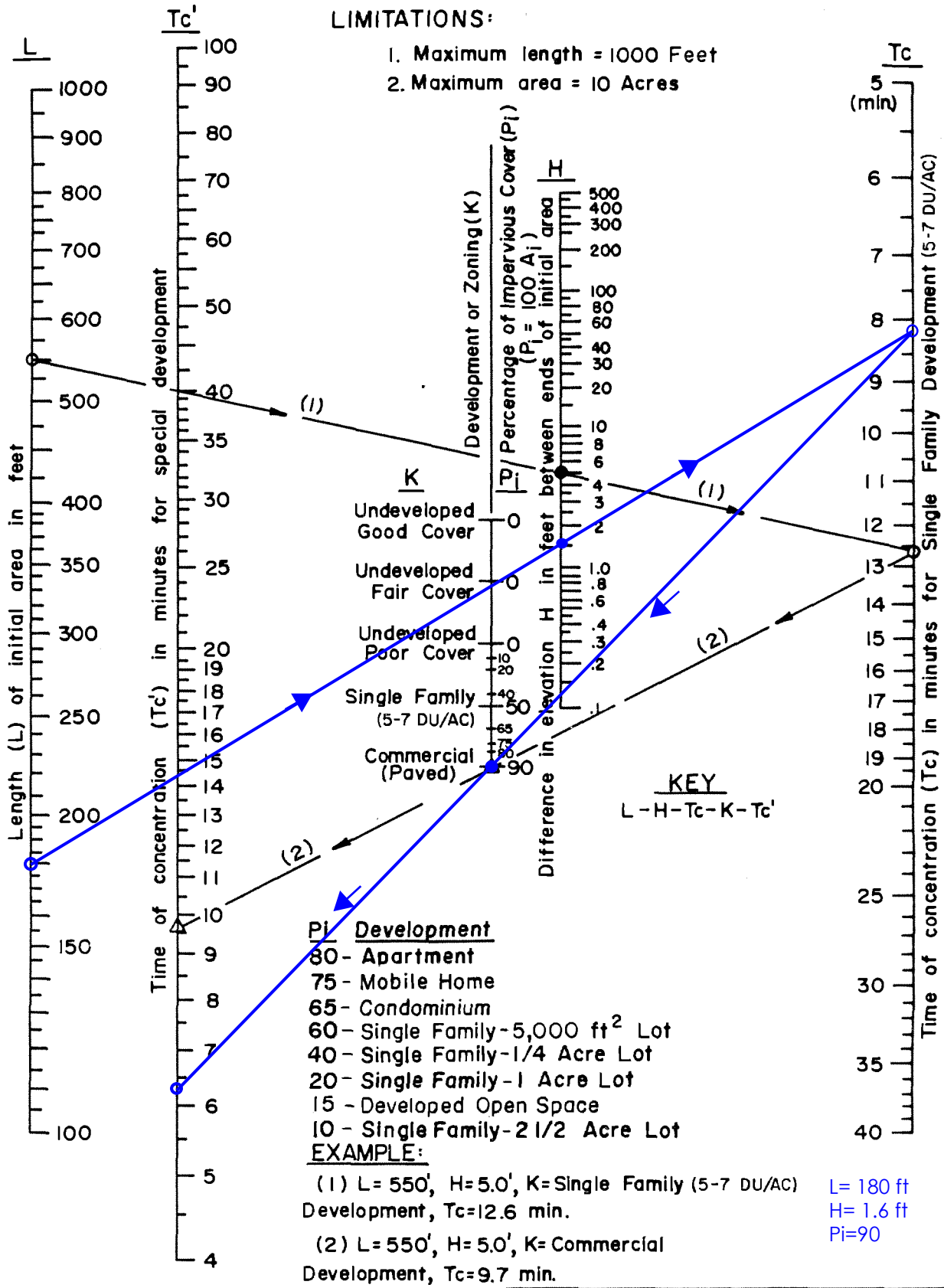
HYDROLOGY MANUAL

Existing Condition
Area X1

Tc'= 7.3 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

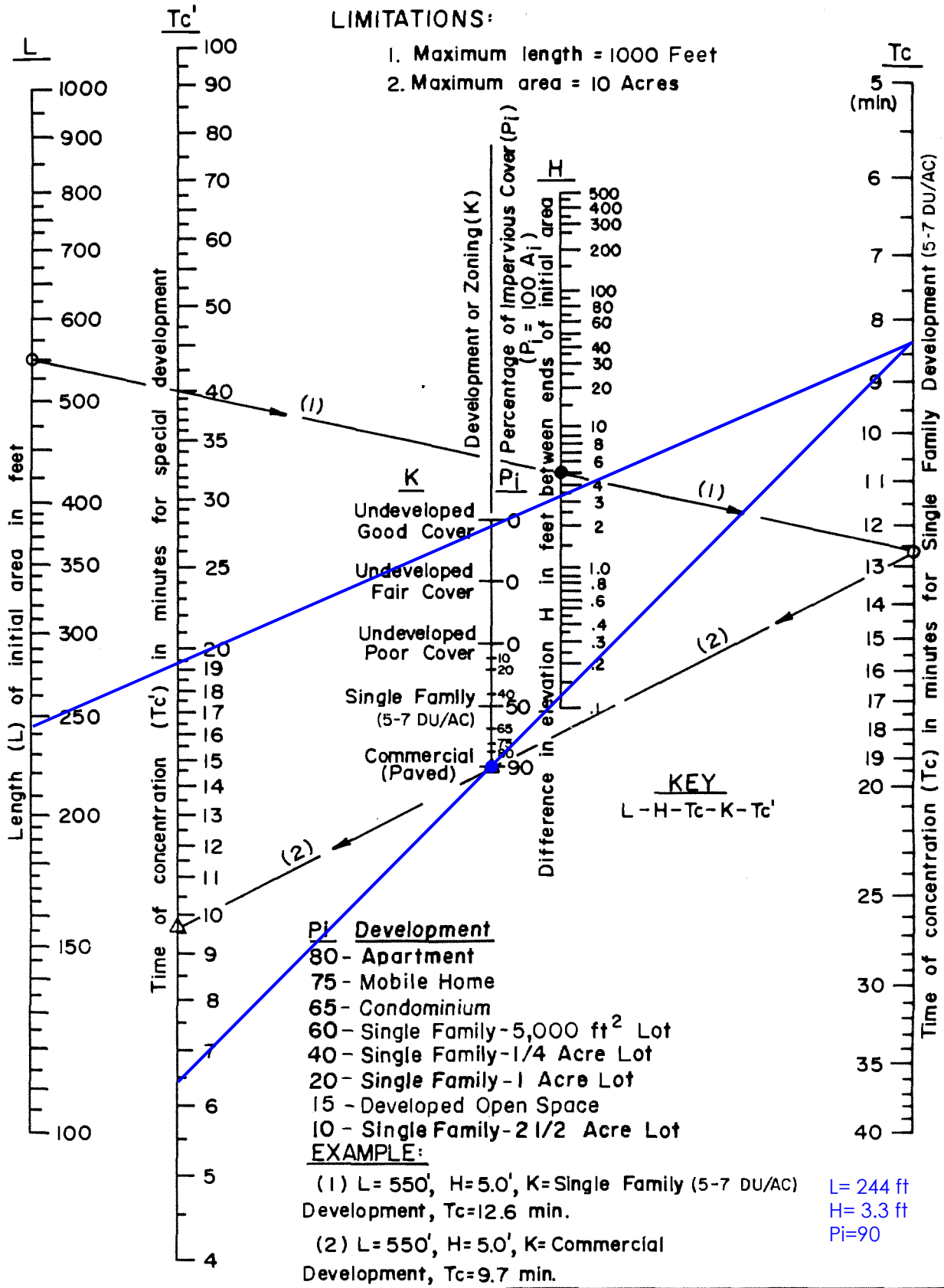


ORANGE COUNTY

HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

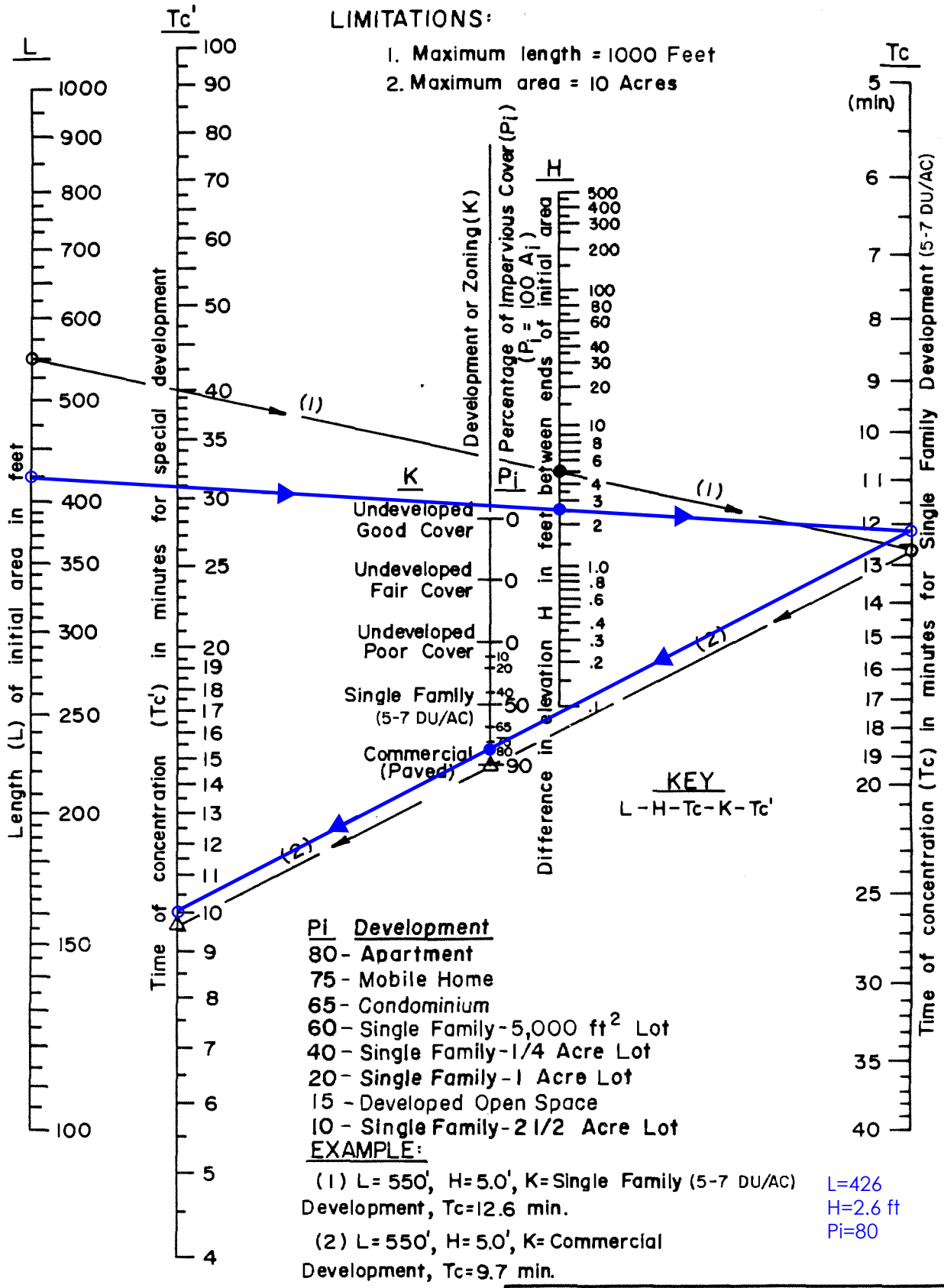
HYDROLOGY MANUAL

Existing and Proposed Condition
Area X3

Tc'= 6.4 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

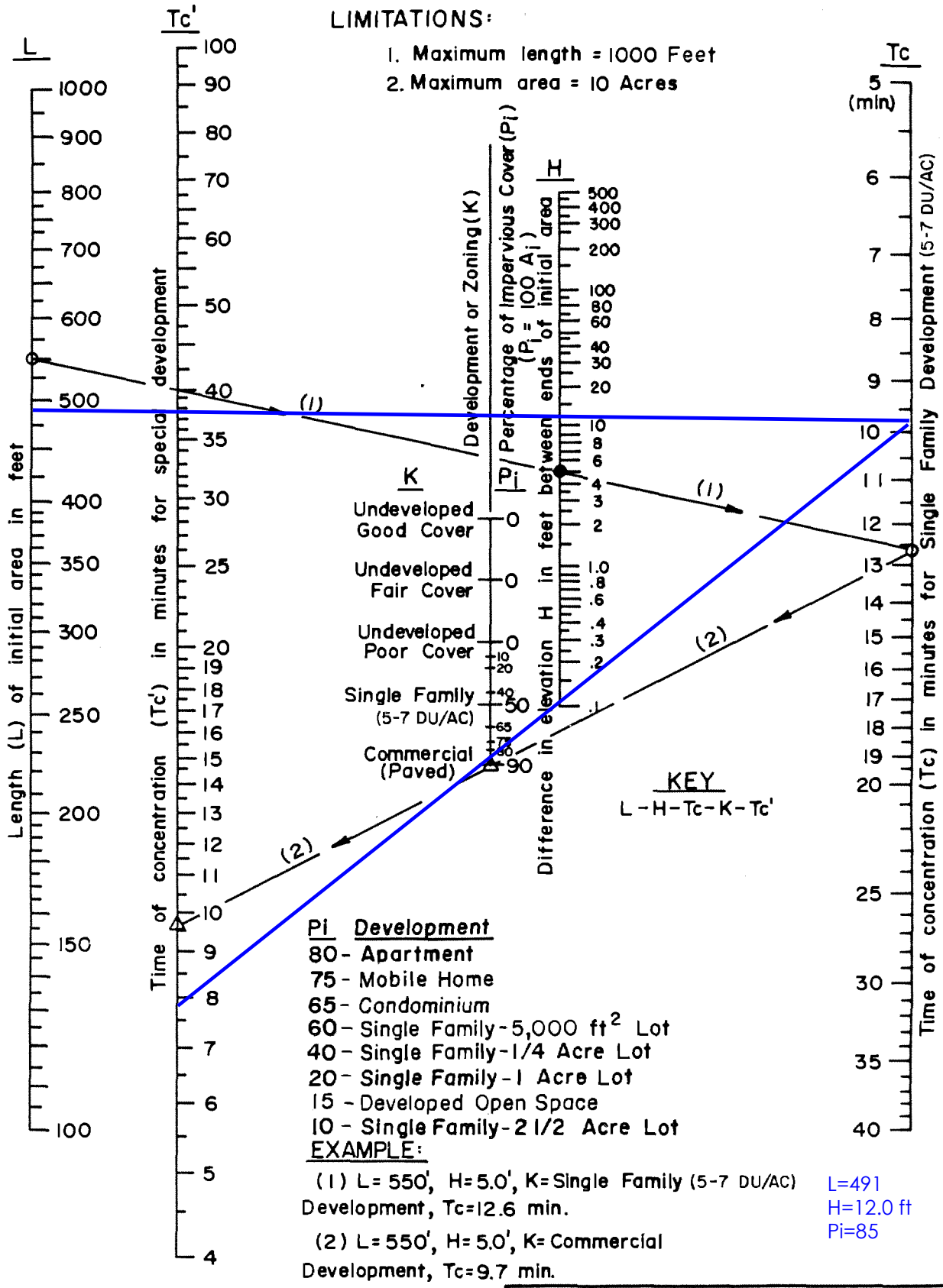
HYDROLOGY MANUAL

Proposed Condition
Area A

Tc'= 10 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

HYDROLOGY MANUAL

Proposed Condition
Area B

Tc'= 7.9 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

ATTACHMENT 4

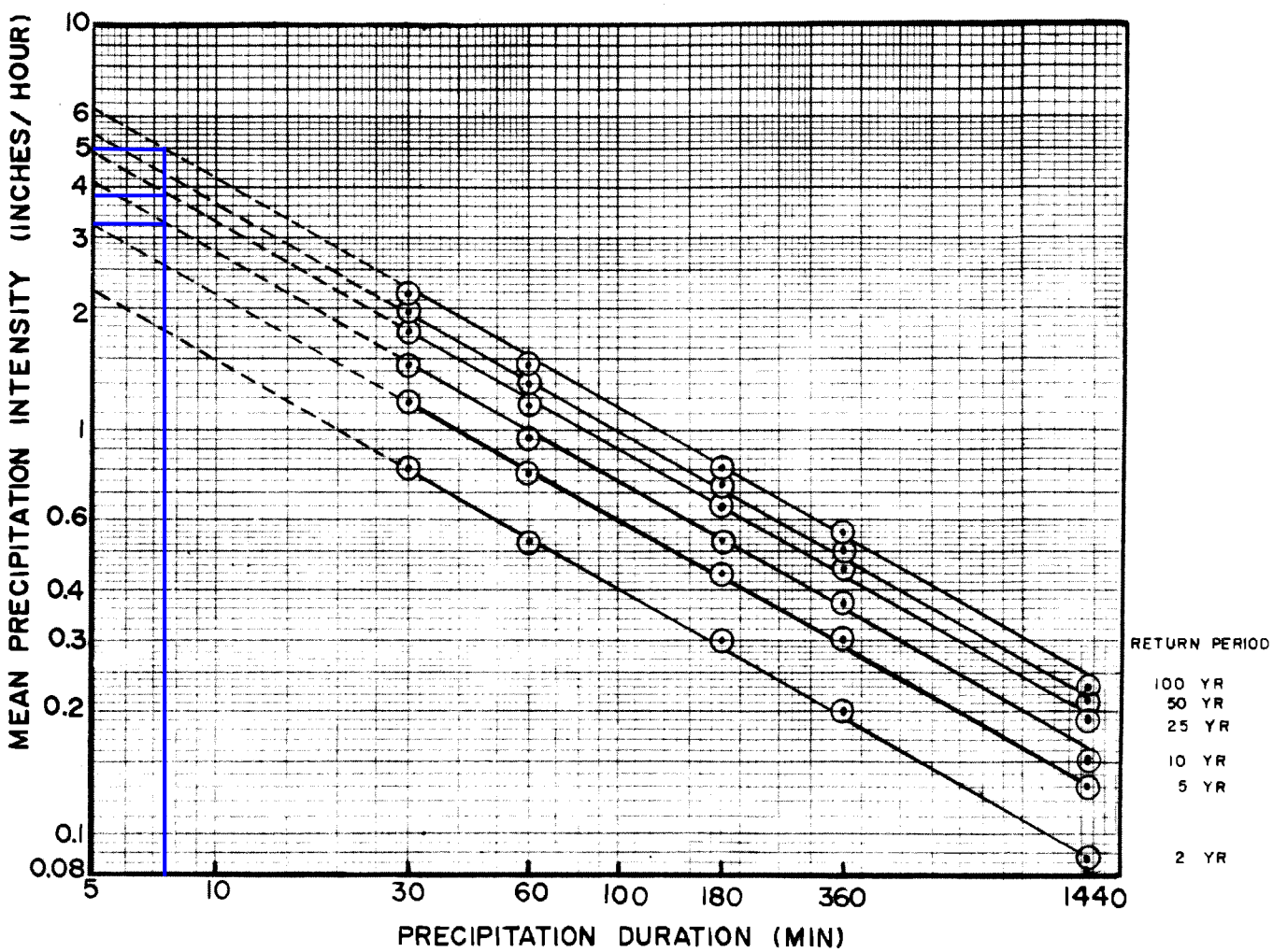
Hydrology Calculations

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X1
For t= 7.3 min
10 yr I= 3.27 in/hr
25 yr I= 3.89 in/hr
100 yr I= 4.98 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

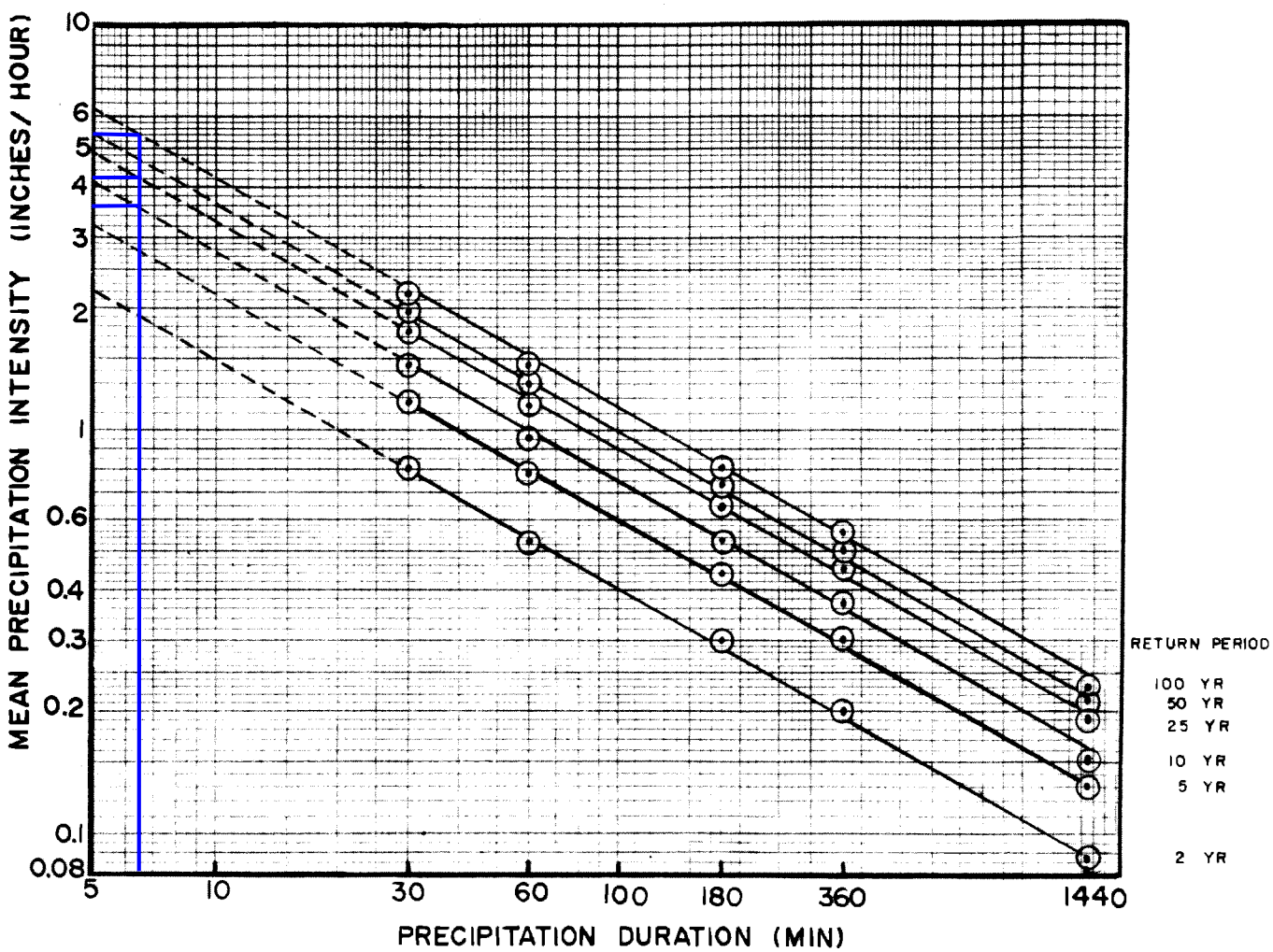
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X2
For t= 6.3 min
10 yr I=3.56 in/hr
25 yr I=4.23 in/hr
100 yr I=5.42 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

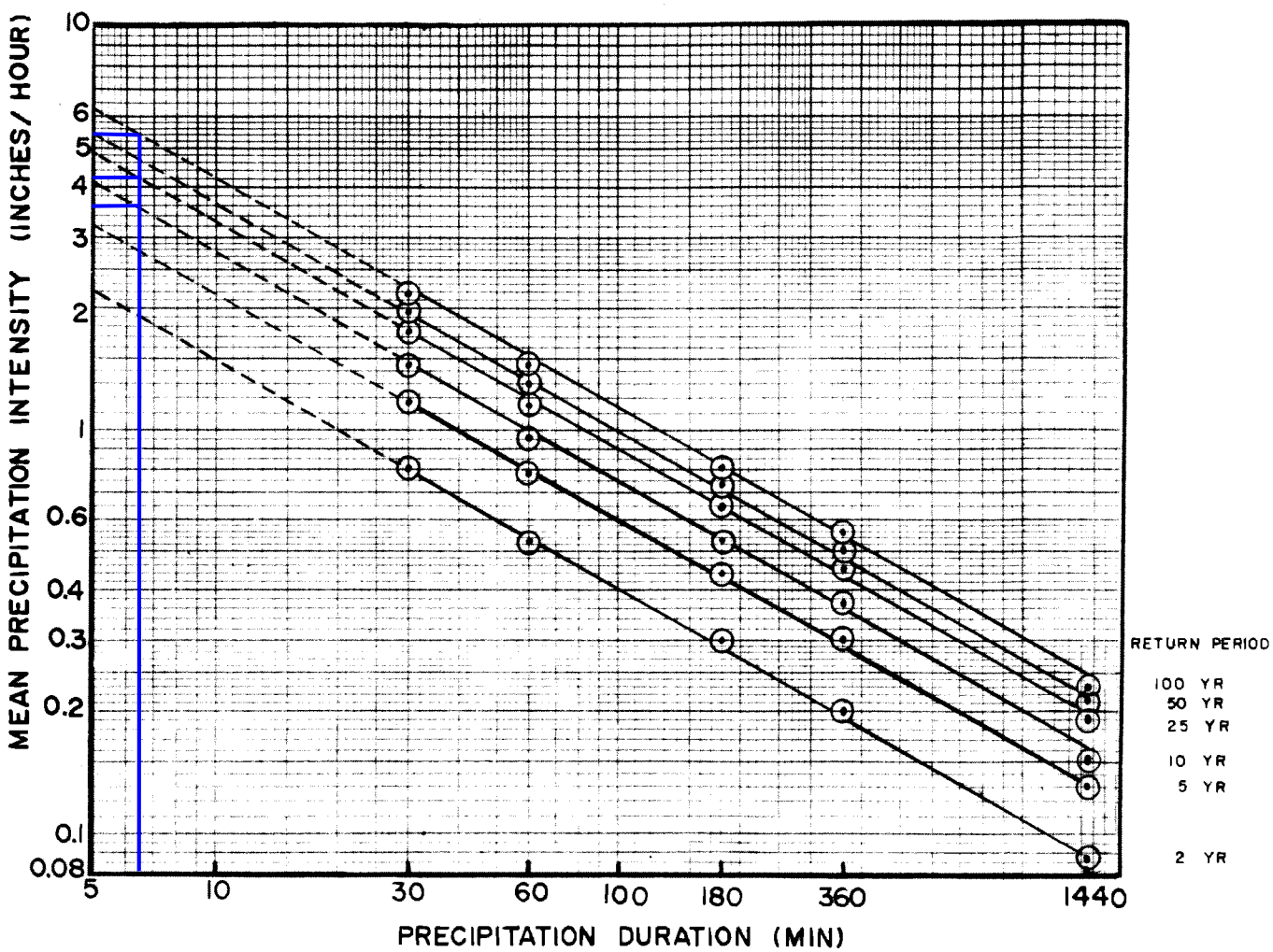
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X3
For t= 6.4min
10 yr I=3.52 in/hr
25 yr I=4.19 in/hr
100 yr I=5.37 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

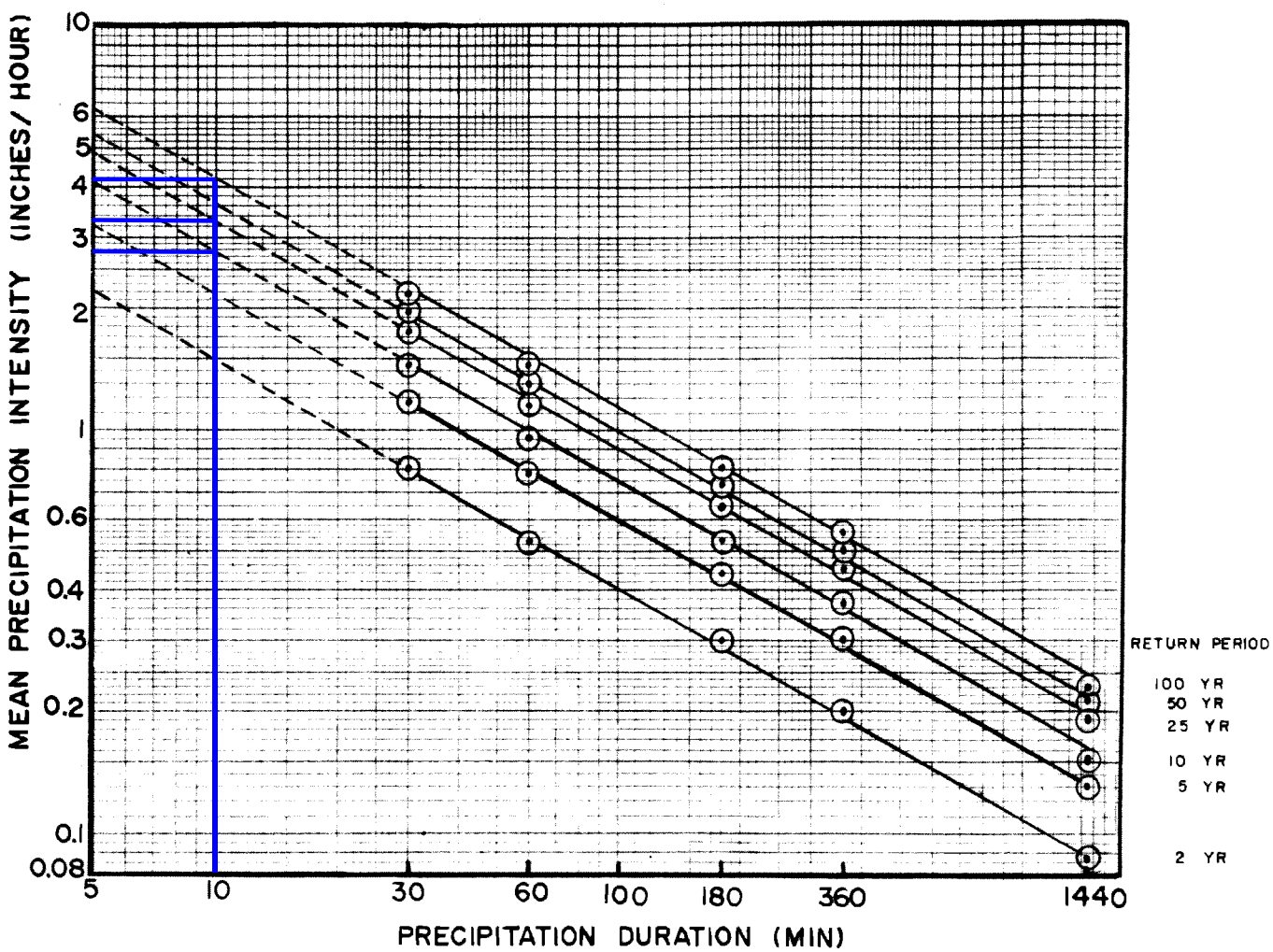
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area A
For t= 10.0 min
10 yr I=2.73 in/hr
25 yr. I=3.26 in/hr
100 yr I=4.16 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

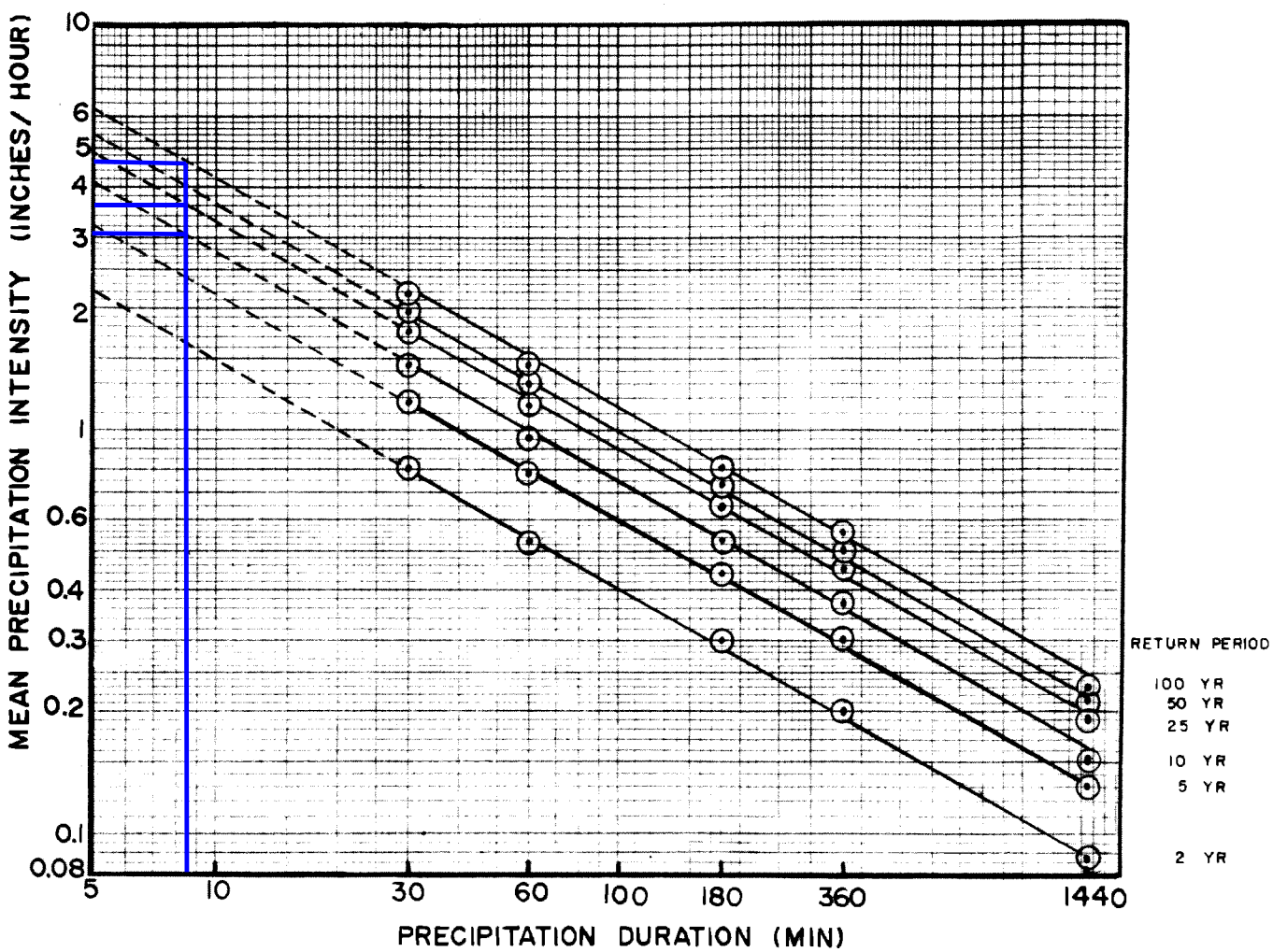
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area B
For t= 7.9 min
10 yr I=3.12 in/hr
25 yr. I=3.72 in/hr
100 yr I=4.76 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

Figure B-3

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

10 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	3.27	0.0374	0.0374	7.62	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	3.56	0.0823	0.0823	1.95	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	3.52	0.1235	0.1235	1.58	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

25 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	3.89	0.0374	0.0374	9.10	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	4.23	0.0823	0.0823	2.33	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	4.19	0.1235	0.1235	1.89	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

100-YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	4.98	0.0374	0.0374	11.62	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	5.42	0.0823	0.0823	3.00	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	5.37	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I-F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

10 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	2.73	0.0688	0.0688	1.68	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	3.12	0.0301	0.0301	7.09	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	3.52	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)
a_p = pervious area fraction
F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)
Area A: F_m = (0.344)(0.20) = 0.0688
Area B: Fm = (0.151)(0.20) = 0.0301
Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.
MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	3.26	0.0688	0.0688	2.01	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	3.72	0.0301	0.0301	8.46	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	4.19	0.1235	0.1235	1.89	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)
a_p = pervious area fraction
F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)
Area A: F_m = (0.344)(0.20) = 0.0688
Area B: Fm = (0.151)(0.20) = 0.0301
Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.
MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

100-YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	4.16	0.0688	0.0688	2.58	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	4.76	0.0301	0.0301	10.84	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	5.37	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

Area A: F_m = (0.344)(0.20) = 0.0688

Area B: Fm = (0.151)(0.20) = 0.0301

Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

APPENDIX G – PRELIMINARY WATER QUALITY MANAGEMENT PLAN

Preliminary Water Quality Management Plan (WQMP)

Project Name:

24551 Raymond Way
Lake Forest, CA

Prepared for:

National CORE

9421 Haven Avenue

Rancho Cucamonga, CA 91730

(909) 204-3444

Prepared by:

RRM Design Group

Engineer: Apryl Weidl Registration No. 87601

10 E. Figueroa Street, Suite 200

Santa Barbara, CA 93101

(805) 963-8283

May 12, 2020

Section will be completed during final design.

Project Owner's Certification			
Permit/Application No.		Grading Permit No.	
Tract/Parcel Map No.		Building Permit No.	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract)			APN 617-441-02

This Water Quality Management Plan (WQMP) has been prepared for Owner/Developer Name by Consulting/Engineering Firm Name. The WQMP is intended to comply with the requirements of the local NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to- date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner: National CORE Representative:			
Title			
Company	National CORE		
Address	9421 Haven Avenue, Rancho Cucamonga, CA 91730		
Email			
Telephone #	(909) 204-3444		
Signature		Date	

Contents

		Page No.
Section I	Discretionary Permit(s) and Water Quality Conditions	4
Section II	Project Description	5
Section III	Site Description	9
Section IV	Best Management Practices (BMPs)	11
Section V	Inspection/Maintenance Responsibility for BMPs	23
Section VI	Site Plan and Drainage Plan	24
Section VII	Educational Materials	25

Attachments

Attachment A ..... Educational Materials*
Attachment B ..... TGD Worksheets & Figures
Attachment C ..... Exhibits & Grading Plan
Attachment D ..... Notice of Transfer*
Attachment E ..... Hydrology Calculations
Attachment F ..... Geotechnical Report

* Attachments A and D will be provided with the Final WQMP and are not included in this Preliminary WQMP

Section I Discretionary Permit(s) and Water Quality Conditions

Provide discretionary permit and water quality information. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available from the Orange County Stormwater Program (ocwatersheds.com).*

Section will be completed during final design.

Project Information			
Permit/Application No.		Tract/Parcel Map No.	
Additional Information/ Comments:			
Water Quality Conditions			
Water Quality Conditions (list verbatim)			
Watershed-Based Plan Conditions			
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.			

Section II Project Description

II.1 Project Description

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the TGD for information that must be included in the project description.*

Description of Proposed Project				
Development Category (Verbatim from WQMP):	**Significant Redevelopment:** All significant redevelopment projects, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety.			
Project Area (ft_2): 85,556	Number of Dwelling Units: 71		SIC Code: N/A	
Narrative Project Description:	The proposed affordable housing project is located at 24551 Raymond Way in Lake Forest, California on a 3.76 acre site which has been previously developed. Currently the site contains two existing commercial buildings and a surface parking lot. The proposed project includes a lot split dividing the parcel into two separate parcels. The proposed development will occur on Parcel 1. No development is proposed on Parcel 2. The proposed development on Parcel 1 includes the demolition of the existing commercial building and the construction of a single building varying from three to four stories in height. The building will contain 71 residential units and a community center. A playground, teen center, and barbeque area are proposed outside of the building. The existing parking lot will be reconfigured for the change in use of the site.			
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	1.07 ac	24.5%	2.70 ac	71.7%%
Post-Project Conditions	0.94 ac	20.2%	2.82 ac	74.9%%
Drainage Patterns/Connections	The site is currently occupied by a commercial building and an asphalt parking lot. Drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place. Drainage flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane. Some runoff from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the Raymond Way and Packer Place intersection.			

	Runoff from the parking lot on Parcel 2 flows overland through Parcel 1 to Packer Place. The remainder of runoff from Parcel 2 flows to El Toro Road. Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean Proposed Development drainage conditions are described in Section II.4.

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the TGD for guidance.*

Pollutants of Concern			
Pollutant	Circle One: E=Expected to be of concern	N=Not Expected to be of concern	Additional Information and Comments
Suspended-Solid/ Sediment	(E)	N	
Nutrients	(E)	N	
Heavy Metals	E	(N)	
Pathogens (Bacteria/Virus)	(E)	N	
Pesticides	(E)	N	
Oil and Grease	(E)	N	Uncovered Parking Areas
Toxic Organic Compounds	E	(N)	
Trash and Debris	(E)	N	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are determined to be potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the TGD for* NOC *or Section 2.2.3.2 for* SOC.

☐ No - Show map

☒ Yes - Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the TGD.*

The project is upstream of an earthen channel that is susceptible to erosion per the Susceptibility Analysis Map for the Newport Bay Watershed (Attachment B).

However, the post-development peak runoff will not exceed the pre-development peak runoff for the 10-yr, 25-yr, and 100-yr storm events. See Attachment E for calculations. A summary is provided below.

Peak Flows to Raymond Way

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.95	1.68
25-Year	2.33	2.01
100-Year	3.00	2.58

Peak Flows to Packer Place

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	7.62	7.09
25-Year	9.10	8.46
100-Year	11.67	10.84

Peak Flows to El Toro Road

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.58	1.58
25-Year	1.89	1.89
100-Year	2.44	2.44

In addition, the time of concentration for the post-development condition is greater than the pre-development condition. See Attachment E for calculations.

Therefore, according the TGD, an HCOC does not exist and hydromodification does not need to be considered further.

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the TGD.*

The proposed development will maintain existing drainage patterns and discharge locations. To address stormwater quality and retention, dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume. The total volume of chambers and drywells combined is equal to the design capture volume. Dry wells are sized to infiltrate the full design capture volume within 72 hours. Sizing calculations are further discussed in section IV.3.2.

The project site has been divided into two (3) drainage areas: A, B and X3.

- Runoff from drainage area 'A' will be collected by the on-site storm drain system and directed to a dry well and storage chamber system near the southern corner of the site. Runoff will be captured and retained in the chambers and infiltrated through the dry well. Overflow from the dry well will flow out through the curb and enter the municipal storm drain system through inlets located near the eastern corner of the Raymond Way/Packer Place intersection.
- Runoff from drainage area 'B' will flow overland through the parking lot and be collected by the on-site storm drain system which will outlet into a dry well and storage chamber system near the driveway entry to the site. Runoff will be captured in the chambers and infiltrated through three dry wells. Overflow from the dry wells will outlet through the curb face on Packer Place. Runoff will enter the municipal storm drain system through an inlet at the end of the Bendricon Lane cul-de-sac.
- Runoff from drainage area 'X3' will flow to the southeast and be captured in a proposed dry well and chamber system. Overflow will continue to flow toward El Toro Road as it has historically.

Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the TGD.*

National CORE will own and manage Parcel 1. The Owner will be responsible for the long-term maintenance of the project's stormwater facilities and conformance with this WQMP after construction is complete.

A Notice of Transfer of Responsibility is provided in Attachment D which should be executed as part of any ownership transfer that might occur.

Section III Site Description

III.1 Physical Setting

Refer to Section 2.3.1 in the TGD.

Planning Area/ Community Name	N/A
Location/Address	24551 Raymond Way (Parcel 1) 23591 El Toro Road (Parcel 2)
	Lake Forest, CA
Land Use	Existing: PA-Profession and Administrative Proposed: Residential
Zoning	Existing: PA-Profession and Administrative Proposed: Residential
Acreage	3.76 Total (Parcel 1: 1.96, Parcel 2: 1.80)
Predominant Soil Type	Hydrologic Soil Group D (see Soils Map, Attachment B)

III.2 Site Characteristics

Refer to Section 2.3.2 in the TGD.

Precipitation Zone	85th percentile Rainfall = 0.85" (See Map, Attachment B)
Topography	The site slopes at 2-3% to the west. There is a roughly 20% slope from the building down to the street level along Raymond Way and Packer Place.
Drainage Patterns/Connections	Runoff from the site enters the municipal storm drain system through inlets at the northwestern end of Bendricon Lane, near the eastern corner of the Raymond Way and Packer Place intersection, and on El Toro Road. Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean
Soil Type, Geology, and Infiltration Properties	Per the Orange County Infiltration Study Map (Attachment B), soils at the site are within the NRCS Hydrologic Soils Group D, which gives low infiltration potential and high runoff rates. Site specific infiltration testing was performed by Albus-Keefe & Associates, Inc. showing average infiltration rates of 3.0 inches per hour. See attachment F.

Site Characteristics (continued)	
Hydrogeologic (Groundwater) Conditions	Per the page 4 of the project Soils Report (Attachment F) "Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet."
Geotechnical Conditions (relevant to infiltration)	There are no known geotechnical conditions at the site that would prevent or complicate stormwater infiltration at the project site. Refer to Geotechnical Report, Attachment F. The GeoTracker website shows no past or present soil or groundwater contamination sites within a 250' radius of the project site.
Off-Site Drainage	The proposed development will maintain existing drainage patterns which includes conveying runoff from the existing parking lot on Parcel 2through the proposed parking lot on the Parcel 1, see Exhibits B1 and B2 Proposed Hydrology Map in Attachment C. Off-site runoff will flow overland through the proposed parking lot and into the curb and gutter on Packer Place. It is assumed that the proposed dry well system will only capture on-site flows and any additional off-site flows will continue overland as they have historically.
Utility and Infrastructure Information	A sewer lateral from the Parcel 2 runs through both parcels and is shown on the Proposed Hydrology Map in Attachment C.

III.3 Watershed Description

Refer to Section 2.3.3 in the TGD.

Receiving Waters	San Diego Creek Reach 2, San Diego Creek Reach 1, Newport Bay (Upper), Newport Bay (Lower),
303(d) Listed Impairments	San Diego Creek Reach 2: None San Diego Creek Reach 1: Bacteria/Pathogens Newport Bay (Upper): Toxicity, Organics Newport Bay (Lower): Toxicity, Organics
Applicable TMDLs	Metals, Nutrients, Pesticides, Turbidity/Siltation
Pollutants of Concern for the Project	Sediment, Nutrients, Pathogens, Pesticides
Environmentally Sensitive and Special Biological Significant Areas	There are no environmentally sensitive or special biological significant areas within or adjacent to the project, and the project does not discharge directly to an ESA.

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. The local Permittee planning or NPDES staff should be consulted regarding the existence of an approved WIHMP or equivalent.
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES ☐	NO ☒
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.		

Project Performance Criteria (continued)	
If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	No HCOC exists, refer to Section II.3.
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	Priority Projects must infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event (Design Capture Volume). A properly designed biotreatment system may only be considered if infiltration, harvest and use, and evapotranspiration (ET) cannot be feasibly implemented for the full design capture volume. In this case, infiltration, harvest and use, and ET practices must be implemented to the greatest extent feasible and biotreatment may be provided for the remaining design capture volume.
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	Not Applicable-LID performance criteria is met through retention provided on-site.
Calculate LID design storm capture volume for Project.	Refer to Worksheets B in Attachment B for DCV calculations.

IV.2. SITE DESIGN AND DRAINAGE PLAN

Describe site design and drainage plan including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP plot plan.
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction). Committee

Refer to Section 2.4.2 in the TGD.

Dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Runoff from each drainage area will be collected by storm drains and outlet into storage chambers and dry well system that will provide retention and infiltration of the DCV. Per calculations in Section IV.3.2, specifically step 2, the maximum volume of runoff that a single dry well can infiltrate in 48 hours (the maximum draw down time) is 2,065 CF. Because the DCV for Drainage Area B and X3 is greater than 2,065 CF, three dry wells are required to ensure that the full DCV is infiltrated in 48 hours. In each drainage area, the dry wells and storage chambers are interconnected with a level storm drain (0% slope) to allow chambers and dry wells to function as a single system, filling and emptying simultaneously.

The project site has been divided into three drainage management areas (DMAs). The DMAs and associated BMPS are shown on the Proposed Hydrology Exhibit (Exhibit B1) in Attachment C along with project Grading and Drainage Plans. Calculations of Design Capture Volumes for each DMA are provided in Attachment B.

The following treatment BMPs are proposed:

- DMA A is treated by a chamber and dry well system near the southern corner of the site.
    - Dry Well Center Coordinates: 33°37'18.62"N 117°42'5.10"W
- DMA B is treated by a chamber and dry well system near the northern corner of the site.
    - Dry Well 1 Center Coordinates: 33°37'21.06"N 117°42'4.52"W
    - Dry Well 2 Center Coordinates: 33°37'22.02"N 117°42'4.22"W
    - Dry Well 3 Center Coordinates: 33°37'21.37"N 117°42'3.09"W
- DMA X3 is treated by a chamber and dry well system near the southern corner of the site.
    - Dry Well 1 Center Coordinates: 33°37'17.21"N 117°41'59.36"W

DMA	Total Area (SF)	Roof (SF)	Hardscape (SF)	Landscape (SF)	Total Impervious (SF)	Total Pervious (SF)
A	30,525	18,051	1,974	10,500	20,025	10,500
B	110,868	18,542	75,634	16,692	94,176	16,692
X3	22,467	8,077	522	13,868	8,599	13,868
Total	**163,860**	**44,670**	**78,130**	**41,060**	**122,800**	**41,060**

DMA	Percent Impervious	C	DCV
A	65.5%	0.64	1,382
B	84.9%	0.79	6,184
X3	38.3%	0.44	706
Total	79.8%	0.75	8,272

IV.3 LID BMP SELECTION AND PROJECT CONFORMANCE ANALYSIS

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the TGD for selecting LID BMPs and Section 2.4.3 in the TGD for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls

Retention criteria for the project is met through infiltration BMPs listed in section IV.3.2. HSCs are not required.

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	
Rain gardens	
Porous landscaping	
Infiltration planters	
Retention swales	
Infiltration trenches	
Infiltration basins	
Drywells	X
Subsurface infiltration galleries	
French drains	
Permeable asphalt	
Permeable concrete	
Permeable concrete pavers	
Other:	

Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with infiltration BMPs. If not, document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs

Drainage Area A-Dry Well and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV
(see DCV Calculation Worksheet-Attachment B)
DCV= 1,382 cu-ft.

Step 2: Determine Volume of Infiltration in 48 hours
Design Flow Rate
$Q_{measured}$=0.018cfs (Preliminary Percolation Study, Page 6-Attachment F)
Safety Factor, SF=2.25 (Worksheet H, Attachment B)
Q_{design} =$Q_{measured}$/SF=0.018cfs/2.25=0.008cfs

Total Time for Infiltration= T= Storm Duration + Drawdown Time = 24 hours + 48 hours
T=72 hours
Time to empty chamber=8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{design} \times T$

$$V_{63.5} = 0.008\frac{ft^3}{s} \times 63.5hrs \times \frac{3600\ s}{1\ hr} = 1{,}829\ ft^3$$

Volume Infiltrated in last 8.5 hours=Volume of Dry Well
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF

Total Volume Infiltrated in 48 Hours
V_T=$V_{39.5}$+V_{DW}=1,829+236=2,065 CF

2,065 cf > 1,382 cf …**OK**

Step 3: Determine Storage Volume of Dry Well
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF

Step 4: Determine additional Storage Volume in Chambers
Chamber Volume = DCV-V_{DW} = 1,382-236 = **1,146 CF**

Drainage Area B-Dry Wells and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV
(see DCV Calculation Worksheet-Attachment B)
DCV= 6,184 cu-ft.
Step 2: Determine Volume of Infiltration in 48 hours
Design Flow Rate
$Q_{measured}$=0.018cfs (Preliminary Percolation Study, Page 6-Attachment F)
Safety Factor, SF=2.25 (Worksheet H, Attachment B)
Q_{design} =$Q_{measured}$/SF=0.018cfs/2.25=0.008cfs

Total Time for Infiltration= T= Storm Duration + Drawdown Time = 24 hours + 48 hours
T=72 hours
Time to empty chamber=8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{design} \times T$

$$V_{63.5} = 0.008\frac{ft^3}{s} \times 63.5hrs \times \frac{3600\ s}{1\ hr} = 1{,}829\ ft^3$$

Volume Infiltrated in last 8.5 hours=Volume of Dry Well
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF

Total Volume Infiltrated in 48 Hours
V_T=$V_{39.5}$+V_{DW}=1,829+236=2,065 CF
Since V_T< DCV… **Three dry wells are required**
V_{T2} = 6,195 CF

6,195 cf > 6,184 cf …**OK**

Step 3: Determine Storage Volume of Dry Wells
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF*3=708 CF

Step 4: Determine additional Storage Volume in Chambers
Chamber Volume = DCV-V_{DW} = 6,184-708 = **5,476 CF**

Drainage Area X3-Dry Well and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV
(see DCV Calculation Worksheet-Attachment B)
DCV= 706 cu-ft.

Step 2: Determine Volume of Infiltration in 48 hours
Design Flow Rate
$Q_{measured}$=0.018cfs (Preliminary Percolation Study, Page 6-Attachment F)
Safety Factor, SF=2.25 (Worksheet H, Attachment B)
Q_{design} =$Q_{measured}$/SF=0.018cfs/2.25=0.008cfs

Total Time for Infiltration= T= Storm Duration + Drawdown Time = 24 hours + 48 hours
T=72 hours
Time to empty chamber=8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{design} \times T$

$$V_{63.5} = 0.008\frac{ft^3}{s} \times 63.5hrs \times \frac{3600\ s}{1\ hr} = 1{,}829\ ft^3$$

Volume Infiltrated in last 8.5 hours=Volume of Dry Well
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF

Total Volume Infiltrated in 48 Hours
V_T=$V_{39.5}$+V_{DW}=1,829+236=2,065 CF

2,065 cf > 706cf …**OK**

Step 3: Determine Storage Volume of Dry Well
Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)
V_{DW}=236 CF

Step 4: Determine additional Storage Volume in Chambers
Chamber Volume = DCV-V_{DW} = 706-236 = **470 CF**

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

The full Design Storm Capture Volume is met with infiltration BMPs, therefore no evapotranspiration and/or rainwater harvesting BMPs are included.

IV.3.4 Biotreatment BMPs

The full Design Storm Capture Volume is met with infiltration BMPs, no biotreatment BMPs are included.

IV.3.5 Hydromodification Control BMPs

Hydromodification Control BMPs are not necessary because the proposed project decreases the runoff volume and increases the time of concentration.

IV.3.6 Regional/Sub-Regional LID BMPs

The project will not participate in any regional/sub-regional LID BMPs.

IV.3.7 Treatment Control BMPs

Treatment control BMPs are not required because the full design capture volume is retained with LID BMPs.

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Common Area Landscape Management	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	No Hazardous Waste
N6	Local Industrial Permit Compliance	☐	☒	Residential Development
N7	Spill Contingency Plan	☐	☒	No Hazardous Materials
N8	Underground Storage Tank Compliance	☐	☒	No underground storage tanks
N9	Hazardous Materials Disclosure Compliance	☐	☒	No Hazardous Waste
N10	Uniform Fire Code Implementation	☒	☐	
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☒	No loading docks
N14	Common Area Catch Basin Inspection	☒	☐	
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if Structural source controls were not used.

Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☒	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	No Hazardous Material storage
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☒	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	No slopes or channels on-site
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☐	☒	Site is within SARWQCB jurisdiction
S6	Dock areas	☐	☒	Not a part of site design
S7	Maintenance bays	☐	☒	Not a part of site design
S8	Vehicle wash areas	☐	☒	Not a part of site design
S9	Outdoor processing areas	☐	☒	Not a part of site design
S10	Equipment wash areas	☐	☒	Not a part of site design
S11	Fueling areas	☐	☒	Not a part of site design
S12	Hillside landscaping	☐	☒	Not a part of site design
S13	Wash water control for food preparation areas	☐	☒	Not a part of site design
S14	Community car wash racks	☐	☒	Not a part of site design

IV.4 ALTERNATIVE COMPLIANCE PLAN (IF APPLICABLE)

IV.4.1 Water Quality Credits

Description of Proposed Project				
Project Types that Qualify for Water Quality Credits (Select all that apply):				
☐Redevelopment projects that reduce the overall impervious footprint of the project site.	☐Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.		☒ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).	
☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).		☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned		☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).
☐Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	☐ Developments in a city center area.	☐ Developments in historic districts or historic preservation areas.	☐ Live-work developments, a variety of developments designed to support residential and vocational needs together - similar to criteria to mixed use development; would not be able to take credit for both categories.	☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.
Calculation of Water Quality Credits (if applicable)	N/A- Not used for this project			

IV.4.2 Alternative Compliance Plan Information

Not applicable to this project.

Section V Inspection/Maintenance Responsibility for BMPs

Section will be completed during Final Design.

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	**Responsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
Chamber and Drywell System	Owner		

Section VI Site Plan and Drainage Plan

VI.1 SITE PLAN AND DRAINAGE PLAN

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Drainage connections
- BMP details

See Exhibits B1 and B2-Proposed Hydrology Exhibit and Preliminary Grading and Utility Plan in Attachment C .

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. For the copy submitted to the Permittee, only attach the educational materials specifically applicable to the project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☐	Proper Maintenance Practices for Your Business	☐
Household Tips	☐	**Other Material**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☒		
Recycle at Your Local Used Oil Collection Center (North County)	☐		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☐		☐
Sewer Spill	☐		☐
Tips for the Home Improvement Projects	☐		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☐		☐
Tips for Pet Care	☒		☐
Tips for Pool Maintenance	☐		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☐		☐
Tips for Projects Using Paint	☐		☐

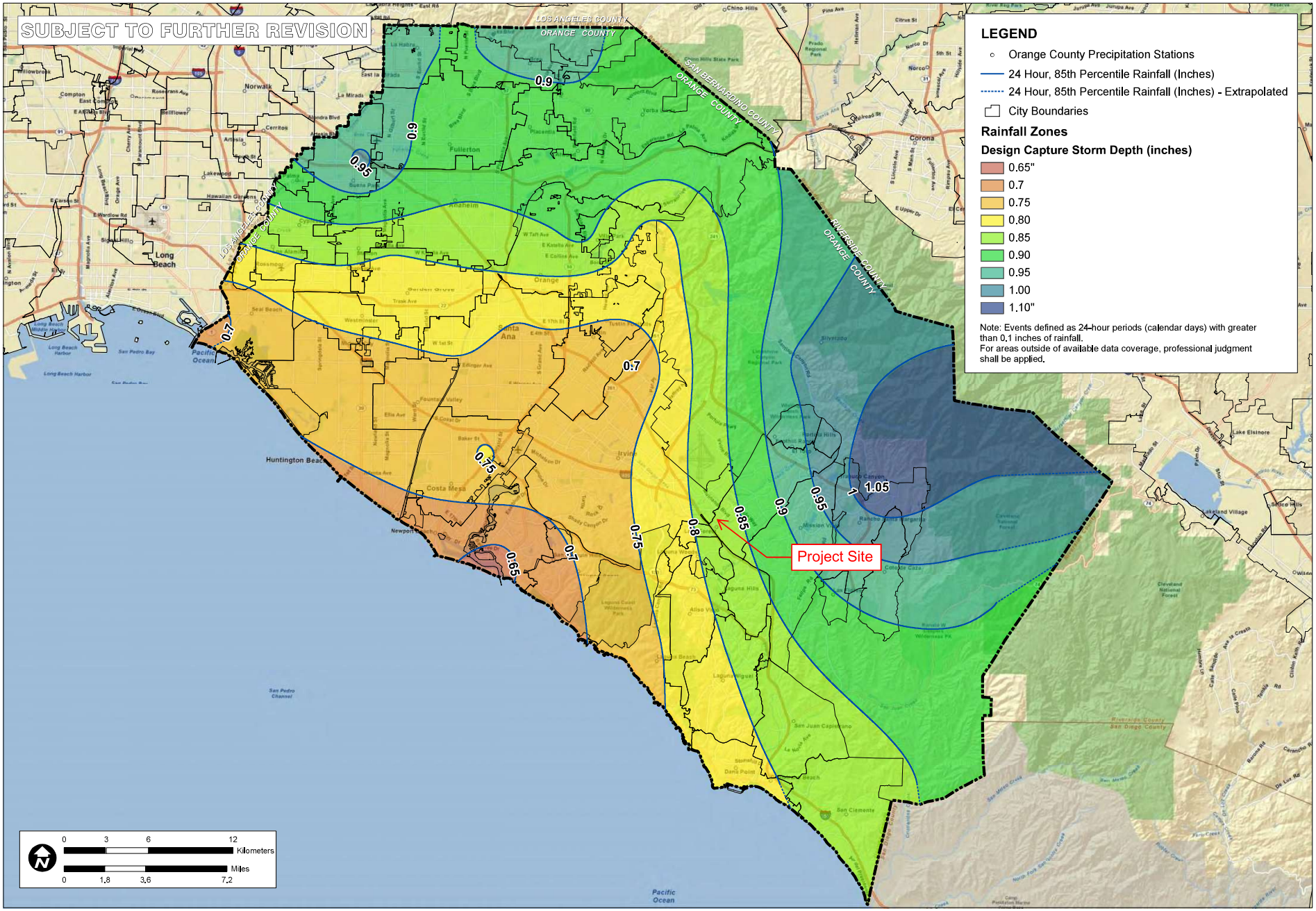
Attachment A

Educational Materials

To be included in Final WQMP, not included in this Preliminary WQMP

Attachment B

TGD Worksheets & Figures



P:\9526E\6-GIS\Wxds\Reports\Infiltration\Feasability_20110215\9526E_FigureXVI-1_RainfallZones_20110215.mxd

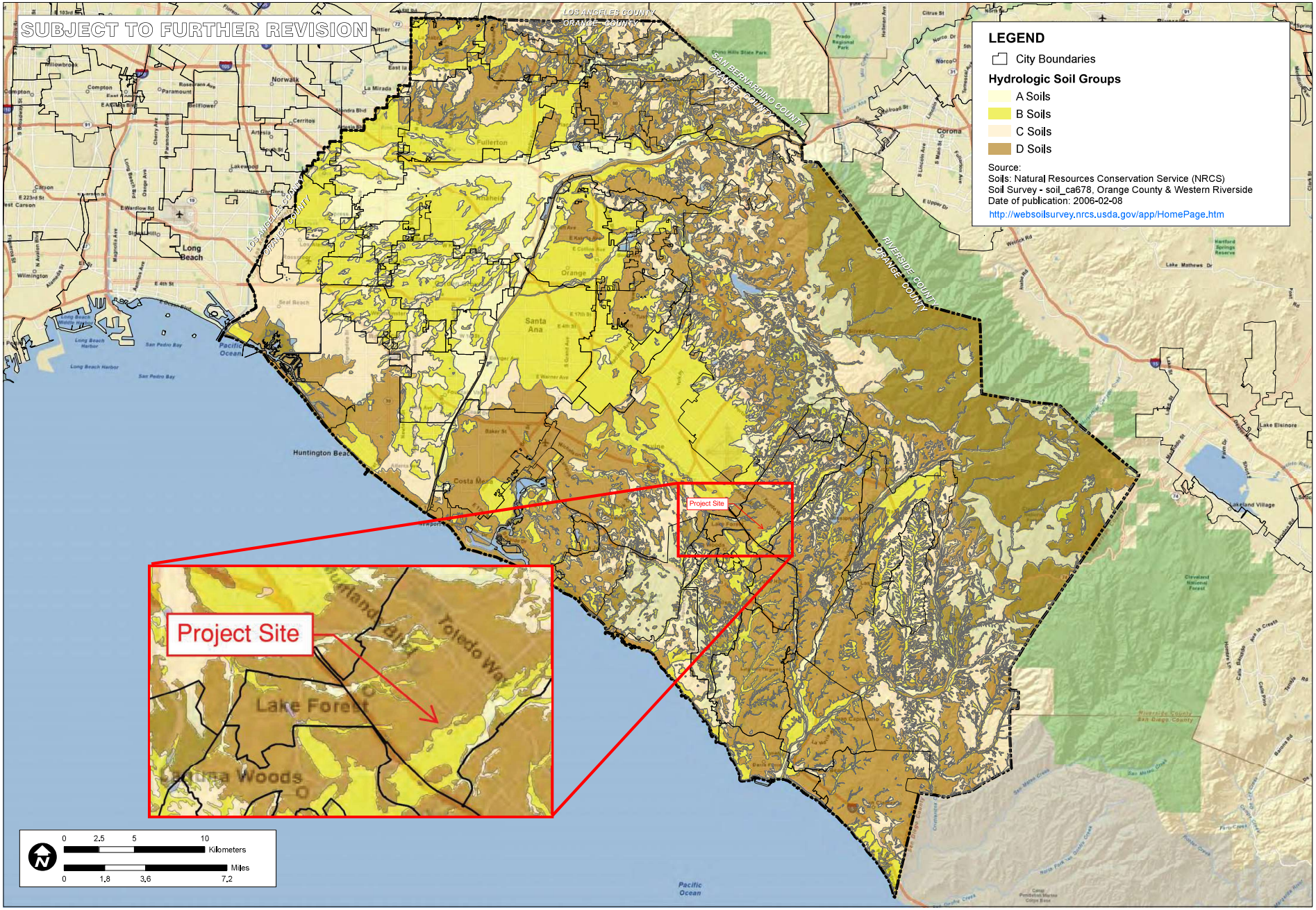
TITLE
RAINFALL ZONES

JOB
ORANGE COUNTY
TECHNICAL GUIDANCE
DOCUMENT
ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
XVI-1



TITLE
NRCS HYDROLOGIC SOILS GROUPS

JOB
ORANGE COUNTY INFILTRATION STUDY
ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE
XVI-2a

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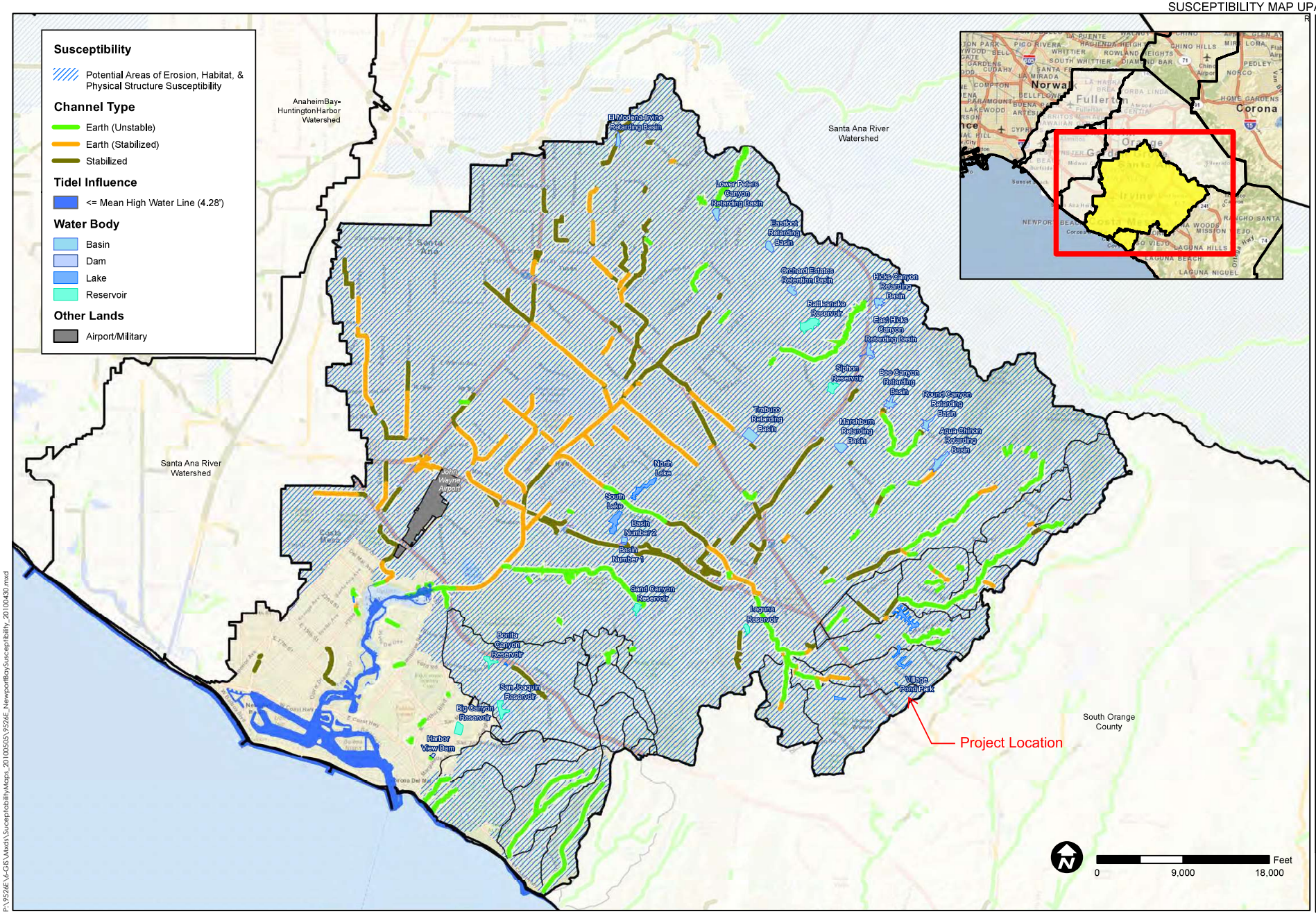
SUSCEPTIBILITY MAP UPATE (FEB 2013)



TITLE
SUSCEPTIBILITY ANALYIS
NEWPORT BAY-
NEWPORT COASTAL STREAMS

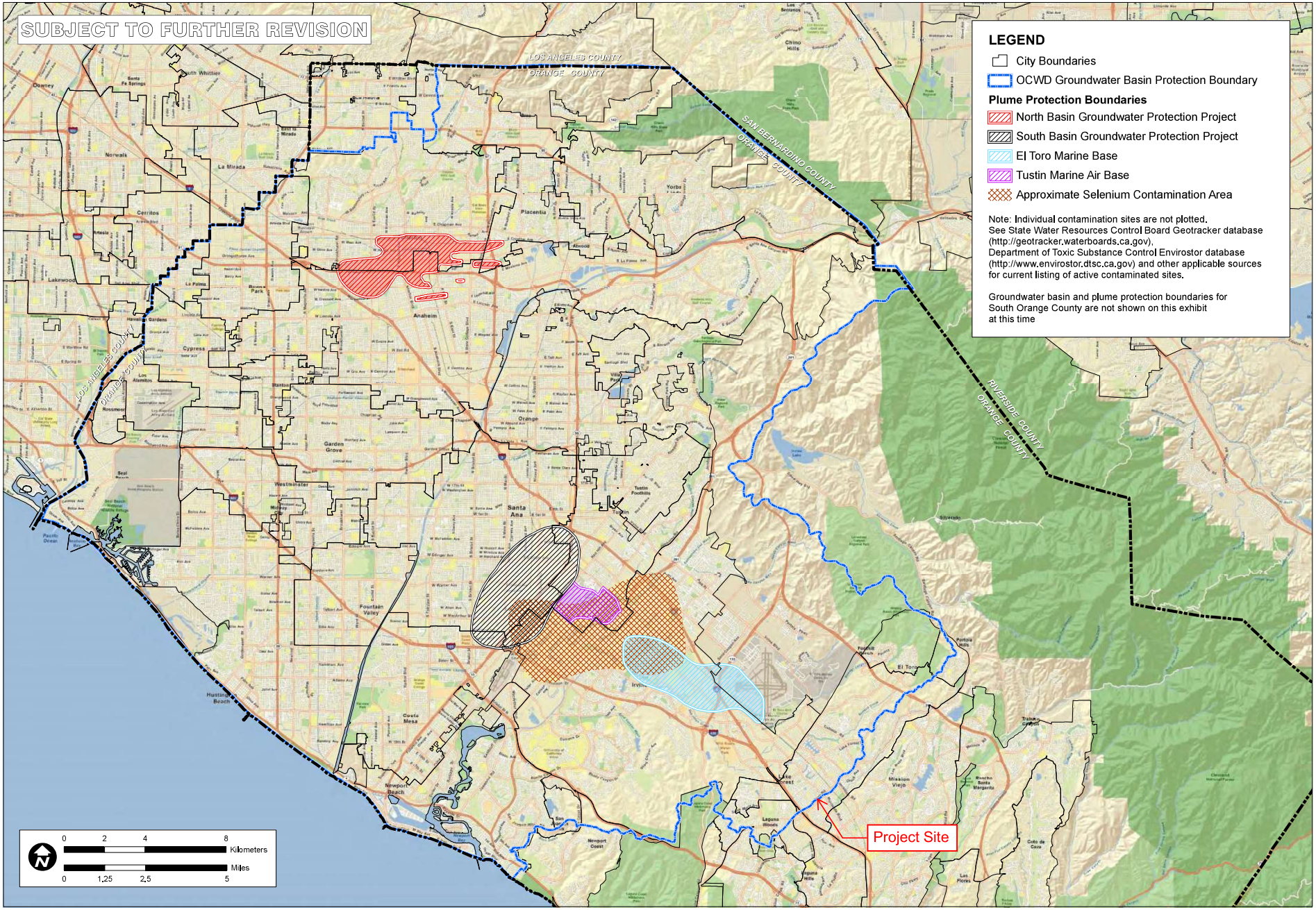
JOB
ORANGE COUNTY
WATERSHED
MASTER PLANNING
ORANGE CO. CA

SCALE	1" = 12000'
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/30/10
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
4

P:\9526E\6-GIS\Mxds\SusceptibilityMaps_20100505\9526E_NewportBaySusceptibility_20100430.mxd



TITLE
NORTH ORANGE COUNTY GROUNDWATER PROTECTION AREAS

JOB
ORANGE COUNTY INFILTRATION STUDY
ORANGE CO. CA

SCALE	1" = 1.25 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE
XVI-2f

P:\9526E\6-GIS\Wxds\Reports\Infiltrationfeasability_20110215\9526E_FigureXVI-2f_NorthOCGroundwaterProtectionAreasStreetMap_20110215.mxd

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area A

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	0.70	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.66	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.64	
4	Calculate runoff volume, V_{design}= $(C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	1,382	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (**Appendix VII**)	$K_{observed}$=	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=	259.8	sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area B

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	2.55	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.85	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.79	
4	Calculate runoff volume, V_{design}= $(C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	6,184	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (**Appendix VII**)	$K_{observed}$=	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=	1162.4	sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area X3

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	0.52	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	0.38	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.44	
4	Calculate runoff volume, V_{design}= $(C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	706	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}$[1] (in/hr) (**Appendix VII**)	$K_{observed}$=	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	S_{total}=	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	K_{design}=	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=	132.7	sq-ft

[1] $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet H: Factor of Safety and Design Infiltration Rate and Worksheet

Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.50
B	Design	Tributary area size	0.25	1	0.25
		Level of pretreatment/ expected sediment loads	0.25	1	0.25
		Redundancy	0.25	2	0.50
		Compaction during construction	0.25	2	0.50
		Design Safety Factor, $S_B = \Sigma p$			1.50
Combined Safety Factor, $S_{Total} = S_A \times S_B$					2.25
Observed Infiltration Rate, inch/hr, $K_{observed}$ (corrected for test-specific bias)					3.0 in/hr
Design Infiltration Rate, in/hr, $K_{DESIGN} = K_{Observed} / S_{Total}$					1.33 in/hr

Supporting Data

Briefly describe infiltration test and provide reference to test forms:

Percolation testing was performed in accordance with constant head test procedures outlined in the Well Permeameter Method (USBR 7300-89). See Soils Report, Attachment F.

Note: The minimum combined adjustment factor shall not be less than 2.0 and the maximum combined adjustment factor shall not exceed 9.0.

Worksheet I: Summary of Groundwater-related Feasibility Criteria

1	Is project large or small? (as defined by **Table VIII.2**) circle one	Large	Small	
2	What is the tributary area to the BMP?	A	varies	acres
3	What type of BMP is proposed?	Dry Well		
4	What is the infiltrating surface area of the proposed BMP?	A_{BMP}	varies	sq-ft
5	What land use activities are present in the tributary area (list all) Multi-family residential			
6	What land use-based risk category is applicable?	L	M	H
7	If M or H, what pretreatment and source isolation BMPs have been considered and are proposed (describe all): N/A			
8	What minimum separation to mounded seasonally high groundwater applies to the proposed BMP? See Section **VIII.2** (circle one)	5 ft	10 ft	
9	Provide rationale for selection of applicable minimum separation to seasonally high mounded groundwater: Dry Wells are listed under 10' minimum separation			
10	What is separation from the infiltrating surface to seasonally high groundwater?	SHGWT	N/A	ft
11	What is separation from the infiltrating surface to mounded seasonally high groundwater?	Mounded SHGWT	N/A	ft
12	Describe assumptions and methods used for mounding analysis: Groundwater was encountered during geotechinical analysis at 41 feet, per soils report.			
13	Is the site within a plume protection boundary (See **Figure**	Y	N	N/A

Worksheet I: Summary of Groundwater-related Feasibility Criteria

	VIII.2)?	
14	Is the site within a selenium source area or other natural plume area (See Figure VIII.2)?	Y N N/A
15	Is the site within 250 feet of a contaminated site?	Y N N/A
16	If site-specific study has been prepared, provide citation and briefly summarize relevant findings: N/A	
17	Is the site within 100 feet of a water supply well, spring, septic system?	Y N N/A
18	Is infiltration feasible on the site relative to groundwater-related criteria?	Y N
Provide rationale for feasibility determination: Based on the high distance to groundwater and location of the site, infiltration BMPs are considered feasible based on groundwater related criteria.		

Note: if a single criterion or group of criteria would render infiltration infeasible, it is not necessary to evaluate every question in this worksheet.

Table 2.7: Infiltration BMP Feasibility Worksheet

	Infeasibility Criteria	*es*	*No*
1	**Would Infiltration BMPs pose significant risk for groundwater related concerns** Refer to **Appendix VIII** (Worksheet I) for guidance on groundwater-related infiltration feasibility criteria.		X
Provide basis: Based on the high distance to groundwater and location of the site infiltration BMPs are considered feasible based on groundwater related criteria. Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Would Infiltration BMPs **pose significant risk of increasing risk of geotechnical hazards that cannot be mitigated to an acceptable level**? (Yes if the answer to any of the following questions is yes, as established by a geotechnical expert): • The BMP can only be located less than 50 feet away from slopes steeper than 15 percent • The BMP can only be located less than eight feet from building foundations or an alternative setback. • A study prepared by a geotechnical professional or an available watershed study substantiates that stormwater infiltration would potentially result in significantly increased risks of geotechnical hazards that cannot be mitigated to an acceptable level.		X
Provide basis: None of the above criteria apply. Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
3	Would infiltration of the DCV from drainage area **violate downstream water rights**?		X
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

	Partial Infeasibility Criteria	*Yes*	*No*
4	Is proposed infiltration facility **located on HSG D soils** or the site geotechnical investigation identifies presence of soil characteristics which support categorization as D soils?	X	
Provide basis: See Soils Map in Attachment B Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
5	Is **measured infiltration rate below proposed facility less than 0.3 inches per hour**? This calculation shall be based on the methods described in **Appendix VII**.		X
Provide basis: See Soils Report, Attachment F Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
6	Would **reduction of over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters**		X
Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
7	Would **an increase in infiltration over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters**		X
Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

Infiltration Screening Results (check box corresponding to result):		
8	Is there substantial evidence that infiltration from the project would result in a significant increase in I&I to the sanitary sewer that cannot be sufficiently mitigated? (See **Appendix VII**) Provide narrative discussion and supporting evidence: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.	No
9	If any answer from row 1-3 is yes: infiltration of any volume is **not feasible** within the DMA or equivalent. Provide basis: Summarize findings of infeasibility screening	N/A
10	If any answer from row 4-7 is yes, infiltration is **permissible but is not presumed to be feasible for the entire DCV.** Criteria for designing biotreatment BMPs to achieve the maximum feasible infiltration and ET shall apply. Provide basis: Based on the hydrologic soil group and infiltration rate of the soil, infiltration BMPs are feasible but may not account for the entire DCV. Summarize findings of infeasibility screening	Yes
11	If all answers to rows 1 through 11 are no, infiltration of the full DCV is potentially feasible, BMPs must be designed to infiltrate the full DCV to the maximum extent practicable.	N/A

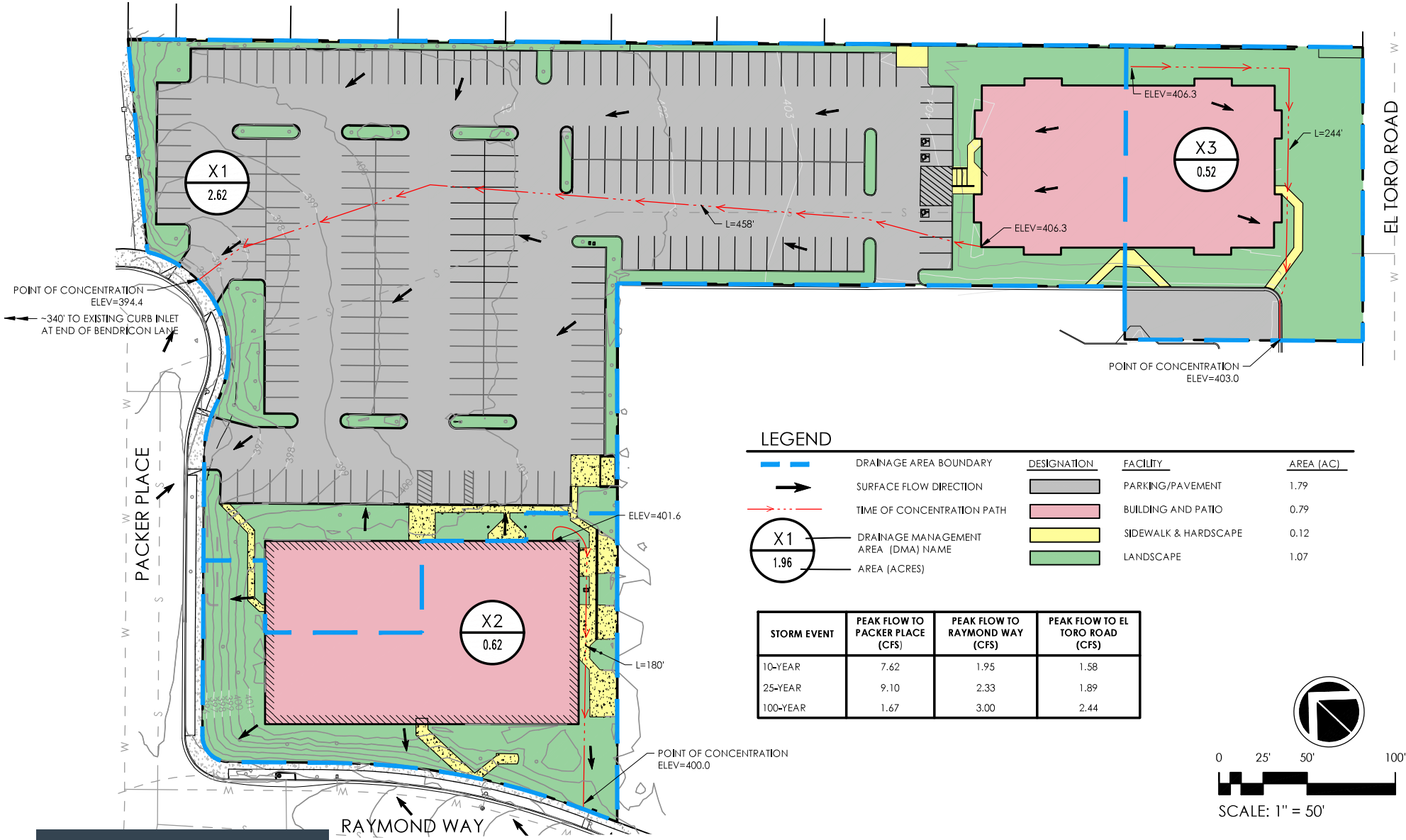
Harvest and Use Infeasibility

Harvest and use infeasibility criteria include:

- If inadequate demand exists for the use of the harvested rainwater. See **Appendix X** for guidance on determining harvested water demand and applicable feasibility thresholds.
- If the use of harvested water for the type of demand on the project violates codes or ordinances most applicable to stormwater harvesting in effect at the time of project application and a waiver of these codes and/or ordinances cannot be obtained. It is noted that codes and ordinances most applicable to stormwater harvesting may change

Attachment C

Exhibits and Grading Plan



LEGEND

		DESIGNATION	FACILITY	AREA (AC)
	DRAINAGE AREA BOUNDARY		PARKING/PAVEMENT	1.79
	SURFACE FLOW DIRECTION		BUILDING AND PATIO	0.79
	TIME OF CONCENTRATION PATH		SIDEWALK & HARDSCAPE	0.12
X1	DRAINAGE MANAGEMENT AREA (DMA) NAME		LANDSCAPE	1.07
1.96	AREA (ACRES)			

STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.62	1.95	1.58
25-YEAR	9.10	2.33	1.89
100-YEAR	1.67	3.00	2.44

0 25' 50' 100'

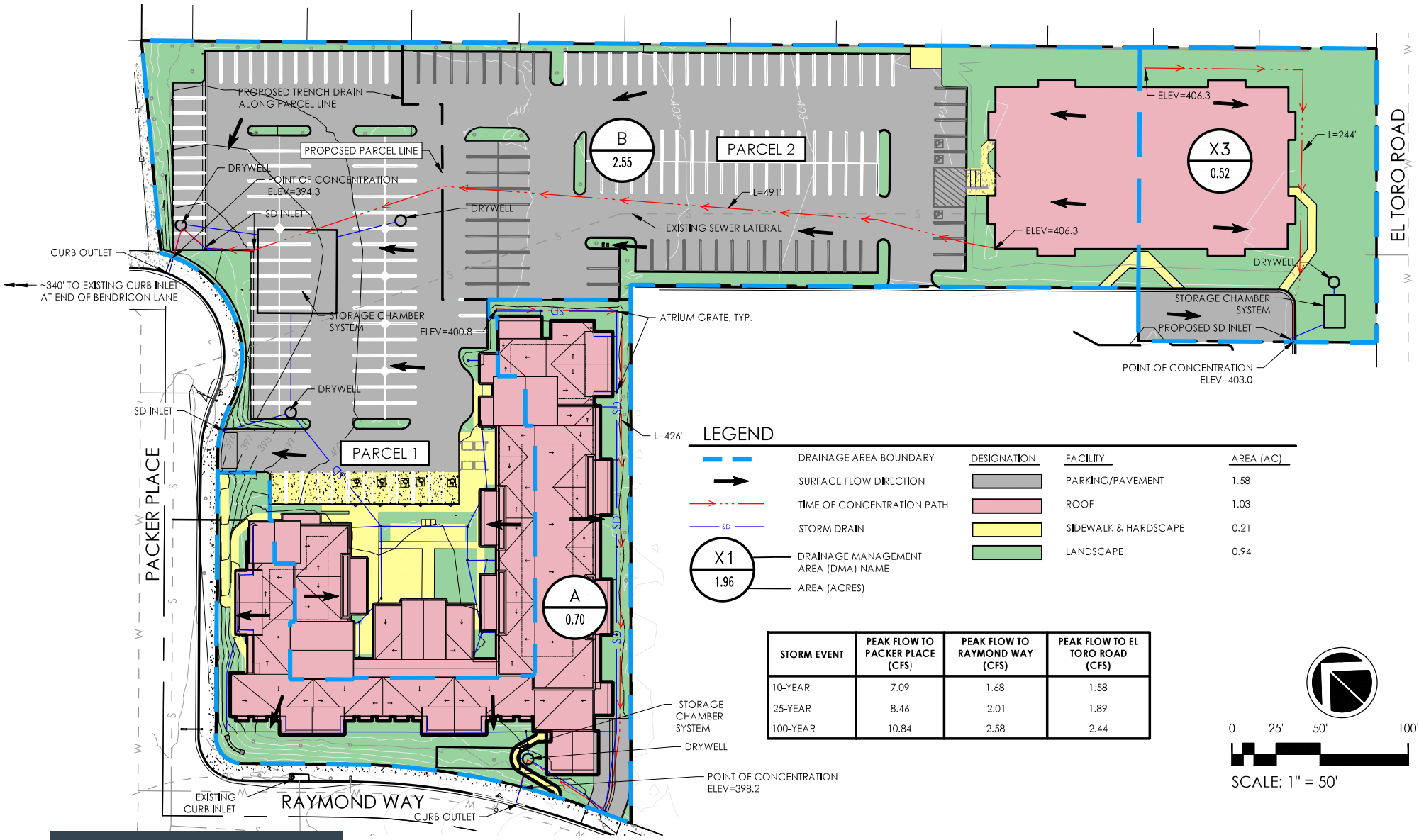
SCALE: 1" = 50'

rrm design group

EXHIBIT A-EXISTING HYDROLOGY MAP

MAY 7, 2020

24551 RAYMOND WAY, LAKE FOREST, CA



STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.09	1.68	1.58
25-YEAR	8.46	2.01	1.89
100-YEAR	10.84	2.58	2.44

rrm design group

EXHIBIT B-PROPOSED HYDROLOGY MAP

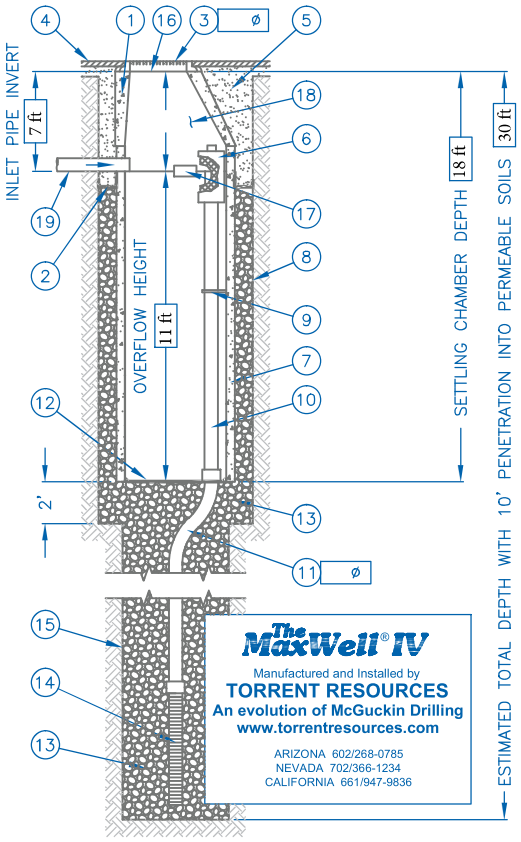
MAY 11, 2020

24551 RAYMOND WAY, LAKE FOREST, CA

MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. **Manhole Cone** – Modified Flat Bottom.
2. **Moisture Membrane** – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. **Bolted Ring & Grate** – Diameter as shown. Clean cast iron with wording **"Storm Water Only"** in raised letters. **Bolted in 2 locations** and secured to cone with mortar. Rim elevation ±0.02' of plans.
4. **Graded Basin or Paving** (by Others).
5. **Compacted Base Material** – 1-Sack Slurry except in landscaped installtions with no pipe connections.
6. **PureFlo® Debris Shield** – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. **Fusion bonded epoxy coated.**
7. **Pre-cast Liner** – 4000 PSI concrete 48" ID. X 54" OD. **Center in hole** and align sections **to maximize bearing surface.**
8. **Min. 6' Ø Drilled Shaft.**
9. **Support Bracket** – Formed 12 Ga. steel. **Fusion bonded epoxy coated.**
10. **Overflow Pipe** – Sch. 40 PVC mated to drainage pipe at base seal.
11. **Drainage Pipe** – ADS highway grade with TRI-A coupler. **Suspend pipe** during backfill operations to prevent buckling or breakage. Diameter as noted.
12. **Base Seal** – Geotextile or concrete slurry.
13. **Rock** – Washed, sized between 3/8" and 1-1/2" to **best complement soil conditions.**
14. **FloFast® Drainage Screen** – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. **Min. 4' Ø Shaft** – Drilled to **maintain permeability** of drainage soils.
16. **Fabric Seal** – U.V. resistant geotextile – **to be removed by customer** at project completion.
17. **Absorbent** – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. **Freeboard Depth** Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. **Optional Inlet Pipe** (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.



AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 363
CA Lic. 528080, C-42, HAZ.
NV Lic. 0035350 A - NM Lic. 90504 GF04

U.S. Patent No. 4,923,330 - ™ Trademark 1974, 1990, 2004

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of MaxWell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" Ø from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to **"Design Suggestions For Retention And Drainage Systems"** or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized **"crowd"** equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet.** Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet .** For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

"Ø DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

"Ø BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" Ø or 30" Ø manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

"Ø INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

TORRENT RESOURCES INCORPORATED
1509 East Elwood Street, Phoenix Arizona 85040~1391
phone 602~268~0785 fax 602~268~0820
Nevada 702~366~1234
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CA Lic. 528080 A, C-42, HAZ ~ **NV Lic.** 0035350 A ~ **NM Lic.** 90504 GF04

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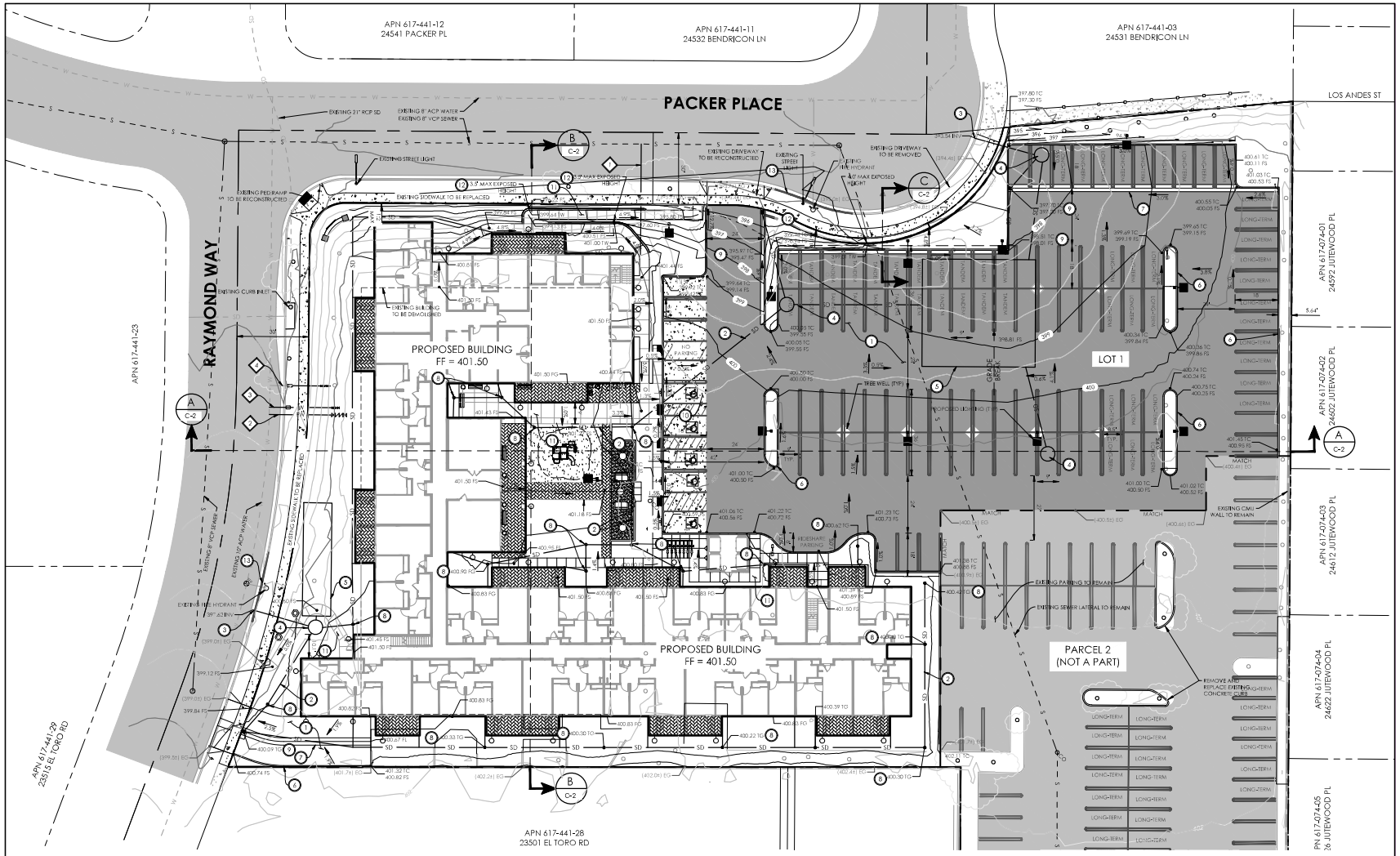
Plate 2

TORRENT RESOURCES ®



PRELIMINARY EARTH QUANTITIES:

AREA OF DISTURBANCE: 1.97 AC±

RAW CUT: 500 CY
RAW FILL: 1,000 CY
IMPORT/EXPORT: 500 CY FILL

QUANTITY ESTIMATES ON THESE PLANS ARE TO BE USED FOR PERMIT PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES FOR THE PURPOSE OF CONSTRUCTION.

THE RAW EARTHWORK QUANTITIES SHOWN HEREON REPRESENT THE ESTIMATED VOLUMETRIC DIFFERENCE BETWEEN THE PROPOSED ROUGH GRADE AND THE LIMITED TOPOGRAPHIC EXISTING GRADES. THESE ESTIMATES DO NOT MAKE CONSIDERATIONS FOR LOSSES OR BULKING DUE TO: SHRINKAGE, SOIL AMENDMENTS, STABILIZATION, CONSTRUCTION TECHNIQUE, FOOTING & TRENCHING SPOILS, ETC. THESE, IN ADDITION TO ACTUAL FIELD CONDITIONS, CONSTRUCTION TECHNIQUE AND THE FINAL RECOMMENDATIONS OF THE SOILS ENGINEER MAY SIGNIFICANTLY EFFECT THE FINAL IMPORT/EXPORT QUANTITIES.

NOTE:

FUEL MODIFICATION REQUIREMENTS DO NOT APPLY TO THIS PROJECT.

WET UTILITY NOTES

- PROPOSED 6" PVC SEWER SERVICE .
- PROPOSED 4" DOMESTIC WATER SERVICE CONNECTION WITH REDUCED PRESSURE BACKFLOW .
- PROPOSED 6" FIRE WATER CONNECTION WITH A" DOC BACKFLOW PREVENTER .
- EXISTING 2" WATER SERVICE AND METER TO BE USED FOR IRRIGATION PURPOSES.

GRADING/PAVING NOTES

1. PROPOSED ASPHALT CONCRETE PAVINGS.
2. PROPOSED 12" STORM DRAIN.
3. PROPOSED STORM DRAIN OUTLET THROUGH CURB FACE.
4. PROPOSED STORM WATER DRY WELL (MAXWELL OR APPROVED EQUIVALENT).
5. PROPOSED UNDERGROUND STORM WATER STORAGE CHAMBER (CULTEC 360HD OR APPROVED EQUIVALENT).
6. PROPOSED 6" CONCRETE CURB.
7. PROPOSED 3' WIDE CONCRETE RIBBON GUTTER.
8. PROPOSED 12" ATRIUM GRATE
9. PROPOSED INLET (36" X 36").
10. PROPOSED CONCRETE PAVEMENT FOR ADA STALLS
11. PROPOSED CONCRETE SIDEWALK
12. PROPOSED SPLIT-FACE CMU RETAINING WALL.
13. PROPOSED RED CURB 15' EITHER SIDE OF EXISTING FIRE HYDRANT.

LEGEND

- PROPERTY LINE
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- PROPOSED FIRE WATER LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM INLET (36" X 36")
- PROPOSED 12" ATRIUM GRATE
- EXISTING A.C PAVEMENT
- PROPOSED A.C PAVEMENT
- EXISTING CONCRETE PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED BIORETENTION
- PROPOSED SPLIT-FACE CMU RETAINING WALL

0 10' 20' 40'
SCALE: 1" = 20'

RRM Design Group
10 E. Figueroa St., Suite 200
Santa Barbara, CA 93101
Tel: 805.963.8283
Fax: 805.963.8184
www.rrmdesign.com

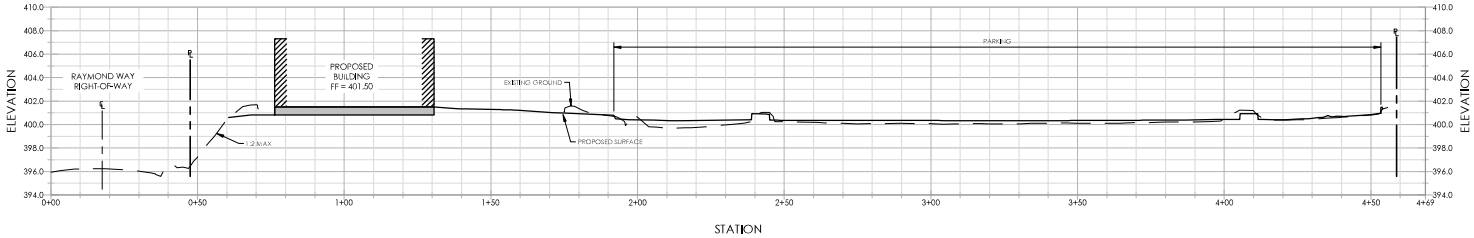
NATIONAL COMMUNITY CORE RENAISSANCE

Mountain View Affordable Housing Community
24551 Raymond Way, Lake Forest, CA 92630

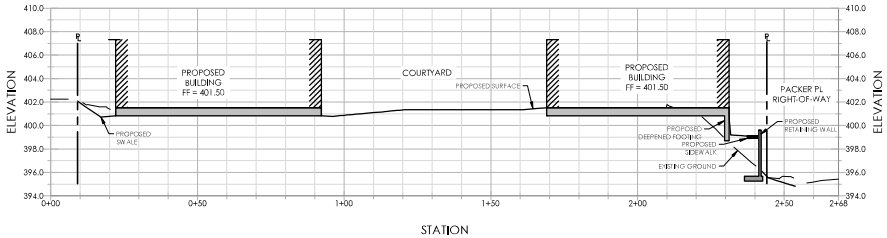
PRELIMINARY GRADING AND UTILITY PLAN

C-1

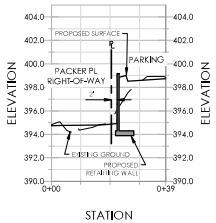
5/12/2020



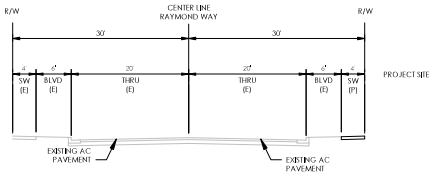
A SITE SECTION A-A
SCALE: N.T.S.



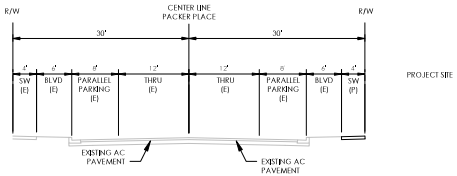
B SITE SECTION B-B
SCALE: N.T.S.



C SITE SECTION C-C
SCALE: N.T.S.



C EXISTING RAYMOND WAY
SCALE: N.T.S.



D EXISTING PACKER PLACE
SCALE: N.T.S.

RRM Design Group

10 E. Figueroa St., Suite 200
Santa Barbara, CA 93101

Tel: 805.963.8283
Fax: 805.963.8184
www.rrmdesign.com

NATIONAL COMMUNITY CORE RENAISSANCE

Mountain View Affordable Housing Community

24551 Raymond Way, Lake Forest, CA 92630

PRELIMINARY SITE SECTIONS

C-2

05/06/2020

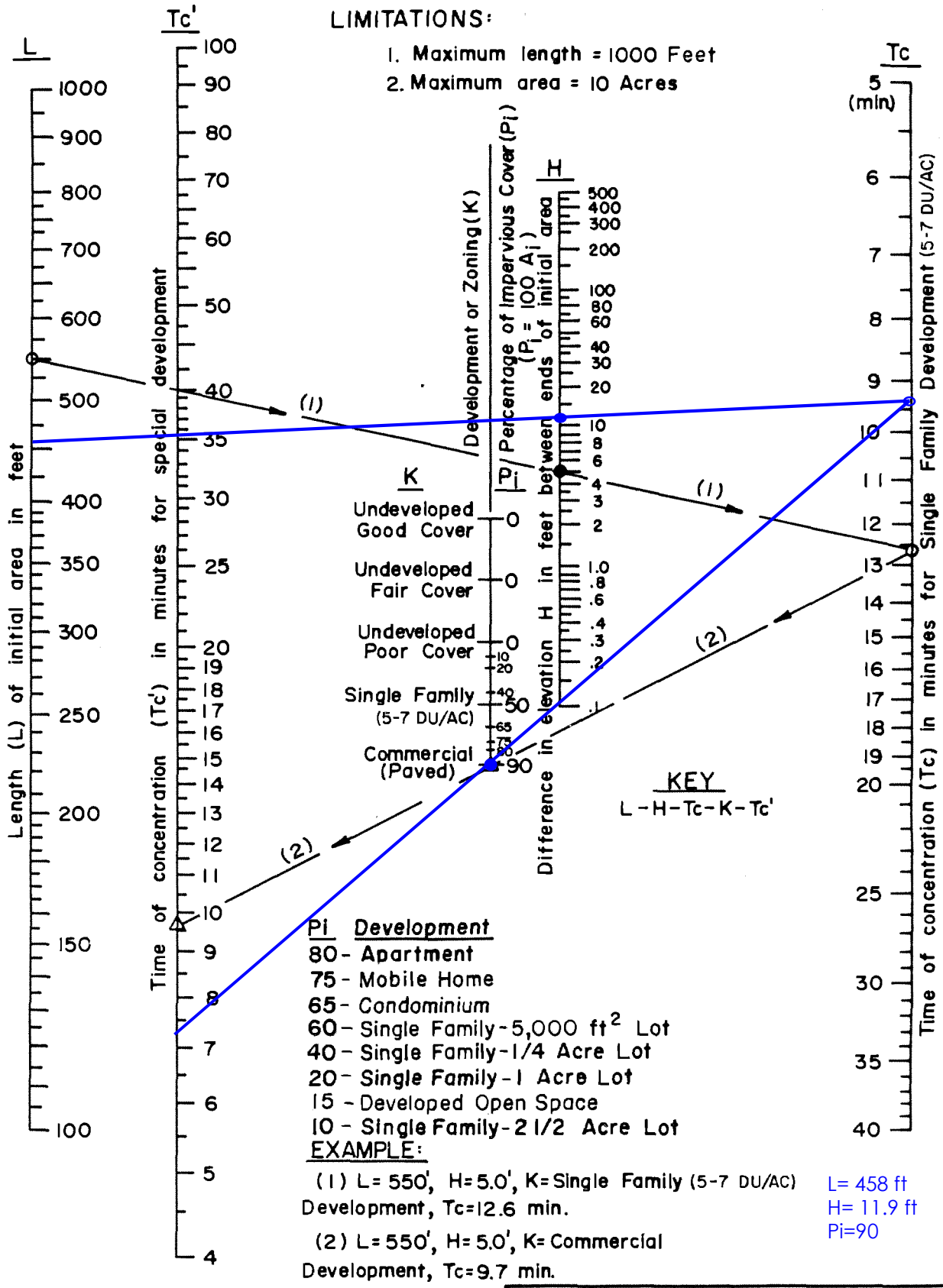
Attachment D

Notice of Transfer

To be included in Final WQMP, not included in this Preliminary WQMP

Attachment E

Hydrology Calculations



ORANGE COUNTY

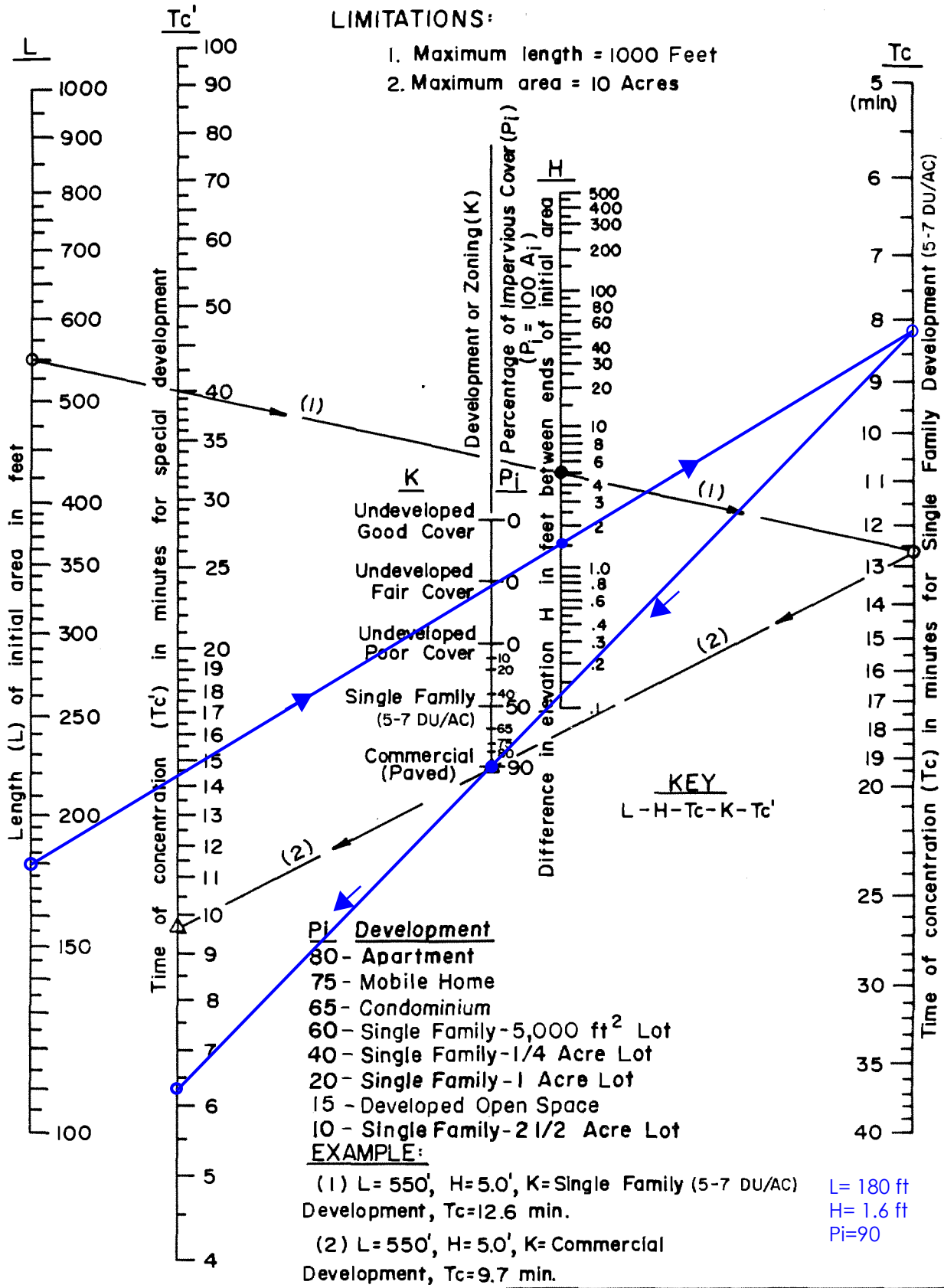
HYDROLOGY MANUAL

Existing Condition
Area X1

Tc'= 7.3 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1

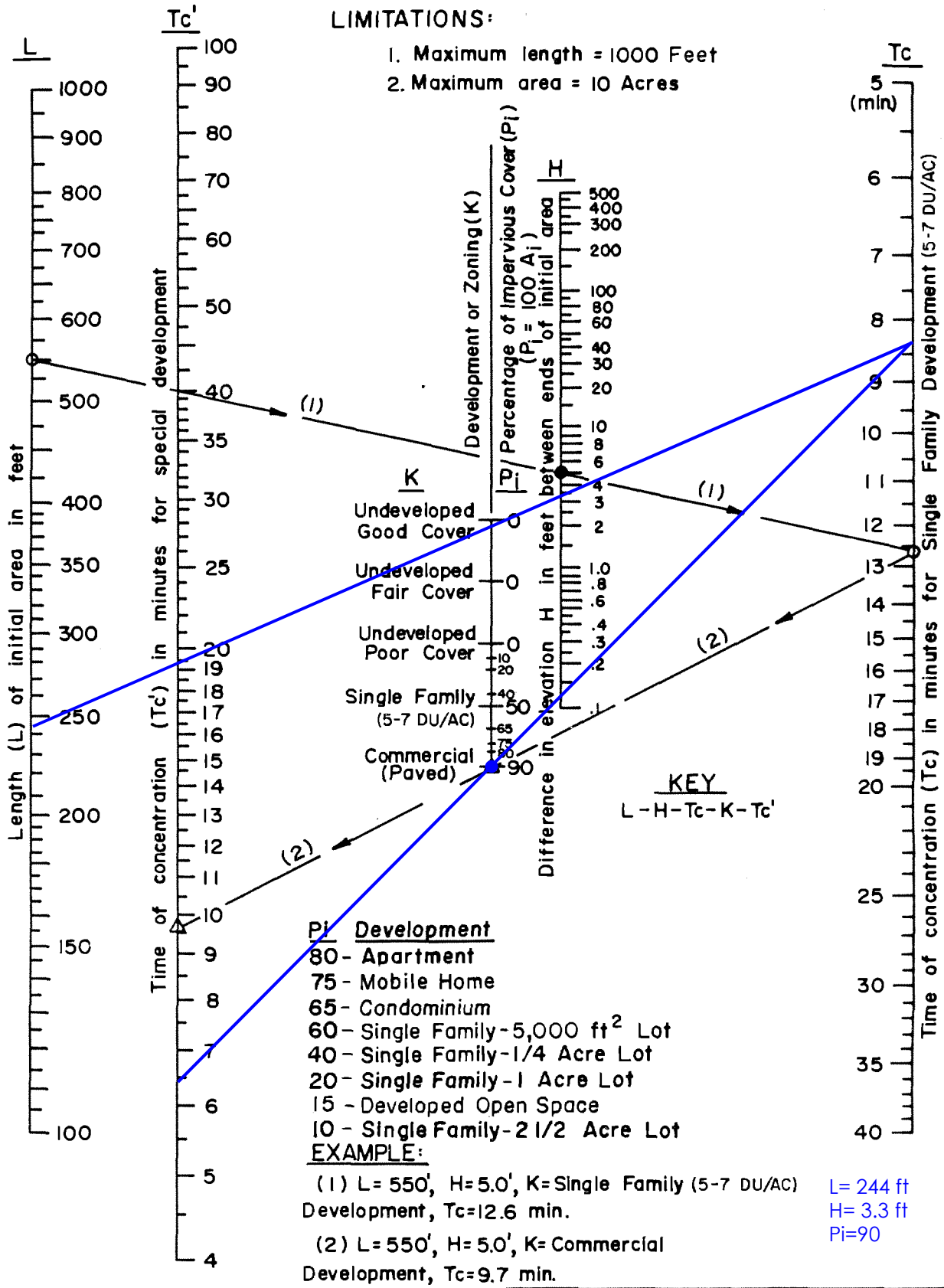


ORANGE COUNTY

HYDROLOGY MANUAL

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

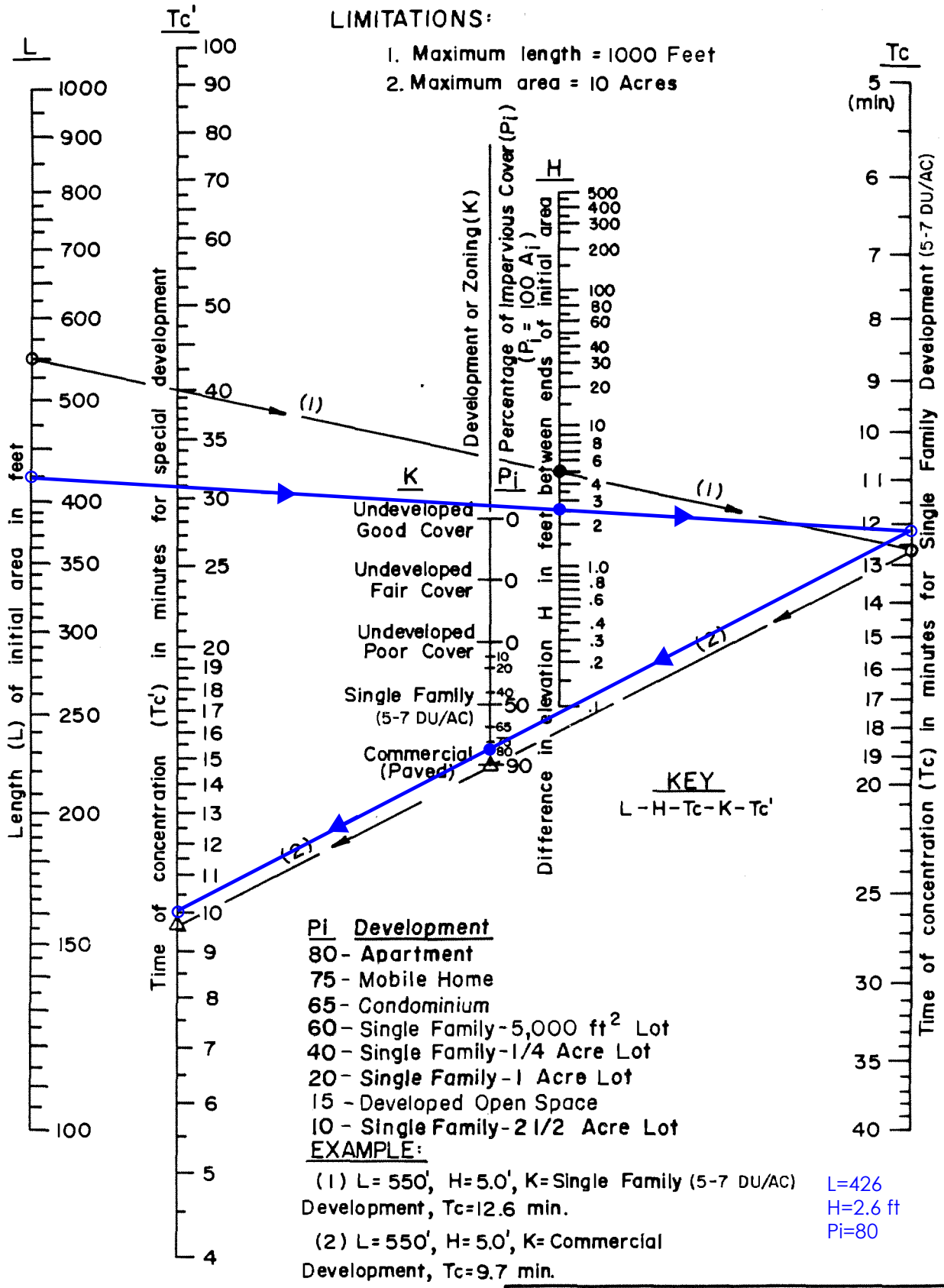
HYDROLOGY MANUAL

Existing and Proposed Condition
Area X3

Tc'= 6.4 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

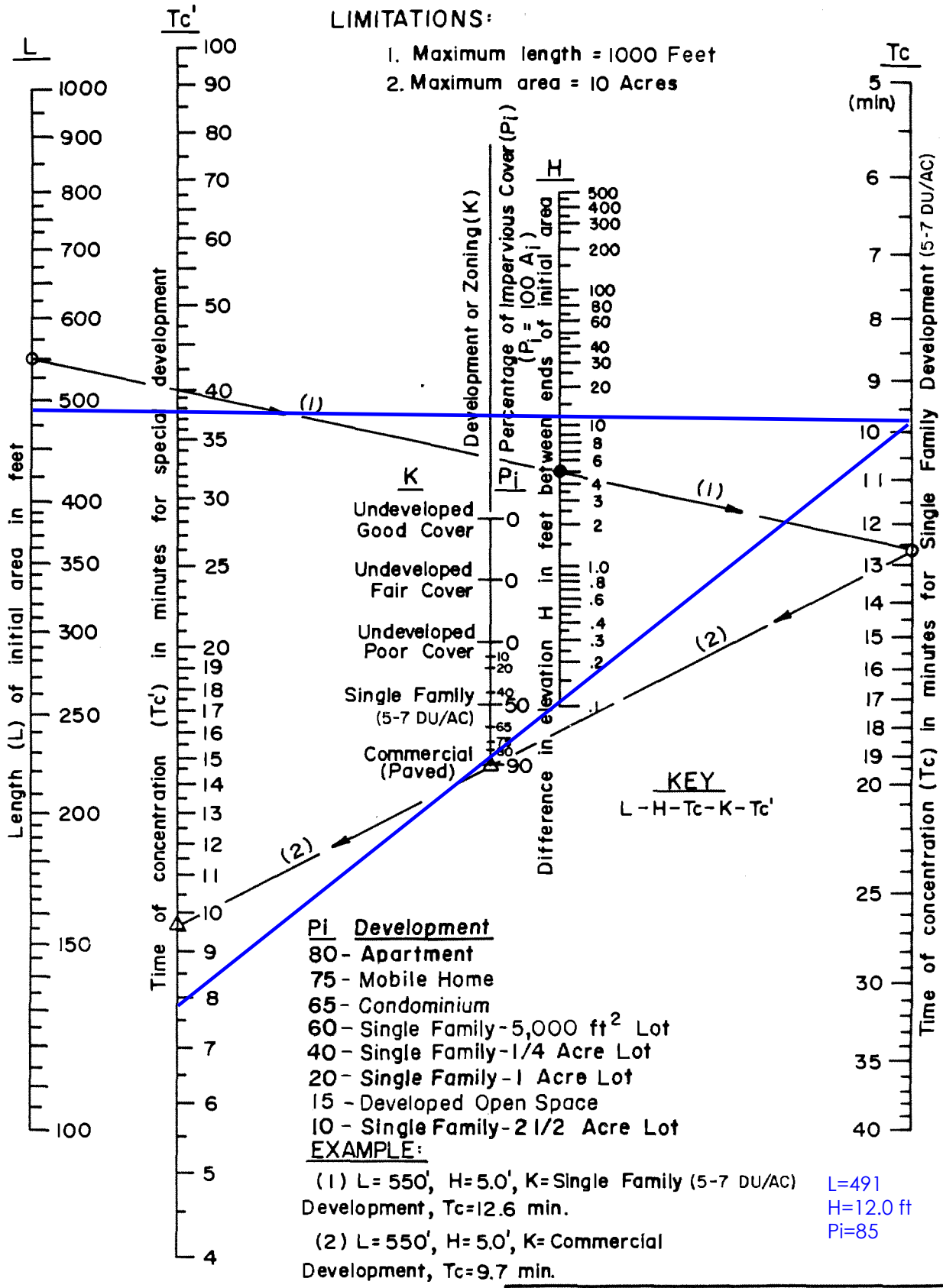
HYDROLOGY MANUAL

Proposed Condition
Area A

Tc'= 10 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

Figure D-1



ORANGE COUNTY

HYDROLOGY MANUAL

Proposed Condition
Area B

Tc'= 7.9 min

TIME OF CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA

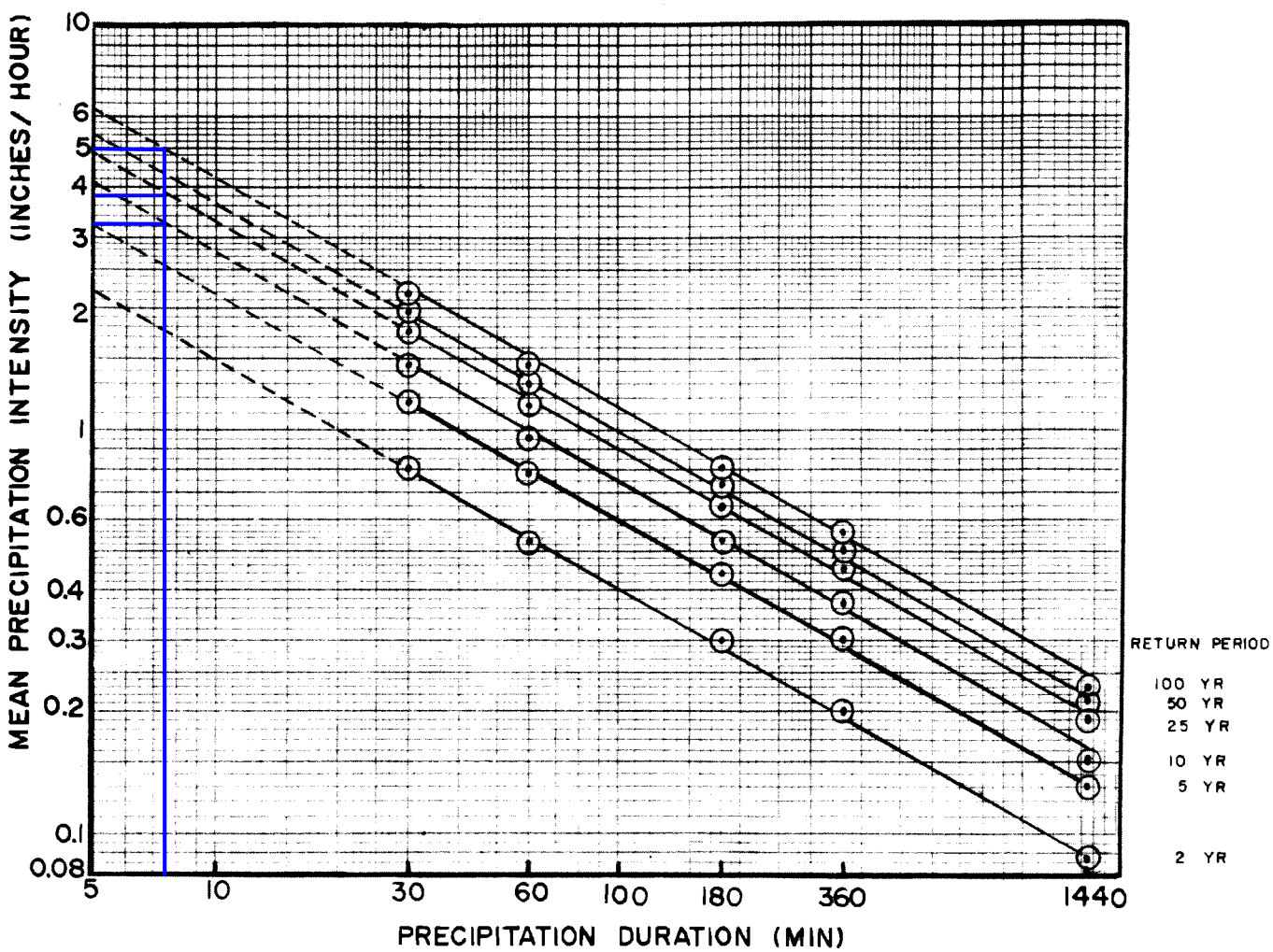
Figure D-1

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X1
For t= 7.3 min
10 yr I= 3.27 in/hr
25 yr I= 3.89 in/hr
100 yr I= 4.98 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

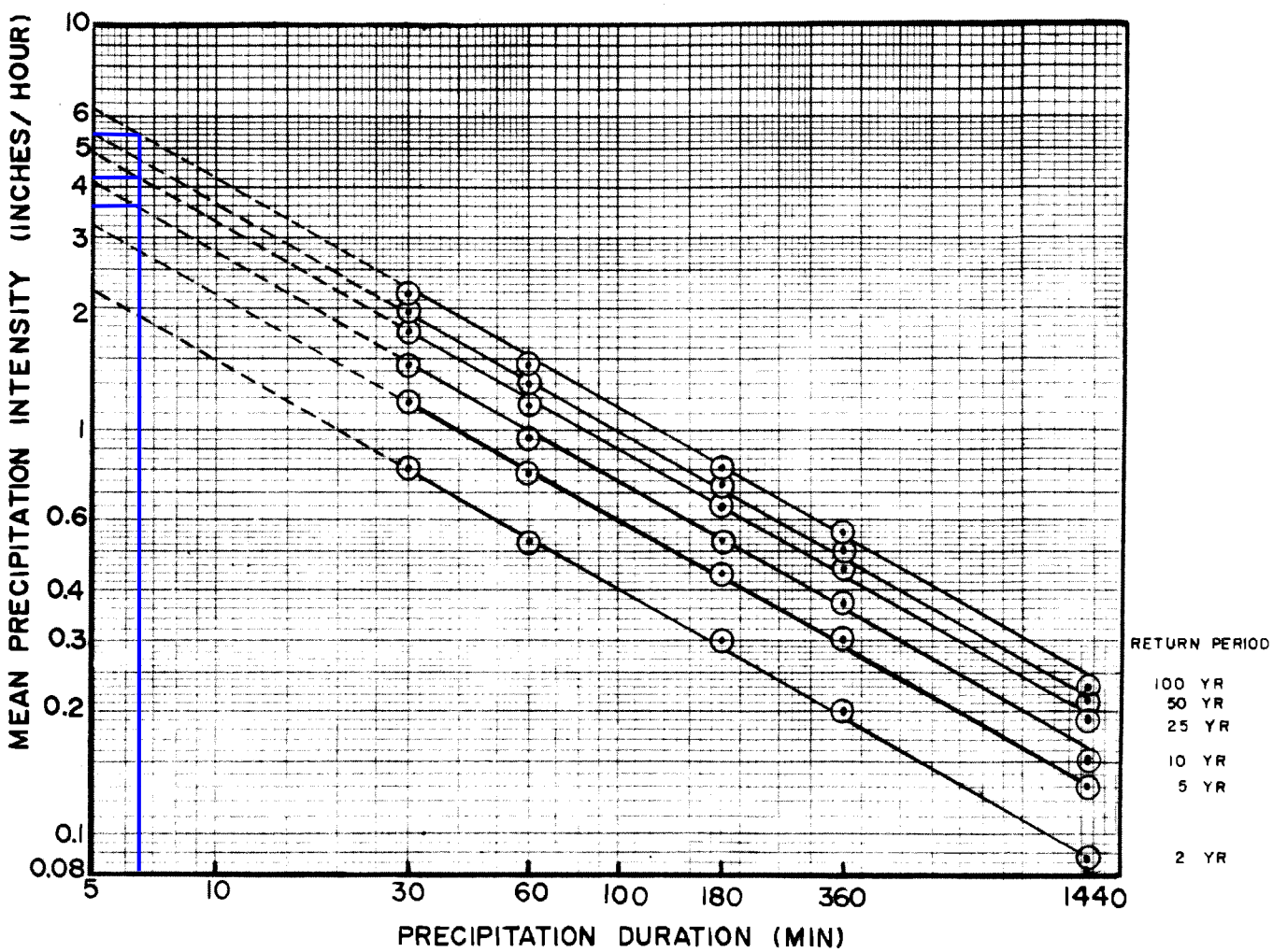
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X2
For t= 6.3 min
10 yr I=3.56 in/hr
25 yr I=4.23 in/hr
100 yr I=5.42 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

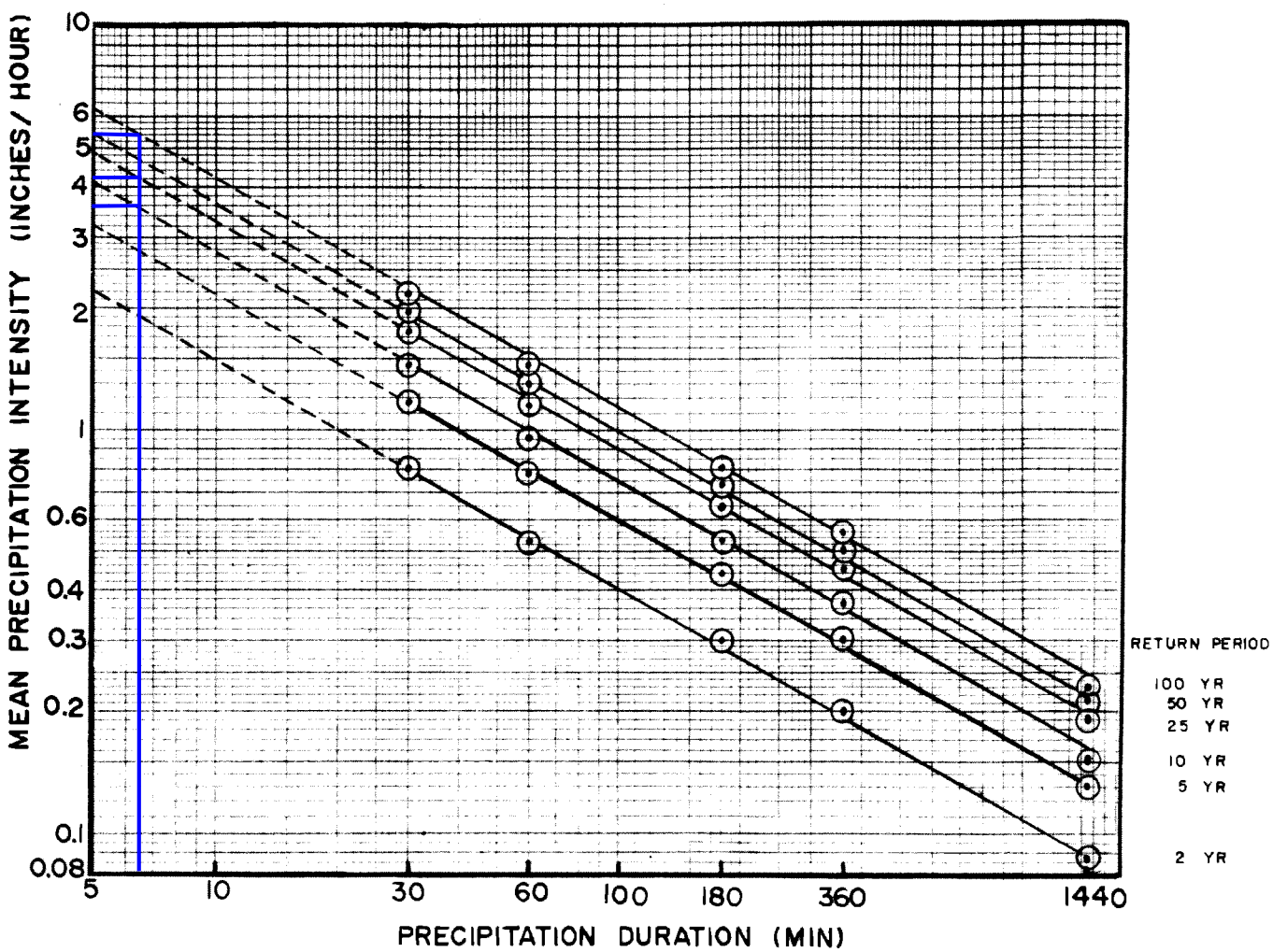
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X3
For t= 6.4min
10 yr I=3.52 in/hr
25 yr I=4.19 in/hr
100 yr I=5.37 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

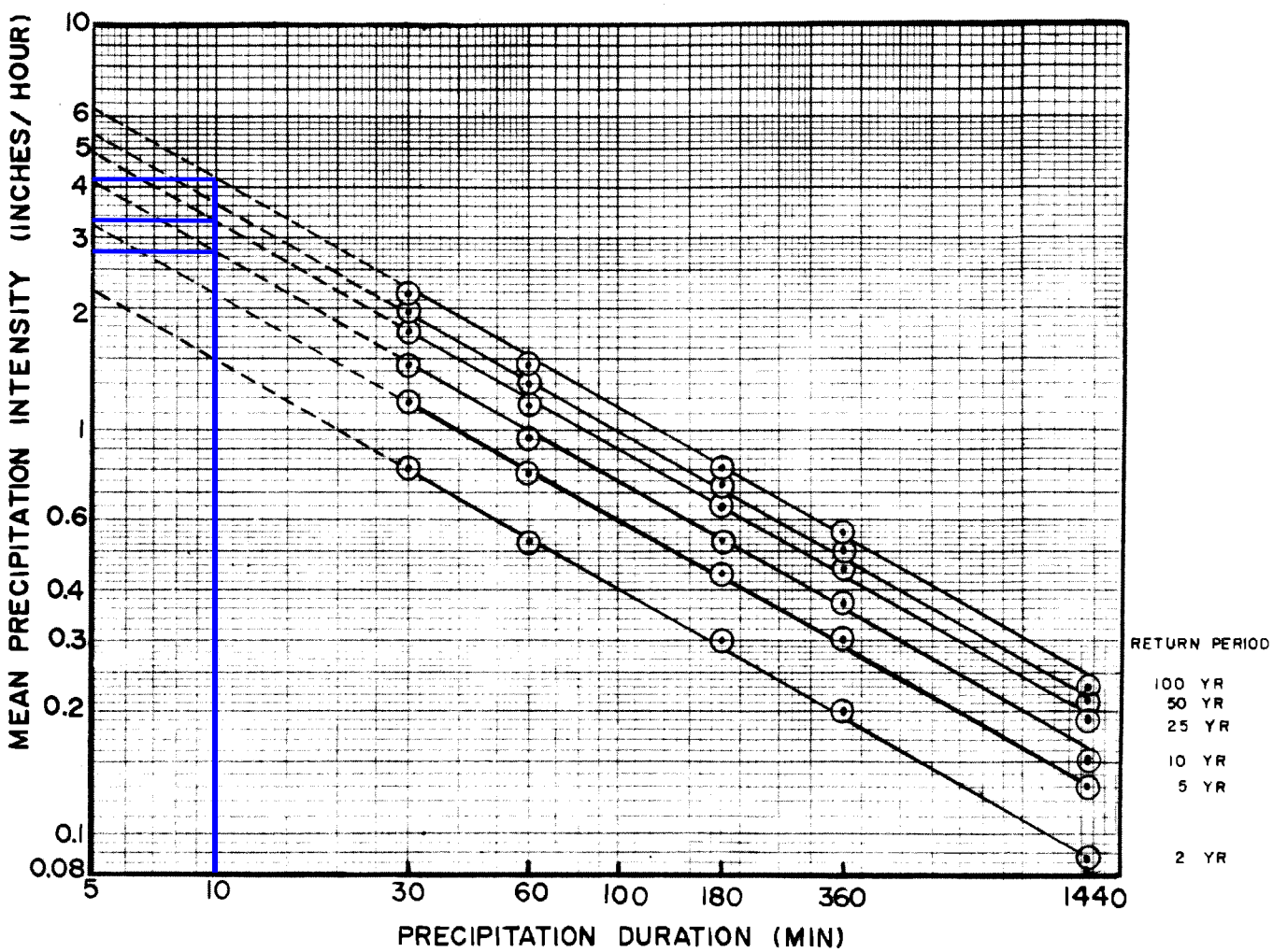
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area A
For t= 10.0 min
10 yr I=2.73 in/hr
25 yr. I=3.26 in/hr
100 yr I=4.16 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

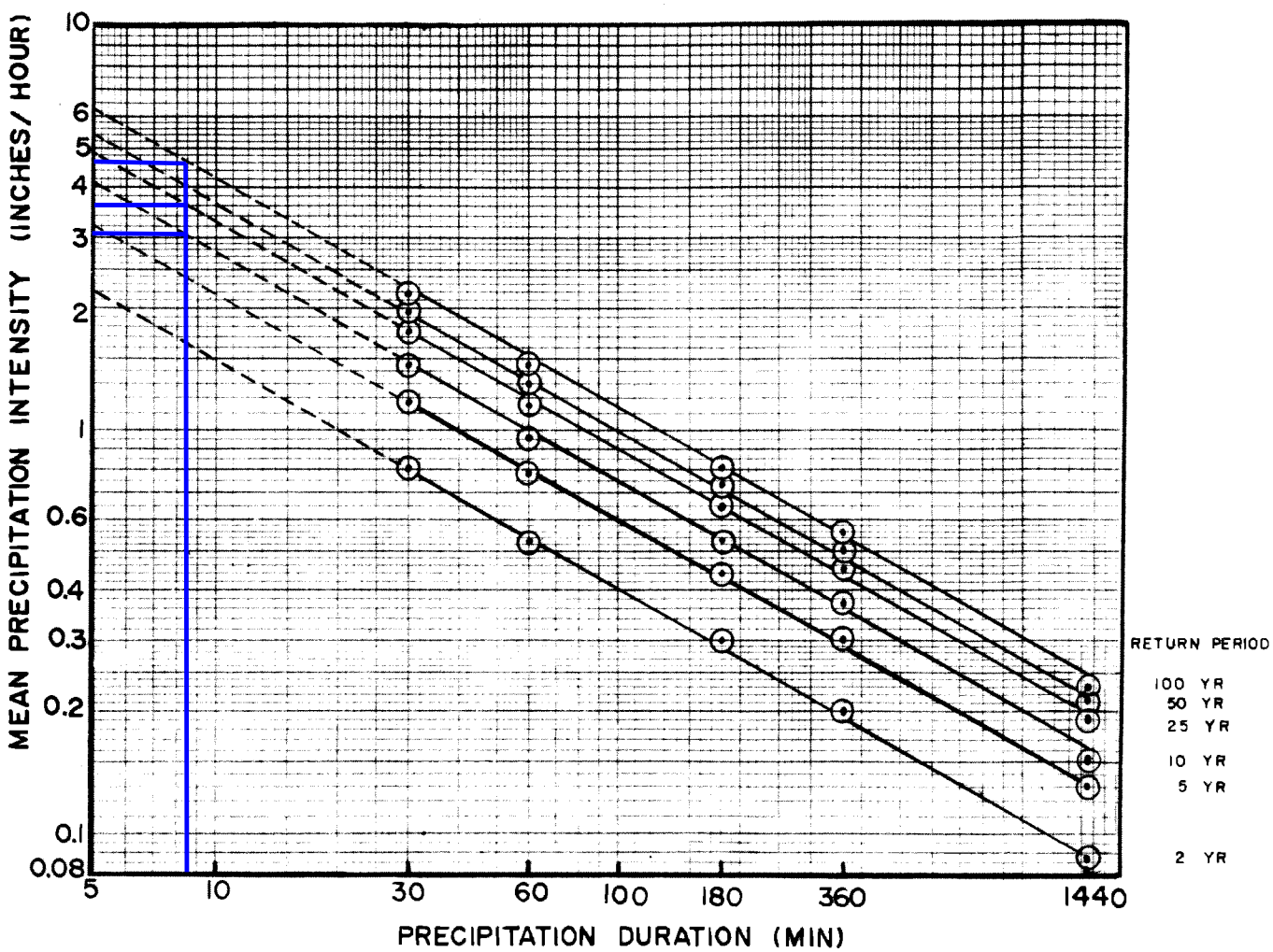
Figure B-3

Regression Equations: $I(t) = at^b$

(I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area B
For t= 7.9 min
10 yr I=3.12 in/hr
25 yr. I=3.72 in/hr
100 yr I=4.76 in/hr



ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION INTENSITIES FOR NONMOUNTAINOUS AREAS

Figure B-3

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

10 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	3.27	0.0374	0.0374	7.62	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	3.56	0.0823	0.0823	1.95	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	3.52	0.1235	0.1235	1.58	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

25 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	3.89	0.0374	0.0374	9.10	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	4.23	0.0823	0.0823	2.33	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	4.19	0.1235	0.1235	1.89	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Existing Condition

100-YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Packer Place (X1)	2.62	2.62	D	COM	-	7.3	4.98	0.0374	0.0374	11.62	458	0.03		Only Subarea
Raymond Way (X2)	0.62	0.62	D	COM		6.3	5.42	0.0823	0.0823	3.00	180	0.009		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	5.37	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

X1: $F_m = (0.187)(0.20) = 0.0374$

X2: $Fm = (0.412)(0.20) = 0.0823$

X3: $Fm = (0.617)(0.20) = 0.1235$

** $Q = 0.9\ (I-F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

10 –YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	2.73	0.0688	0.0688	1.68	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	3.12	0.0301	0.0301	7.09	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	3.52	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)
a_p = pervious area fraction
F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)
Area A: F_m = (0.344)(0.20) = 0.0688
Area B: Fm = (0.151)(0.20) = 0.0301
Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.
MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
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Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	3.26	0.0688	0.0688	2.01	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	3.72	0.0301	0.0301	8.46	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	4.19	0.1235	0.1235	1.89	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)
a_p = pervious area fraction
F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)
Area A: F_m = (0.344)(0.20) = 0.0688
Area B: Fm = (0.151)(0.20) = 0.0301
Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.
MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

RATIONAL METHOD STUDY FORM

ORANGE COUNTY HYDROLOGY MANUAL

STUDY NAME: El Toro Road Multifamily Proposed Condition

100-YEAR STORM RATIONAL METHOD STUDY

Calculated by ADW Date 5/6/20
Checked by MCH Date 5/6/20
Page 1 of 1

Concentration Point	Area (Acres) Subarea	Area (Acres) Total	Soil Type	Dev. Type	T_t min.	T_c min.	I in/hr	Fm* in/hr	Fm avg.	Q** Total	Flow Path Length ft.	Slope ft./ft.	V ft./sec.	Hydraulics and Notes
Raymond Way (A)	0.70	0.70	D	MFR	-	10	4.16	0.0688	0.0688	2.58	426	0.0061		Only Subarea
Packer Place (B)	2.55	2.55	D	MFR	-	7.9	4.76	0.0301	0.0301	10.84	491	0.024		Only Subarea
El Toro Road (X3)	0.52	0.52	D	COM		6.4	5.37	0.1235	0.1235	2.44	244	0.01		Only Subarea

Equations

*$F_m = a_p F_p$ (Equation C.7 - OC Hydrology Manual)

a_p = pervious area fraction

F_p = 0.20 in/hr (Table C.2 - OC Hydrology Manual)

Area A: F_m = (0.344)(0.20) = 0.0688

Area B: Fm = (0.151)(0.20) = 0.0301

Area X1: Fm = (0.617)(0.20) = 0.1235

** $Q = 0.9\ (I - F_m)A$

TABLE C.2.

MAXIMUM EFFECTIVE PERVIOUS AREA LOSS RATES (inch/hour), F_p

SOIL GROUP:	A	B	C	D
F_p:	0.40	0.30	0.25	0.20

Figure D-4

Attachment F

Geotechnical Report

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

October 23, 2019
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, California 91730

Subject: Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killian,

Pursuant to your request, ***Albus-Keefe & Associates, Inc***. is pleased to present to you our preliminary geotechnical investigation report for the subject development. This report presents the results of our field investigation, laboratory testing, engineering analyses, as well as our preliminary geotechnical recommendations for design and construction of the subject development.

We appreciate this opportunity to be of service to you. If you have any questions regarding the contents of this report, please do not hesitate to call this office.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

Paul Kim
Associate Engineer

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 PURPOSE AND SCOPE 1
1.2 SITE LOCATION AND DESCRIPTION 1
1.3 PROPOSED DEVELOPMENT 3
2.0 INVESTIGATION 3
2.1 RESEARCH 3
2.2 LABORATORY TESTING 4
3.0 GEOLOGIC CONDITIONS 4
3.1 SOIL CONDITIONS 4
3.2 GROUNDWATER 4
3.3 FAULTING 4
4.0 ANALYSES 5
4.1 SEISMICITY 5
4.2 STATIC SETTLEMENT 5
5.0 CONCLUSIONS 5
5.1 FEASIBILITY OF PROPOSED DEVELOPMENT 5
5.2 GEOLOGIC HAZARDS 6
5.2.1 Ground Rupture 6
5.2.2 Ground Shaking 6
5.2.3 Landsliding 6
5.2.4 Liquefaction 6
5.3 STATIC SETTLEMENT 7
5.4 EARTHWORK AND MATERIAL CHARACTERISTICS 7
5.5 SHRINKAGE AND SUBSIDENCE 7
5.6 SOIL EXPANSION 7
6.0 RECOMMENDATIONS 8
6.1 EARTHWORK 8
6.1.1 General Earthwork and Grading Specifications 8
6.1.2 Pre-Grade Meeting and Geotechnical Observation 8
6.1.3 Site Clearing 8
6.1.4 Site Preparation (Removals and Overexcavations) 8
6.1.5 Fill Placement 9
6.1.6 Import Materials 9
6.1.7 Temporary Excavations 9
6.2 SEISMIC DESIGN PARAMETERS 10
6.3 FOUNDATION DESIGN 10
6.3.1 General 10
6.3.2 Soil Expansion 10
6.3.3 Settlement 11
6.3.4 Allowable Bearing Value 11
6.3.5 Lateral Resistance 11
6.3.6 Post-Tensioned Slab/Mat on grade 12
6.3.7 Foundation Observations 13
6.4 RETAINING AND SCREENING WALLS 13
6.4.1 General 13

TABLE OF CONTENTS

6.4.2 Allowable Bearing Value and Lateral Resistance 13
6.4.3 Active Earth Pressures 13
6.4.4 Drainage and Moisture-Proofing 14
6.4.5 Footing Reinforcement and Wall Jointing 15
6.4.6 Footing Observations 15
6.4.7 Retaining Wall Backfill 15
6.5 EXTERIOR FLATWORK 16
6.6 CONCRETE MIX DESIGN 16
6.7 CORROSION 16
6.8 PRELIMINARY PAVEMENT DESIGN 16
6.8.1 Preliminary Pavement Structural Sections 16
6.8.2 Subgrade Preparation 17
6.8.3 Aggregate Base 17
6.8.4 Asphaltic Concrete 17
6.8.5 Concrete Pavers 17
6.8.6 Portland Cement Concrete 18
6.9 POST GRADING CONSIDERATIONS 18
6.9.1 Site Drainage and Irrigation 18
6.9.2 Utility Trenches 19
6.10 PLAN REVIEW AND CONSTRUCTION SERVICES 19
7.0 LIMITATIONS 20
8.0 REFERENCES 21

FIGURES AND PLATES

Figure 1 – Site Location Map
Plate 1– Geotechnical Map

APPENDICES

APPENDIX A – Exploration Logs
Plates A-1 through A-8 – Exploration Logs

APPENDIX B – Laboratory Test Program
Table B-1 – Summary of Laboratory Test Results
Plates B-1 through B-3 – Grain Size Distribution Plot
Plates B-4 through B-6 – Consolidation Plots
Plate B-7 – Direct Shear Test Plot

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purposes of our preliminary geotechnical investigation were to evaluate geotechnical conditions within the project area and to provide conclusions and recommendations relevant to the design and construction of the proposed improvements at the subject site. The scope of this investigation included the following:

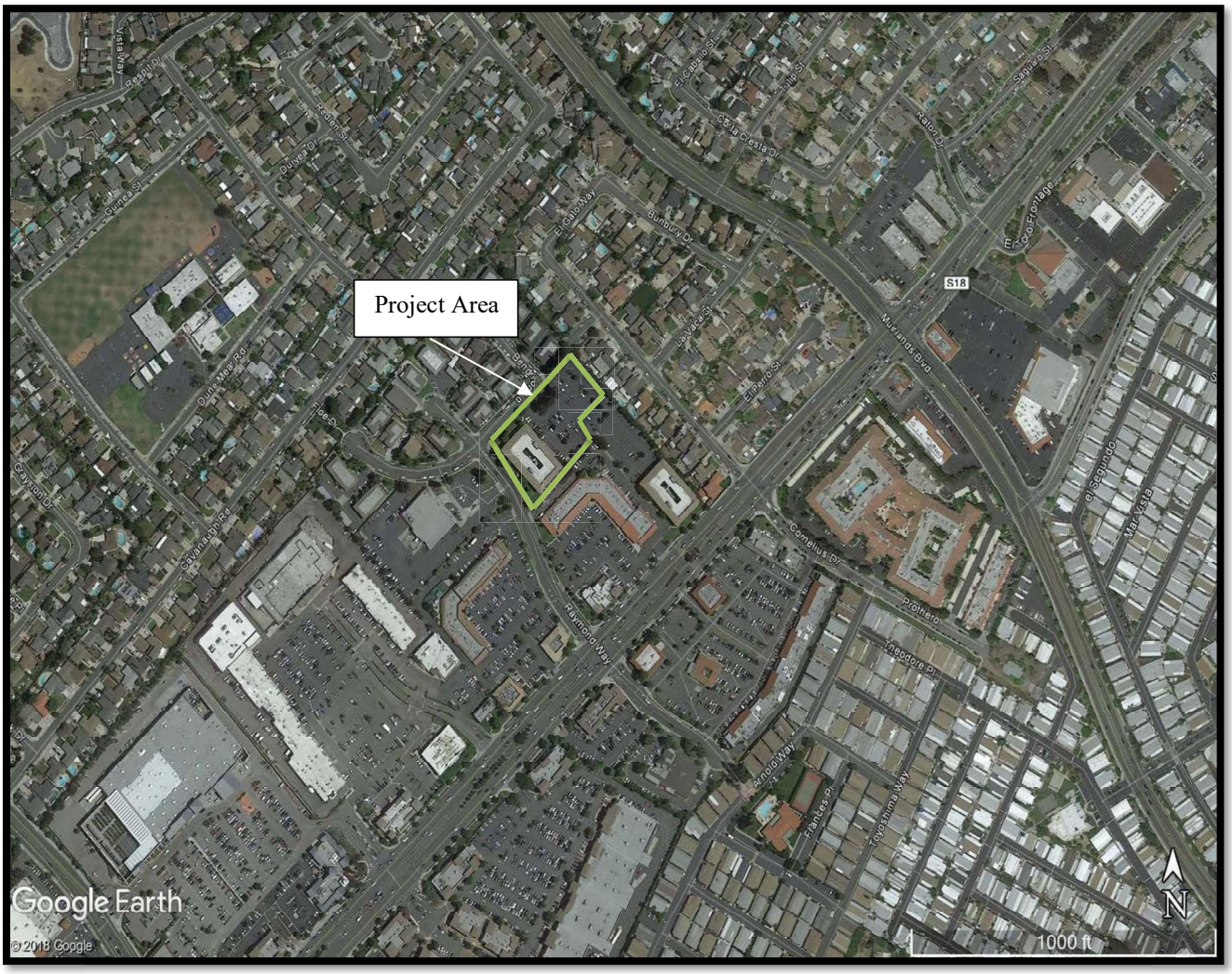
- Review of the referenced conceptual site plan
- Review of published geologic and seismic data for the site and surrounding area
- Review of historical aerial photographs
- Exploratory drilling and soil sampling
- Laboratory testing of selected soil samples
- Engineering analyses of data obtained from our review, exploration, and laboratory testing
- Evaluation of site seismicity, liquefaction, and settlement potential
- Preparation of this report

1.2 SITE LOCATION AND DESCRIPTION

The site is located at 24551 Rayamond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas is shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property containing approximately 1.9 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth) descending to the west. Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass cover adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



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SITE LOCATION MAP
Lake Forest
Proposed Multi-Family Residential Development
24551 Raymond Way,
Lake Forest, California

NOT TO SCALE
FIGURE 1

1.3 PROPOSED DEVELOPMENT

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparing of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

2.0 INVESTIGATION

2.1 RESEARCH

We have reviewed the referenced geologic publications and maps (see references). Data from these sources were utilized to develop some of the findings and conclusions presented herein.

We have also reviewed available historical aerial photographs. The aerial photos indicate that as early as 1938, the site was vacant land. In the vicinity of the site, some areas of land were used for agricultural purposes. By 1967, the adjacent single-family residential properties to the northeast were developed. By 1980, the property was developed with the present-day commercial building and parking lot. The site has remained unchanged since then.

2.2 SUBSURFACE EXPLORATION

Subsurface exploration for this investigation was conducted on October 2nd, 2019, and consisted of the drilling of five (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and Standard Penetration Test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

2.3 LABORATORY TESTING

Selected samples of representative earth materials from our borings were tested in our laboratory. Tests consisted of USCS classification, in-situ moisture content and dry density, maximum dry density and optimum moisture content, consolidation/collapse, direct shear strength, grain size analysis, soluble sulfate content, and corrosivity testing (pH, chloride, and resistivity). Descriptions of laboratory testing and the test results are presented in Appendix B and on the Exploration Logs in Appendix A.

3.0 GEOLOGIC CONDITIONS

3.1 SOIL CONDITIONS

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are comprised of reddish-brown clayey sand/sandy clay. A layer of clay and silty sand was observed below a depth of 6 feet. Deeper portions of the very old alluvium fan consist of clayey sand and silty sand with variable some inner layers of clay and silt. The surficial very old alluvial fan materials are typically very dense and hard.

3.2 GROUNDWATER

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet.

3.3 FAULTING

Geologic literature and field exploration do not indicate the presence of active faulting within the site. The site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Earthquake Fault Zoning Act. Table 3.1 presents a summary of all the known seismically active faults within 10 miles of the site.

TABLE 3.1
Summary of Active Faults

Name	Distance (miles)	Slip Rate (mm/yr.)	Preferred Dip (degrees)	Slip Sense	Rupture Top (km)	Fault Length (km)
San Joaquin Hills	0.18	0.5	23	thrust	2	27
Newport Inglewood Connected alt 1	9.66	1.3	89	strike slip	0	208
Newport Inglewood (Offshore)	9.66	1.5	90	strike slip	0	66
Newport Inglewood Connected alt 2	9.66	1.3	90	strike slip	0	208

4.0 ANALYSES

4.1 SEISMICITY

We have performed probabilistic seismic analyses utilizing the U.S. Seismic Design Maps web application by the U.S. Geological Survey (USGS). From our analyses, we obtain a PGA of 0.598g in accordance with Figure 22-7 of ASCE 7-10. The F_{PGA} factor for site class D with a PGA of 0.598g is 1.0. Therefore, the PGA_M = 1.0 x 0.598 = 0.598g. The mean event associated with a probability of exceedance equal to 2% over 50 years has a moment magnitude of 6.65 with a mean distance to the seismic source of 6.76 miles.

4.2 STATIC SETTLEMENT

Analyses were performed to evaluate potential for static settlement of the underlying very old alluvial fan deposits. Our analyses were based on the results of consolidation tests performed on selected samples from our borings as well as the recorded blow counts during the exploration. Results of our testing indicate the site materials have low compressibility. Based on the data from field exploration and laboratory testing, settlement is estimated to be less than 1.0 inch in the site.

5.0 CONCLUSIONS

5.1 FEASIBILITY OF PROPOSED DEVELOPMENT

From a geotechnical point of view, the proposed site development is considered feasible provided the recommendations presented in this report are incorporated into the design and construction of the project. Furthermore, it is also our opinion that the proposed development will not adversely impact the stability of adjoining properties if the recommendations presented in this report are incorporated into site development. Key issues that could have significant fiscal impacts on the geotechnical aspects of the proposed site development are discussed in the following sections of this report.

5.2 GEOLOGIC HAZARDS

5.2.1 Ground Rupture

No active faults are known to project through the site nor does the site lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquis-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the site is considered very low.

5.2.2 Ground Shaking

The site is located in a seismically active area that has historically been affected by moderate to occasionally high levels of ground motion. The site lies in relatively close proximity to several seismically active faults; therefore, during the life of the proposed development, the property will probably experience moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the southern California region. Design of proposed structures in accordance with the current CBC is anticipated to adequately mitigate concerns with ground shaking.

5.2.3 Landsliding

Geologic hazards associated with landsliding are not anticipated at the site due to not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability.

5.2.4 Liquefaction

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite soils was evaluated by analyzing the potential of concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the site was completed under the guidance of Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 2008).

Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the site is considered to be low. Additionally, the site is underlain by Pleistocene aged deposits, typically not susceptible to liquefaction. Furthermore, the site is not located within a San Diego Seismic Study liquefaction zone.

5.3 STATIC SETTLEMENT

The existing artificial fills consist of variable materials are considered unsuitable for support of the proposed development in its current condition. Therefore, removal and recompaction of the existing surficial soils to provide a uniform compacted blanket will be necessary. Provided grading and construction are performed in accordance with the recommendations provided herein, estimated total and differential settlement of proposed site improvements are anticipated to be less than 1 inch and ½ inch over 30 feet, respectively. These magnitudes of settlement are considered within tolerable limits of proposed site development.

5.4 EARTHWORK AND MATERIAL CHARACTERISTICS

Subsurface soils are anticipated to be relatively easy to excavate with conventional heavy earthmoving equipment. Most of these materials are below optimum moisture content with a few localized layers above optimum moisture content. Blending and the addition of water will be required to achieve proper compaction. Various debris is anticipated within the artificial fill and will likely require of hand picking to remove deleterious materials.

Off-site improvements exist near the property lines. The presence of the existing improvements may limit removals of unsuitable materials adjacent the property lines. Special grading techniques, such as slot cutting, underpinning, or other acceptable criteria may be required when grading adjacent the property lines.

Onsite disposal systems, clarifiers and other underground improvements may be present beneath the site. If encountered during future rough grading, these improvements will require proper abandonment or removal.

5.5 SHRINKAGE AND SUBSIDENCE

Volumetric changes in earth quantities will occur when excavated onsite soil materials are replaced as properly compacted fill. We estimate that the existing artificial fill soils will shrink less than 5 percent to negligible. Subsidence due to reprocessing of removal bottoms is anticipated to be negligible. The estimates of shrinkage and subsidence are intended as an aid for project engineers in determining earthwork quantities. However, these estimates should be used with some caution since they are not absolute values. Contingencies should be made for balancing earthwork quantities based on actual shrinkage and subsidence that occurs during the grading process.

5.6 SOIL EXPANSION

Based on our laboratory test results and USCS visual manual classification, the near-surface soils within the site are generally anticipated to possess a **Low** expansion potential. Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions.

6.0 RECOMMENDATIONS

6.1 EARTHWORK

6.1.1 General Earthwork and Grading Specifications

All earthwork and grading should be performed in accordance with all applicable requirements of the grading codes of the City of Lake Forest, California and CAL OSHA, in addition to recommendations presented herein.

6.1.2 Pre-Grade Meeting and Geotechnical Observation

Prior to commencement of earthwork operations and foundation installation, we recommend a meeting be held between the City Inspector, general contractor, civil engineer, and geotechnical consultant to discuss proposed earthwork and logistics.

We also recommend that a geotechnical consultant be retained to provide soil engineering and engineering geologic services during site development. This is to observe compliance with the design specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated. If conditions are encountered during construction that appears to be different than those indicated in this report, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

6.1.3 Site Clearing

All existing site improvements, including asphaltic concrete paving, structural foundations and underground utilities, should be removed from the areas to be developed prior to any grading activities. Existing underground utility lines within the project area that will be protected in place and that fall within a 1 to 1 (H:V) plane projected down from the edges of footings may be subject to surcharge loads. Under such conditions, this office should be made aware of these conditions for evaluation of potential surcharging. Supplemental recommendations may be required to protect such improvements in place.

The project geotechnical consultant should be notified at the appropriate times to provide observation services during clearing operations to verify compliance with the above recommendations. Voids created by clearing and excavation should be left open for observation by the geotechnical consultant. Should any unusual soil conditions or subsurface structures be encountered during site clearing or grading that are not described or anticipated herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations as needed.

Temporary construction equipment (office trailers, power poles, etc.) should be positioned to allow adequate room for clearing and recommended ground preparation to be performed for proposed structures, pavements, and hardscapes.

6.1.4 Site Preparation (Removals and Overexcavations)

In general, the upper 5 to 6 feet of earth materials are considered unsuitable for support of proposed engineered fill and site improvements. These materials as well as any additional artificial fill soils, should be removed from proposed building pads and site improvements, and replaced as engineered compacted fill. Within the limits of pavement and free-standing/retaining walls, the existing artificial

fill soils should be removed to a minimum depth of 2 foot below subgrade or footing, whichever is deeper. The actual depth of removal should be determined by the geotechnical consultant during grading.

The removals should extend laterally a distance of at least 5 feet beyond the limits of the proposed structures or a 1:1 projection down and away from the bottom of the footings, whichever is greater. Removals for roadways, retaining walls less than 3 feet in height and screen walls may be limited to the edge of the foundations or pavement. Upon review of more detailed site development plans, the depth of removals for roadways, short retaining walls, and screen walls may be lessened from the general removals described above.

Where removals are limited by existing structures, protected trees or property lines, special considerations may be required in the construction of affected improvements. Under such conditions, specific recommendations should be provided by this firm based on review of site-specific development plans.

Following removals/overexcavation, the exposed grade should first be scarified to a depth of 6 inches, brought to at least 110 percent of the optimum moisture content, and then compacted to at least 90 percent of the laboratory standard (ASTM D 1557).

6.1.5 Fill Placement

Materials excavated from the site may be reused as fill provided, they are free of deleterious materials and particles greater than 6 inches in maximum dimension (oversized materials). Asphaltic and concrete debris generated during site demolition or encountered within the existing fill can be incorporated within new fill soils during earthwork operations provided they are reduced to no more than 6 inches in maximum dimension. Such materials should be mixed thoroughly with fill soils to prevent nesting. All fill should be placed in lifts no greater than 8 inches in loose thickness, moisture conditioned to at least 110 percent of the optimum moisture content, then compacted in place to at least 90 percent of the laboratory standard. Each lift should be treated in a similar manner. Subsequent lifts should not be placed until the project geotechnical consultant has approved the preceding lift.

6.1.6 Import Materials

If import materials are required to achieve the proposed finish grades, the proposed import soils should have an Expansion Index (EI, ASTM D 4829) less than 30 and possess negligible soluble sulfate concentrations. Import sources should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill materials can be performed in advance.

6.1.7 Temporary Excavations

Temporary construction slopes or trench excavations in site materials may be cut vertically up to a height of 4 feet provided that no surcharging of the excavations is present. Temporary slopes over 4 feet in height should be laid back to 1:1 (H:V) or flatter and evaluated by the geotechnical consultant.

Excavations should not be left open for prolonged periods of time. The project geotechnical consultant should observe all temporary cuts to confirm anticipated conditions and to provide alternate recommendations if conditions dictate. All excavations should conform to the requirements of CAL OSHA.

Where temporary excavations cannot accommodate a 1:1 layback or where surcharging occurs, shoring, slot cutting, underpinning, or other methods should be used. Specific recommendations for other options if considered should be provided by the geotechnical consultant based on review of the final design plans.

6.2 SEISMIC DESIGN PARAMETERS

For design of the project in accordance with Chapter 16 of the 2016 CBC, the table below presents the seismic design factors.

TABLE 6.1
CBC 2016 SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class	D
Mapped MCE Spectral Response Acceleration, short periods, S_S	1.466
Mapped MCE Spectral Response Acceleration, at 1-sec. period, S_1	0.546
Site Coefficient, Fa	1.0
Site Coefficient, Fv	1.5
Adjusted MCE Spectral Response Acceleration, short periods, S_{MS}	1.466
Adjusted MCE Spectral Response Acceleration, at 1-sec. period, S_{M1}	0.82
Design Spectral Response Acceleration, short periods, S_{DS}	0977
Design Spectral Response Acceleration, at 1-sec. period, S_{D1}	0.546
MCE = Maximum Considered Earthquake	

6.3 FOUNDATION DESIGN

6.3.1 General

The following recommendations are provided for preliminary design purposes. These recommendations have been based on the site materials exposed during our investigation, our understanding of the proposed development, and the assumption that the recommendations presented herein are incorporated into the design and construction of the project. Final recommendations should be provided by the project geotechnical consultant following review of final foundation plans as well as observation and testing of site materials during grading. Depending upon the design plans and actual site conditions, the recommendations provided herein may require modification.

6.3.2 Soil Expansion

The recommendations presented herein are based on soils with a **Low** expansion potential (EI≤40, PI≤18). Following site grading, additional testing of site soils should be performed by the project geotechnical consultant to confirm the basis of these recommendations. If site soils with higher

expansion potentials are encountered or imported to the site, the recommendations contained herein may require modification.

6.3.3 Settlement

Under normal static conditions, the foundation system should be designed to tolerate a total settlement of 1 inch and a differential settlement of 1/2-inch over 30 feet. These estimated magnitudes of settlement should be considered by the structural engineer in design of the proposed structures at the site.

6.3.4 Allowable Bearing Value

Provided foundations are bearing into engineered fill, a bearing value of 2,700 pounds per square foot (psf) may be used for continuous and pad footings a minimum width of 12 inches and founded at a minimum depth of 12 inches below the lowest adjacent grade. This value may be increased by 200 psf and 500 psf for each additional foot in width and depth, respectively, up to a maximum value of 4,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

6.3.5 Lateral Resistance

Provided site grading is performed and that foundations are founded in engineered fill, a passive earth pressure of 250 pounds per square foot per foot of depth (psf/ft) up to a maximum value of 2,200 pounds per square foot (psf) may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces. A coefficient of friction of 0.37 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces.

The above values are based on footings placed directly against compacted fill or competent native soils. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.3.6 Conventional Spread Foundations and Slabs on Grade

All exterior and interior continuous footings should have a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent grade. All continuous footings for habitable structures should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom.

All spread footings used to support columns should have a minimum width of 18 inches and minimum embedment of 12 inches below lowest adjacent grade. All spread footings in habitable structures should be tied in both directions with a grade beam having a minimum depth and width of 12 inches. The grade beams should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom. Reinforcing of the grade beams should hook into the footings.

Slabs on grade should have a minimum thickness of 4 inches and be reinforced with a minimum of No. 3 bars spaced at 18 inches center to center. Slabs on grade in habitable structures should be hooked to the underlying grade beams on a minimum spacing of 24 inches or poured monolithically with the grade beams.

Interior grade beams as required by the WRI method should be provided in both directions at a maximum spacing of 22 feet. Design of the slab in accordance with the WRI method may use an effective PI of 20. This value already accounts for the factors for ground slope and over-consolidation. All slabs on grade that may have moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. A minimum of four (4) inches of clean sand having a sand equivalent (SE) of at least 30 should be placed under the membrane. An additional one inch of the sand (SE>30) may be placed over the vapor barrier to aid in the uniform curing of the slab if preferred. This vapor barrier system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, the subgrade below all floor slab areas should be moisture-conditioned to achieve a moisture content that is at least 110 percent of the optimum moisture content. This moisture content should be maintained a minimum depth of 12 inches below the bottoms of the slabs.

6.3.7 Post-Tensioned Slab/Mat on grade

Alternatively, a post-tension slab may be utilized. Perimeter edge beams for the post-tensioned slabs should have a minimum effective width of 12 inches and be founded at a minimum depth of 18 inches below the lowest adjacent final ground surface. Interior beams may be founded at a minimum depth of 12 inches below the tops of the finish floor slabs. Where a post-tensioned mat is utilized, the exterior edge of the mat should be embedded at least 8 inches below the lowest adjacent grade. The thickness of the floor slab/mat should be determined by the project structural engineer; however, we recommend a minimum slab thickness of 5.0 inches.

Design of the mat may be based on a modulus of subgrade reaction (Kv1) of 100 pounds per cubic inch (pci). The modulus is based on an effective loading area of 1 foot by 1 foot. The modulus may be adjusted for other effective loading areas using the equation provided below.

$$k_b(pci) = 100\left\{\frac{b+1}{2b}\right\}^2$$

where "b" is the effective width of loading (minimum dimension) in feet.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. The membrane should be properly lapped, sealed, and underlain within a layer of sand at least 4 inches thick. Where a mat is used and has a thickness of at least 8 inches, the sand may be limited to 2 inches. One inch of sand may be placed over the membrane to aid in the curing of the concrete. The sand should have a SE no less than 30. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, subgrade soils below slab-on-grade/mat areas should be thoroughly moistened to provide moisture contents at least 110 percent of the optimum moisture content to a depth of 12 inches.

Based on the guidelines provided in the "Design of Post-Tensioned Slabs-on-Ground" 3rd Edition by Post-Tensioning Institute, the em and ym values are summarized in Table 6.2.

TABLE 6.2
PTI Design Parameters

Parameter	Value
Edge Lift Moisture Variation Distance, e_m	8.0 feet
Edge Lift, y_m	0.754 inches
Center Lift Moisture Variation Distance, e_m	4.2 feet
Center Lift, y_m	1.182 inches

6.3.8 Foundation Observations

Foundation excavation should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended above. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4 RETAINING AND SCREENING WALLS

6.4.1 General

The following preliminary design and construction recommendations are provided for general retaining and screen walls supported by engineered compacted fill or competent native soils. Final wall designs specific to the site development should be provided for review once completed. The structural engineer and architect should provide appropriate recommendations for sealing at all joints and applying moisture-proofing material on the back of the walls.

6.4.2 Allowable Bearing Value and Lateral Resistance

Design of retaining and screen walls may utilize the bearing and lateral resistance values provided in Section 6.3.4 and 6.3.5. Lateral resistance for walls along property lines, where lateral removals are restricted should be reduced by 50%.

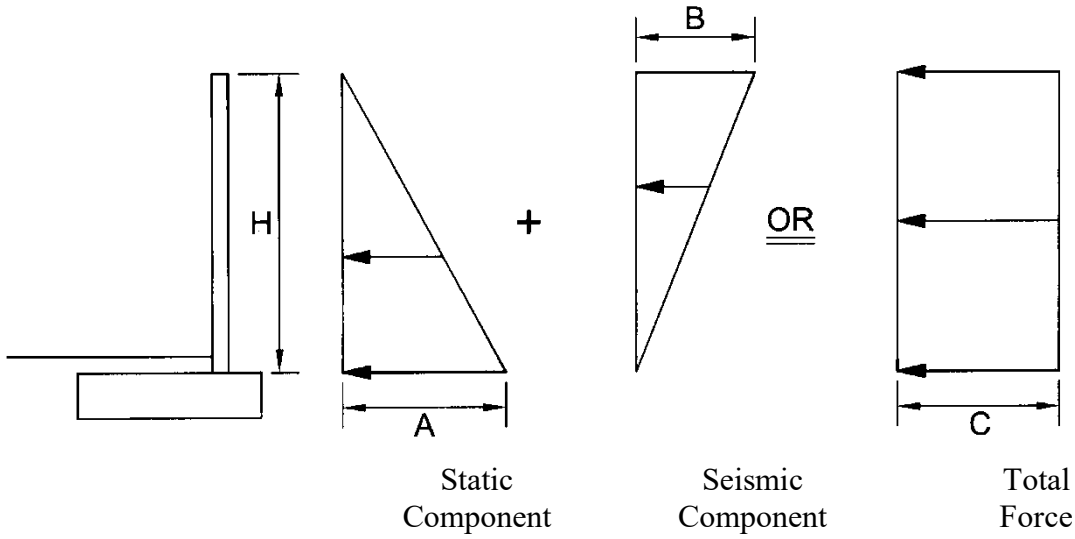
6.4.3 Active Earth Pressures

Static and seismic active earth pressures for level backfill and 2:1 (H:V) backfill conditions are provided in Table 6.3. Based on the 2016 CBC, walls that retain less than 6 feet need not be designed for seismic earth pressures. Seismic earth pressures provided herein are based on the method provided by Seed & Whitman (1970) using a peak ground acceleration (PGA) of 0.35 g, for 10% probability of exceedance in 50 years. The values provided in Table 6.4 are based on drained backfill conditions and do not consider

hydrostatic pressure. Furthermore, retaining walls should be designed to support adjacent surcharge loads imposed by other nearby footings or traffic loads in addition to the earth pressure.

TABLE 6.3

SEISMIC EARTH PRESSURES
Pressure Diagram



Pressure Values
Walls Up To 10 Feet High

Value	Backfill Condition	
	Level	2H:1V Slope
A	40H	68H
B	11H	11H
C	26H	40H

Note:
H is in feet and resulting pressure is in psf. Design may utilize either the sum of the static component and the seismic component force diagrams or the total force diagram above. SEAOSC has suggested using a load factor of 1.7 for the static component and 1.0 for the seismic component. The actual load factors should be determined by the structural engineer.

6.4.4 Drainage and Moisture-Proofing

Retaining walls should be constructed with a perforated pipe and gravel subdrain to prevent entrapment of water in the backfill. The perforated pipe should consist of 4-inch-diameter, ABS SDR-35 or PVC Schedule 40 with the perforations laid down. The pipe should be embedded in ¾- to 1½-inch open-graded gravel wrapped in filter fabric. The gravel should be at least one foot wide and extend at least one foot up the wall above the footing and drainage outlet. Drainage gravel and piping

should not be placed below outlets and weepholes. Filter fabric should consist of Mirafi 140N, or equal. Outlet pipes should be directed to positive drainage devices.

The use of weepholes may be considered in locations where aesthetic issues from potential nuisance water are not a concern. Weepholes should be 2 inches in diameter and provided at least every 6 feet on center. Where weepholes are used, perforated pipe may be omitted from the gravel subdrain.

Retaining walls supporting backfill should also be coated with a moisture-proofing compound or covered with such material to inhibit infiltration of moisture through the walls. Moisture-proofing material should cover any portion of the back of wall that will be in contact with soil and should lap over and onto the top of footing. A drainage panel should be provided between the soil backfill and water proofing. The panel should extend from the top of the backdrain gravel up to within 12 inches of finish grade. The top of footing should be finished smooth with a trowel to inhibit the infiltration of water through the wall. The project structural engineer should provide specific recommendations for moisture-proofing, water stops, and joint details.

6.4.5 Footing Reinforcement and Wall Jointing

All continuous footings should be reinforced with a minimum of two No. 4 bars, one top and one bottom. Walls should be provided with cold joints spaced no more than 40 feet apart. Wall finishes and capping materials should not extend across the cold joint. The structural engineer may require different reinforcement or jointing and should dictate if greater than the recommendations provided herein. Where recommended removals are limited due to space restrictions, greater reinforcement and closer jointing may be recommended. Specific recommendations should be provided by the geotechnical consultant during grading based on as-built conditions exposed in the field.

6.4.6 Footing Observations

Footing excavations should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended herein. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4.7 Retaining Wall Backfill

Onsite soils may generally be used for backfill of retaining walls. The project geotechnical consultant should approve all backfill used for retaining walls. Wall backfill should be moisture-conditioned to slightly over the optimum moisture content; placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. Hand-operated compaction equipment should be used to compact the backfill placed immediately adjacent the wall to avoid damage to the wall. Flooding or jetting of backfill material is not recommended.

6.5 EXTERIOR FLATWORK

Exterior flatwork should be a minimum 4 inches thick. Cold joints or saw cuts should be provided at least every 7 feet in each direction. Flatwork having a minimum dimension more than 7 feet should be reinforced with No. 3 bars spaced 18 inches center to center each way or 6-inch by 6-inch, W4 by W4 welded wire mesh. Special jointing detail should be provided in areas of block-outs, notches, or other irregularities to avoid cracking at points of high stress Subgrade soils below flatwork should be thoroughly moistened to at least 110 percent of the optimum moisture content to a depth of 12 inches. Moistening should be accomplished by lightly spraying the area over a period of a few days just prior to pouring concrete. The geotechnical consultant should observe and verify the density and moisture content of subgrade soils prior to pouring concrete to ensure that the required compaction and pre-moistening recommendations have been met.

Drainage from flatwork areas should be directed to local area drains and/or other appropriate collection devices designed to carry runoff water to the street or other approved drainage structures. The concrete flatwork should also be sloped at a minimum gradient of 1 percent away from building foundations and retaining walls.

6.6 CONCRETE MIX DESIGN

Laboratory testing of onsite soil indicates **negligible** soluble sulfate content. Concrete designed to follow the procedures provided in ACI 318, Section 4.3, Table 4.3.1 for **negligible** sulfate exposure are anticipated to be adequate for mitigation of sulfate attack on concrete. Upon completion of rough grading, an evaluation of as-graded conditions and further laboratory testing will be required for the site to confirm or modify the conclusions provided in this section.

6.7 CORROSION

Results of preliminary testing of soils for pH, chloride, and minimum resistivity indicate the site is potentially **Corrosive** to metals that are in contact or close proximity to onsite soils. As such, specific recommendations should be obtained from a corrosion specialist if construction will include metals that will be near or in direct contact with site soils.

6.8 PRELIMINARY PAVEMENT DESIGN

6.8.1 Preliminary Pavement Structural Sections

Based on the soil conditions present at the site and estimated traffic index, preliminary pavement structural sections are recommended in the table below. An assumed "R-value" of 20 utilized for the near-surface soil in this preliminary pavement design. The sections provided in Table 6.4 are for planning purposes only and should be re-evaluated subsequent to site grading. Final pavement sections should be based on actual R-value testing of in-place soils and analysis of anticipated traffic.

6.8.2 Subgrade Preparation

Prior to placement of pavement elements, subgrade soils should be moisture-conditioned to at least 110 percent of the optimum moisture content then compacted to at least 90 percent of the laboratory determined maximum dry density. Areas observed to pump or yield under vehicle traffic should be removed and replaced with firm and unyielding compacted soil or aggregate base materials.

TABLE 6.4
PRELIMINARY PAVEMENT STRUCTURAL SECTIONS

Location	Traffic Index	AC (inches)	PCC (inches)	Concrete Pavers (mm)	AB (inches)
Entry and Main Driveway	5	3.0 4.0 -- --	-- -- 6.5 --	-- -- -- 80.0	8.0 6.0 -- 9.0
Parking Stalls	--	3.0	--	--	5.0

AC - Asphaltic Concrete AB - Aggregate Base

6.8.3 Aggregate Base

Aggregate base should be moisture conditioned to slightly over the optimum moisture content, placed in lifts no greater than 6 inches in thickness, then compacted to at least 95 percent of the laboratory standard (ASTM D 1557). Aggregate base materials should be Class 2 Aggregate Base conforming to Section 26-1 of the latest edition of the Caltrans Standard Specifications, Crushed Aggregate Base conforming to Section 200-2.2 of the latest edition of the Standard Specifications for Public Works Construction (Greenbook) or Crushed Miscellaneous Base conforming to Section 200-2.4 of the Greenbook.

6.8.4 Asphaltic Concrete

Paving asphalt should be PG 64-10. Asphaltic concrete materials should conform to Section 203-6 of the Greenbook and construction should conform to Section 302 of the Greenbook.

6.8.5 Concrete Pavers

Concrete pavers should conform to the requirements of ASTM C 936. Construction of the pavers, including bedding sand, should follow manufacturer's specifications. Typical thickness of bedding sand is about 1 inch. The gradation of bedding sand should meet the requirement in Table 6.5.

Construction of edge restraints should also follow manufacturer's specifications. As a minimum, restraints should be provided along the perimeter of concrete pavers and where there is a change in the paving materials.

TABLE 6.5
Gradation of Bedding for Pavers

Sieve Size	Percent Passing
⅜"	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	0 - 1

6.8.6 Portland Cement Concrete

Portland cement concrete used to construct concrete paving should conform to Section 201 of the Greenbook and should have a minimum compressive strength of 3,250 pounds per square inch (psi) at 28 days. Reinforcement and jointing of concrete pavement sections should be designed according to the minimum recommendations provided by the Portland Cement Association (PCA). For rigid pavement, transverse and longitudinal contraction joints should be provided at spacing no greater than 15 feet. Score joints may be constructed by saw cutting to a depth of ¼ of the slab thickness. Expansion/cold joints may be used in lieu of score joints. Such joints should be properly sealed and provided with a key or dowels. Where traffic will traverse over edges of concrete paving (not including joints), the edges should be thickened by 20% of the design thickness toward the edge over a horizontal distance of 5 feet.

Trash pickup areas should be provided with a concrete slab where the bins will be picked up and extend at least 3 feet past the front wheel landing areas. The slab should be at least 8 inches thick and be reinforced with No. 4 bars spaced at 24 inches on centers, both ways. The slabs should be provided transverse and longitudinal joints spacing as specified above. Dowels or a keyway should be provided at all cold joints.

6.9 POST GRADING CONSIDERATIONS

6.9.1 Site Drainage and Irrigation

The ground immediately adjacent to foundations should be provided with positive drainage away from the structures in accordance with 2016 CBC, Section 1804.3. No rain or excess water should be allowed to pond against structures such as walls, foundations, flatwork, etc.

Excessive irrigation water can be detrimental to the performance of the proposed site development. Water applied in excess of the needs of vegetation will tend to percolate into the ground. Such percolation can lead to nuisance seepage and shallow perched groundwater. Seepage can form on slope faces, on the faces of retaining walls, in streets, or other low-lying areas. These conditions could lead to adverse effects such as the formation of stagnant water that breeds insects, distress or damage of trees, surface erosion, slope instability, discoloration and salt buildup on wall faces, and premature

failure of pavement. Excessive watering can also lead to elevated vapor emissions within buildings that can damage flooring finishes or lead to mold growth inside the home.

Key factors that can help mitigate the potential for adverse effects of overwatering include the judicious use of water for irrigation, use of irrigation systems that are appropriate for the type of vegetation and geometric configuration of the planted area, the use of soil amendments to enhance moisture retention, use of low-water demand vegetation, regular use of appropriate fertilizers, and seasonal adjustments of irrigation systems to match the water requirements of vegetation. Specific recommendations should be provided by a landscape architect or other knowledgeable professional.

6.9.2 Utility Trenches

Trench excavations should be constructed in accordance with the recommendations contained in Section 6.1.7 of this report. Trench excavations must also conform to the requirements of Cal/OSHA.

Trench backfill materials and compaction criteria should conform to the requirements of the local municipalities. As a minimum, utility trench backfill should be compacted to at least 90 percent of the laboratory standard. Materials placed within the pipe zone (6 inches below and 12 inches above the pipe) should consist of particles no greater than ¾ inches and have a SE of at least 30. The materials within the pipe zone should be moisture-conditioned and compacted by hand-operated compaction equipment. Above the pipe zone (>1 foot above pipe), the backfill may consist of general fill materials. Trench backfill should be moisture-conditioned to slightly over the optimum moisture content, placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. For trenches with sloped walls, backfill material should be placed in lifts no greater than 8 inches in loose thickness, and then compacted by rolling with a sheepsfoot roller or similar equipment. The project geotechnical consultant should perform density testing along with probing to verify that adequate compaction has been achieved.

Within shallow trenches (less than 18 inches deep) where pipes may be damaged by heavy compaction equipment, imported clean sand having a SE of 30 or greater may be utilized. The sand should be placed in the trench, thoroughly watered, and then compacted with a vibratory compactor. For utility trenches located below a 1:1 (H:V) plane projecting downward from the outside edge of the adjacent footing base or crossing footing trenches, concrete or slurry should be used as trench backfill.

6.10 PLAN REVIEW AND CONSTRUCTION SERVICES

We recommend ***Albus-Keefe & Associates, Inc.*** be engaged to review any future development plans, including foundation plans prior to construction. This is to verify that the assumptions of this report are valid and that the preliminary conclusions and recommendations contained in this report have been properly interpreted and are incorporated into the project plans and specifications. If we are not provided the opportunity to review these documents, we take no responsibility for misinterpretation of our preliminary conclusions and recommendations.

We recommend that a geotechnical consultant be retained to provide soil engineering services during construction of the project. These services are to observe compliance with the design, specifications or recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

If the project plans change significantly from the assumed development described herein, the project geotechnical consultant should review our preliminary design recommendations and their applicability to the revised construction. If conditions are encountered during construction that appear to be different than those indicated in this report or subsequent design reports, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

7.0 LIMITATIONS

This report is based on the proposed development and geotechnical data as described herein. The materials encountered on the project site, described in other literature, and utilized in our laboratory testing for this investigation are believed representative of the total project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation and testing by a geotechnical consultant during the grading and construction phases of the project are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty. This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** and their project consultants in the planning and design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes. This report is subject to review by the controlling governmental agency.

Respectfully submitted,

ALBUS-KEEFE & ASSOCIATES, INC

Paul Hyun Jin Kim
Associate Engineer
G.E. 3106

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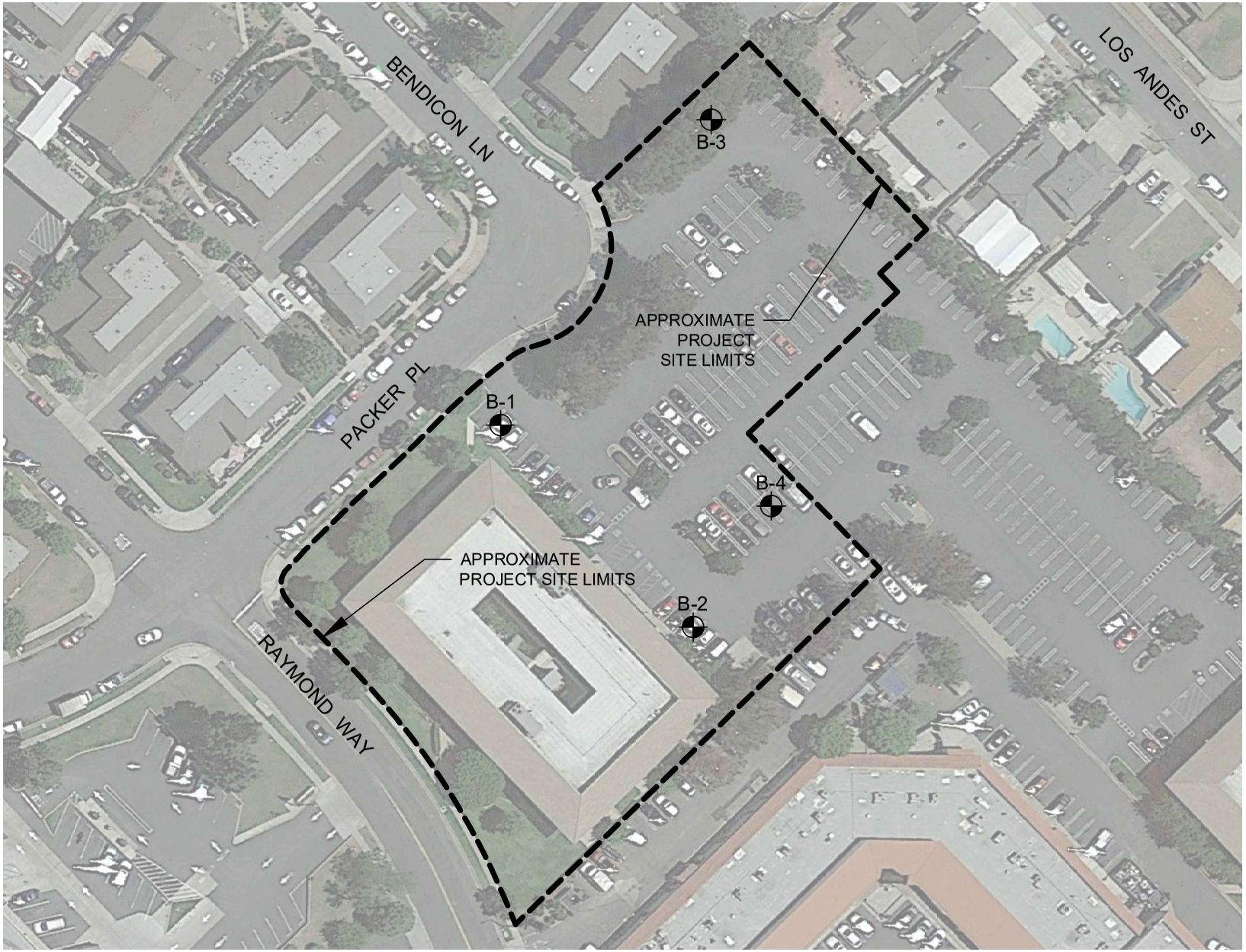
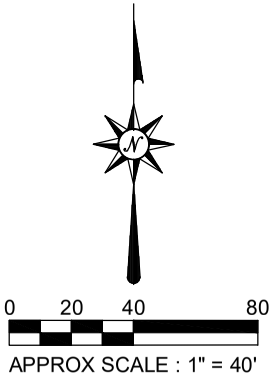




EXPLANATION

(Locations Approximate)

- Exploratory Boring

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2841.00	Date: 10/23/19	Plate: 1

APPENDIX A

EXPLORATION BORING LOGS

EXPLORATION LOG

Project:		Location:
Address:		Elevation:
Job Number:	Client:	Date:
Drill Method:	Driving Weight:	Logged By:

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		EXPLANATION							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).							
		Double triangle in core column represents SPT sampler.							
10		**Vertical Lines** in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column respresents large bag sample.							
		Other Laboratory Tests:							
15		Max = Maximum Dry Density/Optimum Moisture Content							
		EI = Expansion Index							
		SO4 = Soluble Sulfate Content							
		DSR = Direct Shear, Remolded							
		DS = Direct Shear, Undisturbed							
		SA = Sieve Analysis (1" through #200 sieve)							
		Hydro = Particle Size Analysis (SA with Hydrometer)							
20		200 = Percent Passing #200 Sieve							
		Consol = Consolidation							
		SE = Sand Equivalent							
		Rval = R-Value							
		ATT = Atterberg Limits							

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							SO4 DS pH Resist Ch
		ARTIFICIAL FILL (Af) Silty Sand (SM): Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros		80/ 10"			11.1	116	
5		@ 4 ft, light gray, increased clay content		76/ 8"			10.2	111.2	Consol
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Sandy Clay (CL): Gray, moist, hard, fine grained sand		72/ 11"			12.8	118.2	
		Clayey Sand (SC): Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche							
10		Clayey Sand/ Sandy Clay (SC/CL): yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings		73/ 8"			11		
		Clayey Sand (SC): Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings							
15		@ 15 ft, reddish brown, moist		29					SA Hydro
		Clayey Sand : Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay							
20				36					SA Hydro

Albus-Keefe & Associates, Inc.

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		@ 25 ft, caliche		43					
30				45					SA Hydro
35		@ 35 ft, , moist to very moist		56					
		Silty Clay/ Clayey Silt (CL/ ML-CL): Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide							
40			▽	31					
45				37					

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
				35					
		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Aggregate Base (AB): Dark brown							
		ARTIFICIAL FILL (Af) Silty Sand (SM): Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▼▲		12.8	109.1	
5		**VERY OLD ALLUVIAL FAN DEPOSITS (Qvof)** Clay (CL): Reddish brown, slightly moist, hard		79	▼▲		11.2	111.3	
		Clayey Sand/ Sandy Clay (SC/CL): Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▼▲		6.4	124.4	
		Silty Clay with Sand (CL-ML): Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10				81	▼▲		13.5	105.6	
		Sandy Silt (ML): Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand							

End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Aggregate Base (AB): Dark brown							
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Clayey Sand/ Sandy Clay (SC/CL): Mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche		72/ 8"			11.2	119.6	
5				76/ 11"			7	113	
		Silty Sand (SM): Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments		57			9.9	120.1	
		@ 6 ft, dense							
		Clayey Sand (SC): Gray, slightly moist to moist, very dense, fine to medium grained sand, caliche, rock fragments							
10				75/ 8"			12.1	113.6	
		Sand (SP): Light brown, moist, dense, trace clay, clay nodules							
15				31					
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Aggregate Base (AB): Dark brown							
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Clayey Sand with Gravel (SC): Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		Silty Sand (SM): Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		Silty Sand with Clay (SM): Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, light reddish brown, decreased in clay content		36			13.8	117	
15		@ 15 ft, light brown, no gravel		20					
20				20					
		dense, End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.							

APPENDIX B

LABORATORY TEST PROGRAM

LABORATORY TESTING PROGRAM

Soil Classification

Soils encountered within the exploratory borings were initially classified in the field in general accordance with the visual-manual procedures of the Unified Soil Classification System (ASTM D2488). The samples were re-examined in the laboratory and classifications reviewed and then revised where appropriate. The assigned group symbols are presented in the Boring Logs provided in Appendix A.

In Situ Moisture and Density

Moisture content and dry density of in-place soil materials were determined in representative strata. Test data are summarized on the Boring Logs provided in Appendix A.

Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content of onsite soils were determined for one selected sample in general accordance with Method A of ASTM D1557. Pertinent test values are given on Table B.

Grain-Size Analyses

Grain size analyses were performed on selected samples of site materials. These tests were performed in accordance with ASTM D 422. Results are graphically presented on Plate B.

Consolidation

Consolidation tests were performed for selected soil samples in general conformance with ASTM D 2435. Axial loads were applied in several increments to a laterally restrained 1-inch-high sample. Loads were applied in geometric progression by doubling the previous load, and the resulting deformations were recorded at selected time intervals. The test samples were inundated at selected loads to evaluate the effects of a sudden increase in moisture content (hydro-consolidation potential). Results of the tests are graphically presented on Plates B-2 to B-5.

Direct Shear

The Coulomb shear strength parameters, angle of internal friction and cohesion, were determined for a bulk sample obtained from one our borings. The tests were performed in general conformance with Test Method ASTM D 3080. The sample was remolded to 90 percent of maximum dry density and at the optimum moisture content. Three specimens were prepared for each test, artificially saturated, and then sheared under varied loads at an appropriate constant rate of strain. Results are graphically presented on Plate B-6.

Expansion Potential

An Expansion Index test was performed on a selected sample in accordance with ASTM D 4829. The test result and expansion potential are presented on Table B.

Corrosion

Select samples were tested for minimum resistivity, chloride, and pH in accordance with California Test Method 643. Results of these tests are provided in Table B.

Soluble Sulfate Content

A chemical analysis was performed on a selected soil sample to determine soluble sulfate content. The test was performed in accordance with California Test Method (CTM) 417. The test result is included in Table B.

Percent Passing No. 200 Sieve

Percent of material passing the No. 200 sieve was determined on selected samples to verify visual classifications performed in the field. These tests were performed in accordance with ASTM D 1140. Test results are presented on Table B.

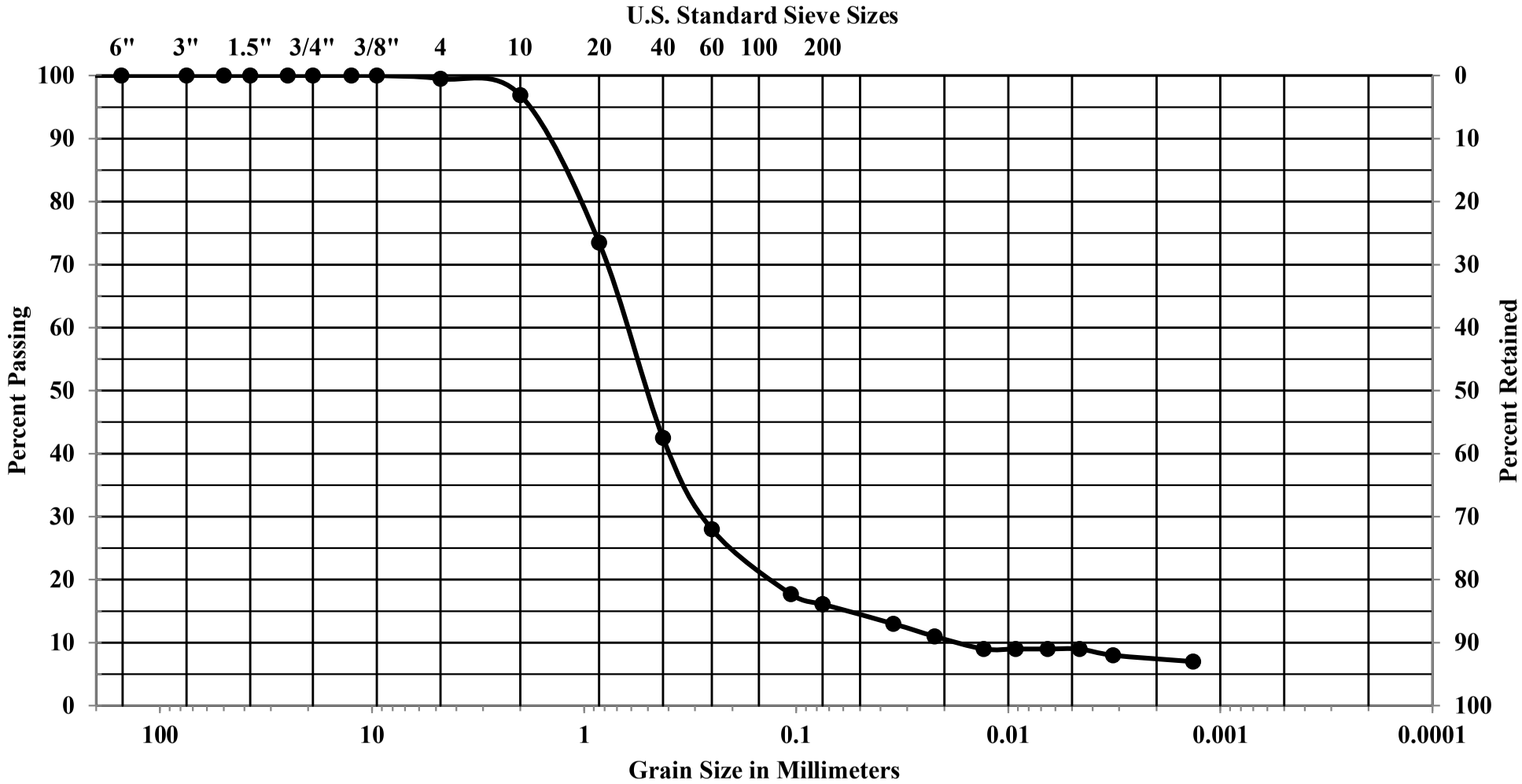
TABLE B
SUMMARY OF LABORATORY TEST RESULTS

Boring Number	Depth (feet)	Soil Type	Test Results	
B-1	0-5	Silty Sand (SM)	Maximum Dry Density (pcf):	124.5
			Optimum Moisture Content (%):	11.0
			Soluble Sulfate Content (%):	0.000
			Sulfate Exposure:	Negligible
			pH:	7.22
			Minimum Resistivity:	1700 Ohm-cm
			Chloride:	10.0 ppm
			Expansion Index:	30
			Expansion Potential:	Low
B-1	15	Clayey Sand (SC)	Percent Passing #200 Sieve:	16.3 %
B-1	20	Clayey Sand (SC)	Percent Passing #200 Sieve:	28.3%
B-1	30	Clayey Sand (SC)	Percent Passing #200 Sieve:	22.2%

Additional laboratory test results are provided on the boring logs provided in Appendix A and on the Plates that follow.

GRAIN SIZE DISTRIBUTION

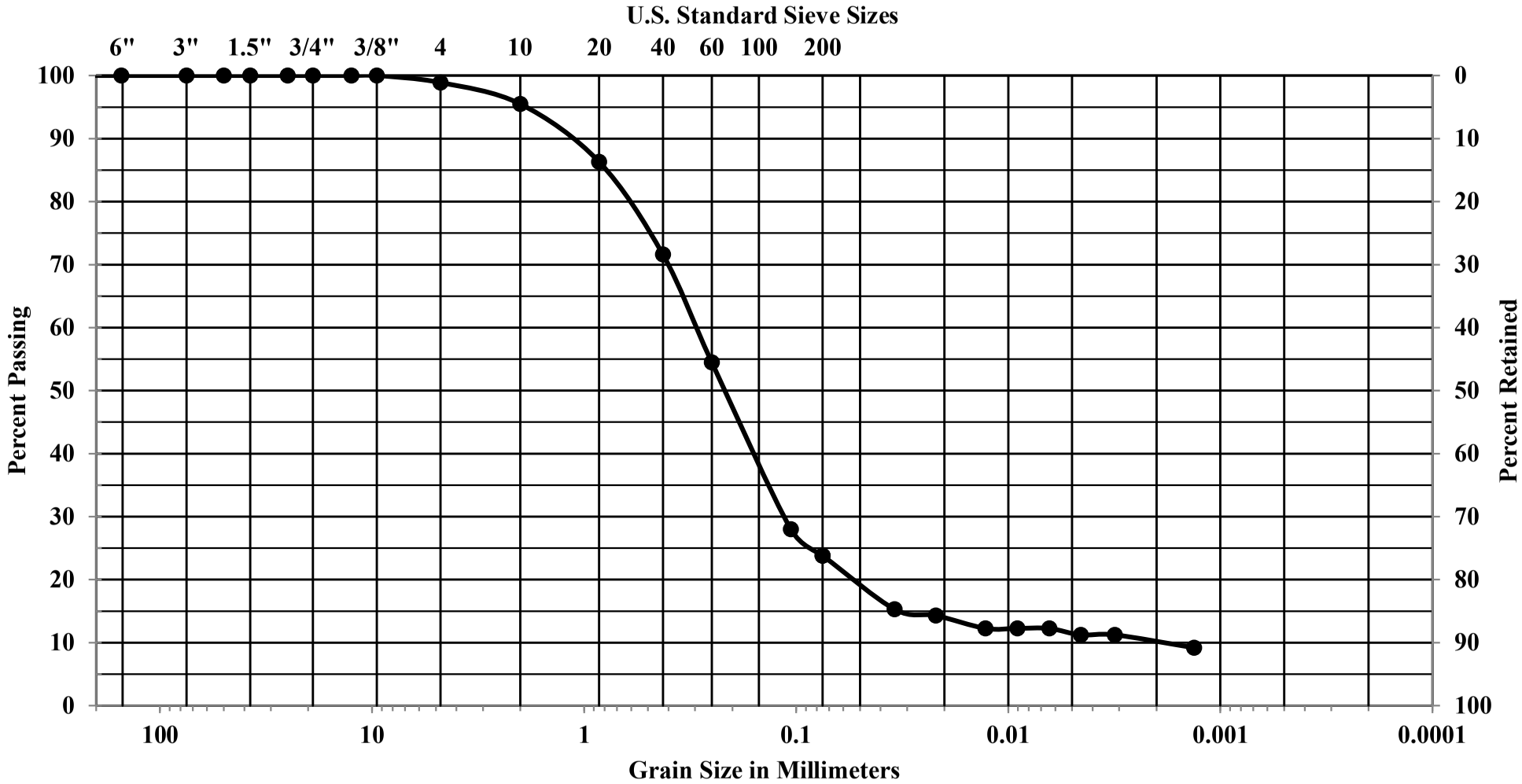
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	15	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

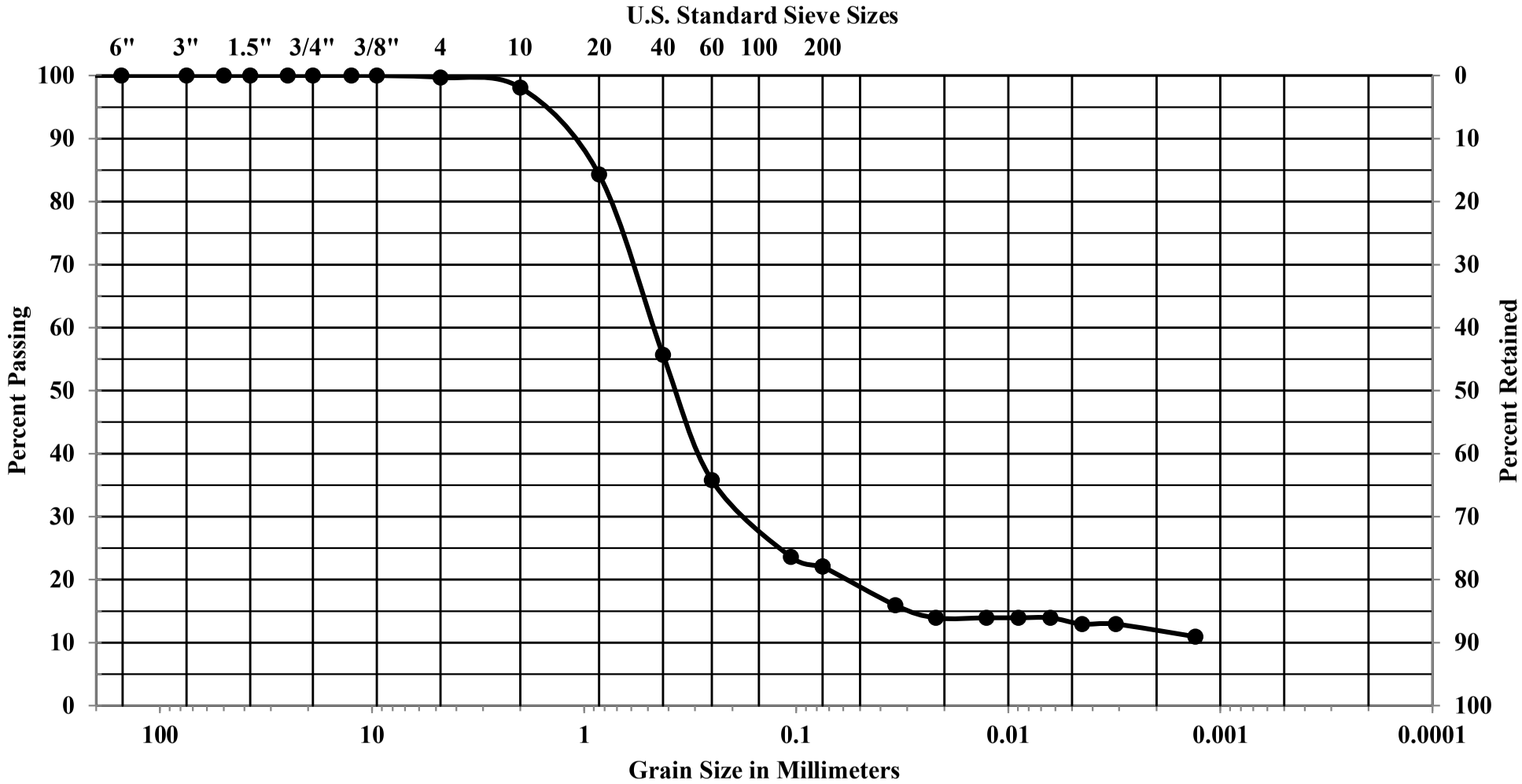
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	20	Clayey Sand (SC)

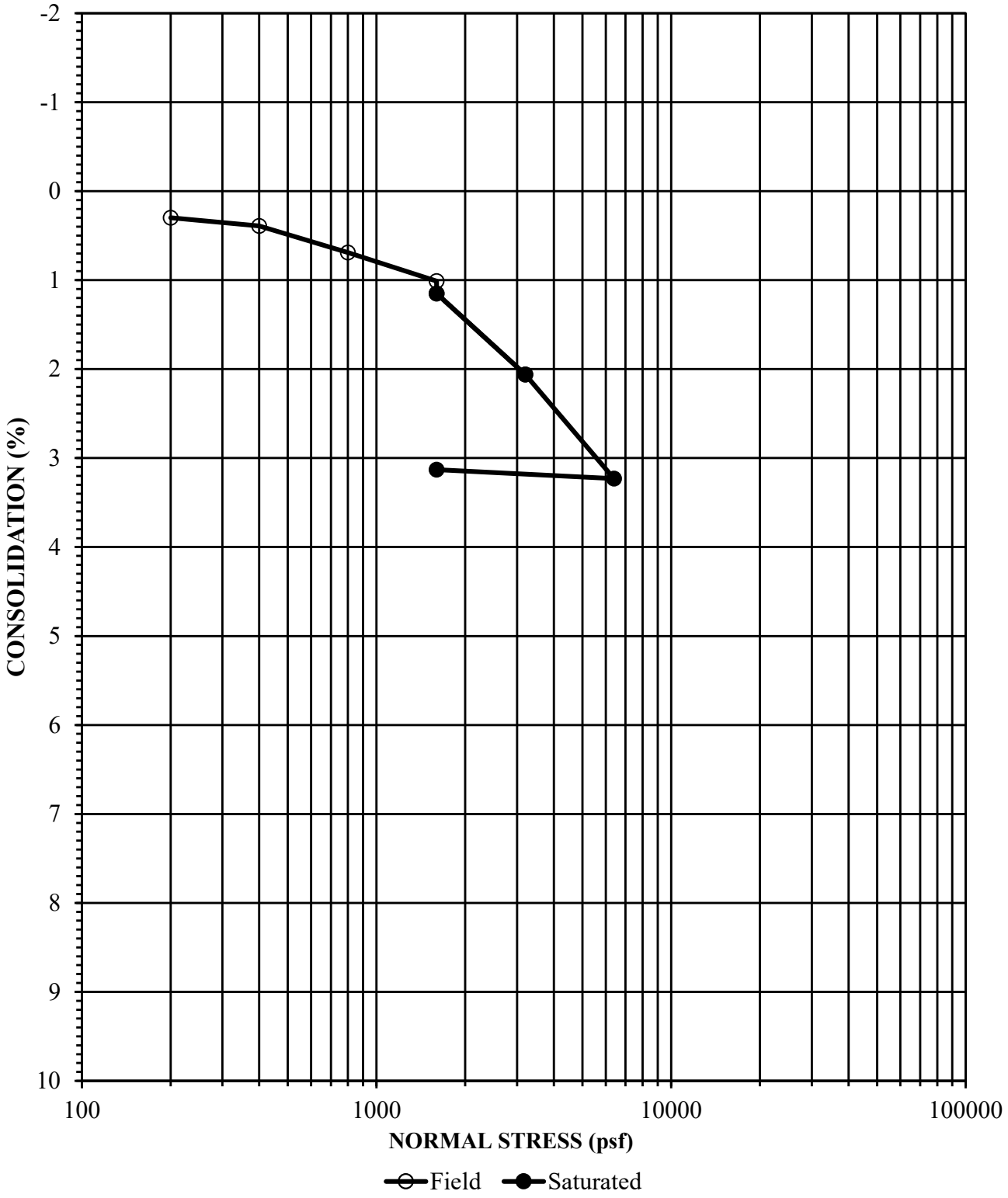
GRAIN SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	30	Clayey Sand (SC)

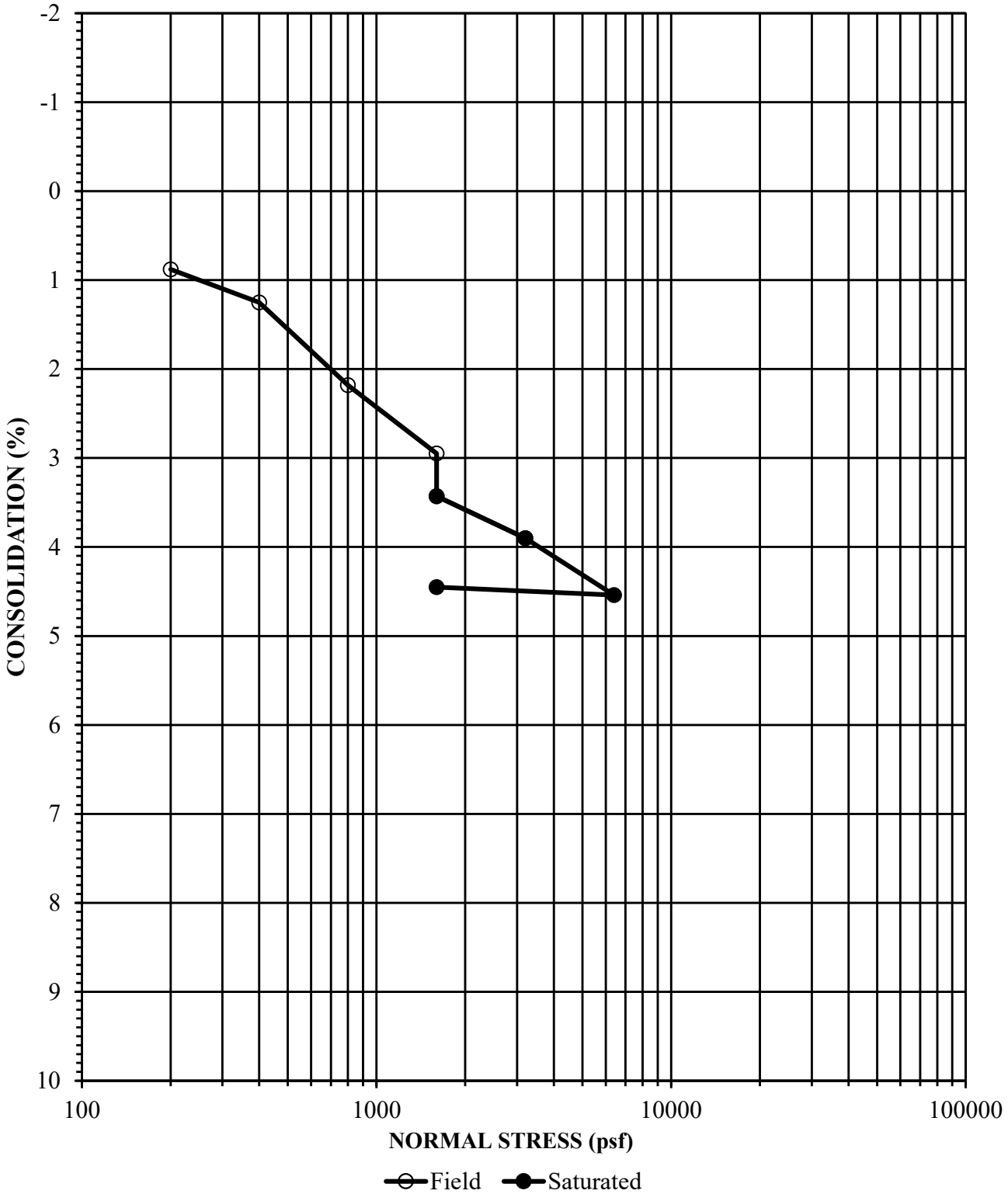
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-1	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
117.9	10.5	12.4

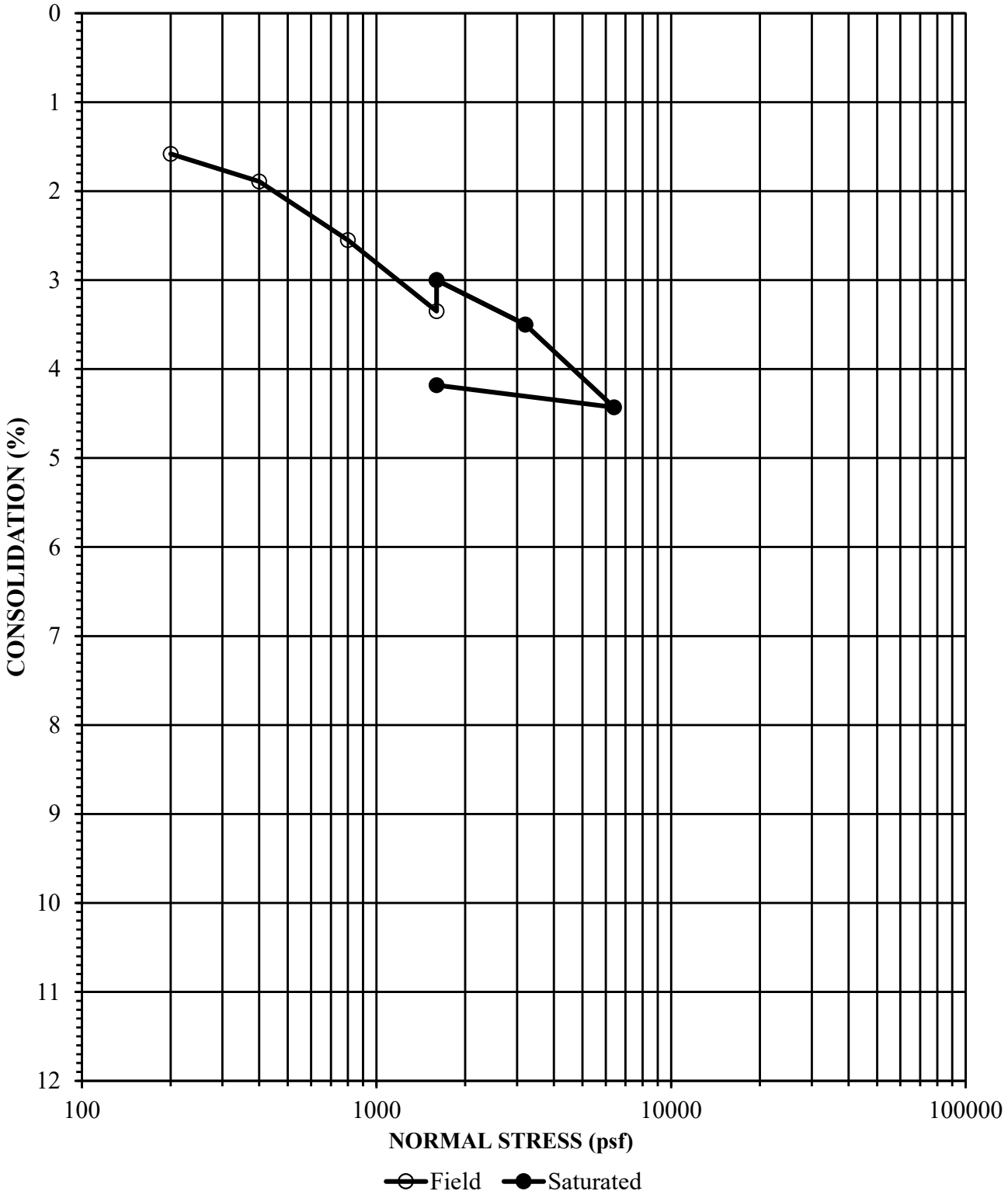
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
123.8	9.5	9.2

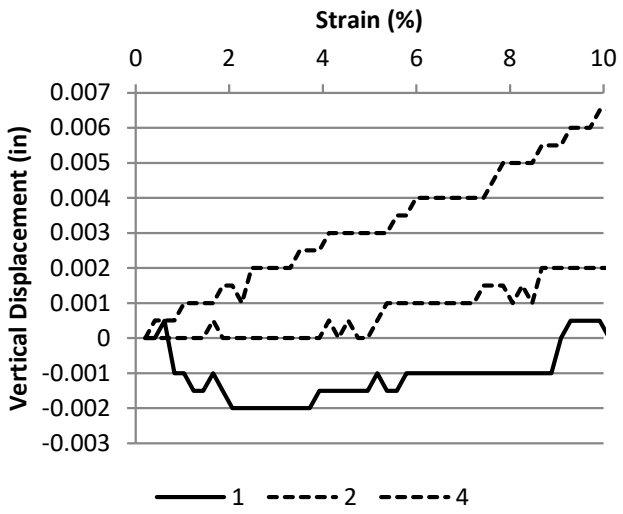
CONSOLIDATION

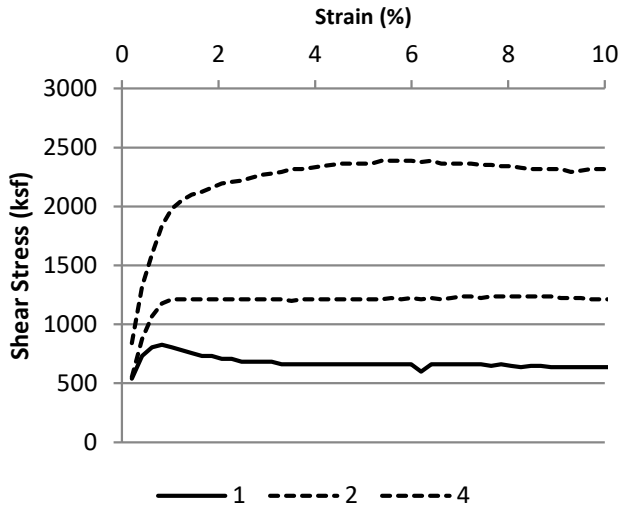


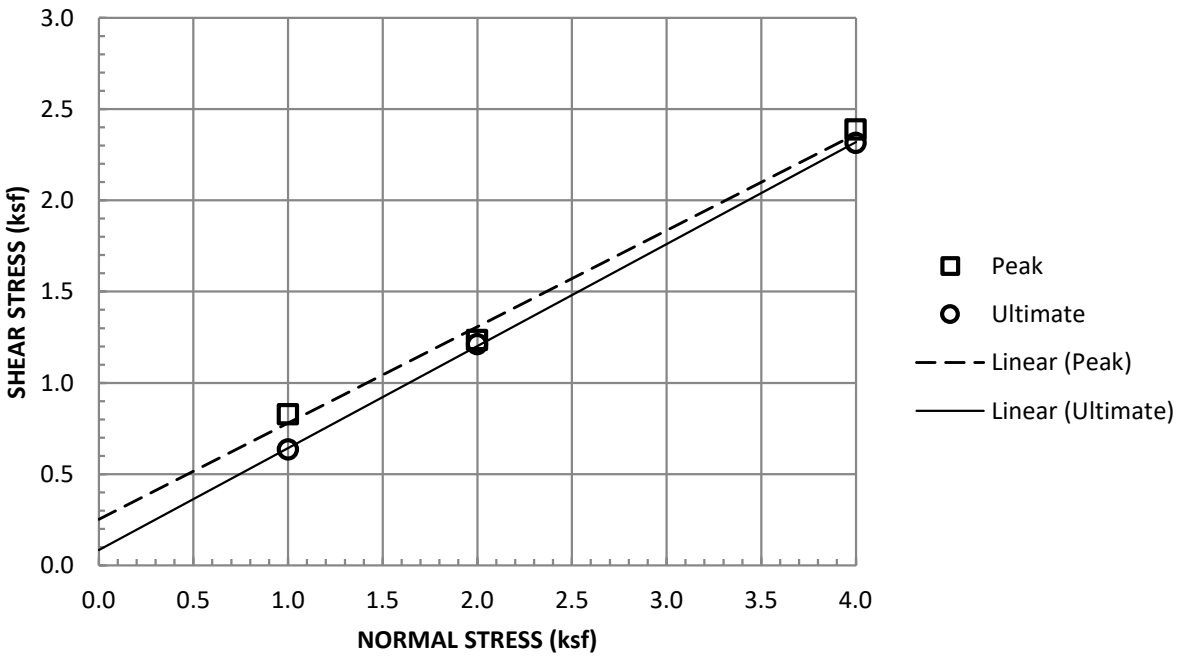
Job Number	Location	Depth	Description
2841.00	B-4	6	Silty Sand with Clay (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
111.2	17.3	17.2

DIRECT SHEAR







Sample Type:	Remolded 90% of 124.5 @ 11%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.828	1.236	2.388
Peak Displacement (in)	0.002	0.002	0.007
Ultimate Shear Stress (ksf)	0.636	1.212	2.316
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	112.1	112.1	112.1
Initial Moisture Content (%)	11	11	11
Final Moisture Content (%)	14.8	15.1	15.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2841.00	B-1	0-5	Silty Sand (SM)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

December 2, 2019
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, CA 91730

Subject: Preliminary Percolation Study, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killan,

Albus-Keefe & Associates, Inc. has completed a geotechnical investigation of the site for evaluation of the percolation characteristics of the site soils. The scope of this investigation consisted of the following:

- Exploratory drilling, soil sampling and test well installation
- Field percolation testing
- Laboratory testing of selected soil samples
- Engineering analysis of the data
- Preparation of this report

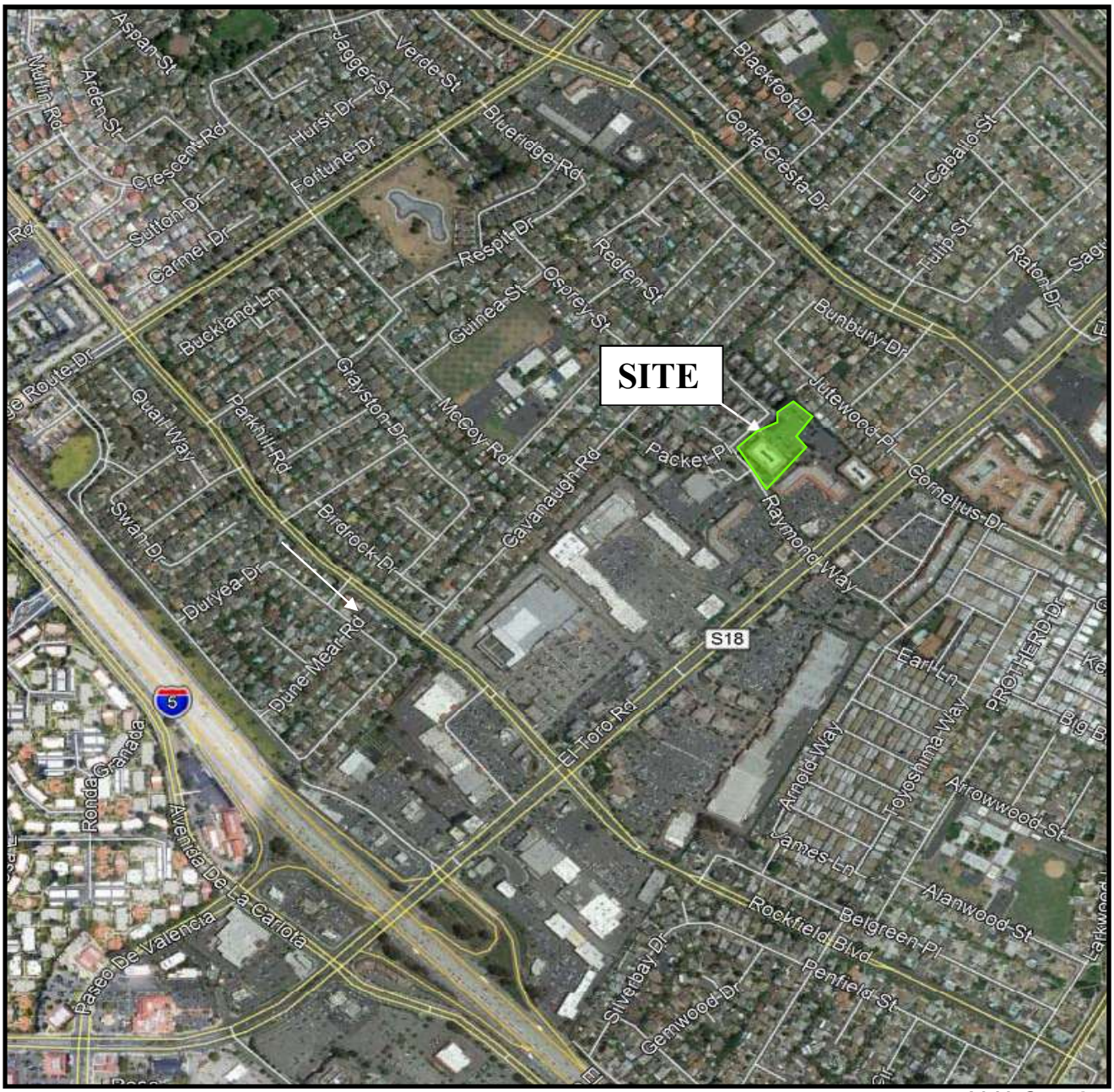
SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Site Location and Description

The site is located at 24551 Raymond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single-family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas are shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property comprising approximately 1.9 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth). Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass turf adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



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SITE LOCATION MAP

National Community Renaissance
Proposed Multi-Family Residential Development
24551 Raymond Way
Lake Forest, California

NOT TO SCALE

FIGURE 1

Proposed Development

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparation of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

SUMMARY OF FIELD AND LABORATORY WORK

Subsurface Investigation

Subsurface exploration for this investigation was conducted on October 2, 2019, and consisted of drilling four (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. Two additional borings were drilled near boring B-1 for use in percolation testing. These borings were not logged or sampled. Approximately 5 feet of well screening was installed at the bottom of each percolation well with solid pipe extending the reminder of the distance to the ground surface. The annular space of the well screen sections was filled with gravel. At the completion of all work, piping for the test wells were removed and the borings were backfilled with auger cuttings. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and standard penetration test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

Percolation Testing

Percolation testing was performed on October 2, 2019, in general conformance with the constant-head test procedures outlined in the referenced Well Permeameter Method (USBR 7300-89). A water hose attached to a water source on site was connected to an inline flowmeter to measure the water flow. The flowmeter is capable of measuring flow rates up to 10 gallons per minute and as low as 0.06 gallons per minute. A valve was connected in line with the flowmeter to control the flow rate. A filling hose was used to connect the flowmeter and the test wells. Water was introduced by the filling

hose near the bottom of the test wells. A water level meter with 1/100-foot divisions was used to measure the depths to water surface from the top of well casings.

Flow to the wells was terminated upon either completion of testing of all the pre-determined water levels or the flow rate exceeded the maximum capacity of the flowmeter. Measurements obtained during the percolation testing are provided in Appendix C on Plates C-1 and C-2.

Laboratory Testing

Selected soil samples of representative earth materials were tested to assist in the formulation of conclusions and recommendations presented in this report. Tests consisted of in-situ moisture contents and dry densities, and sieve analyses. Results of laboratory testing relevant to percolation characteristics are presented in Appendix B and on the Exploration Logs in Appendix A.

ANALYSIS OF DATA

Subsurface Conditions

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are primarily comprised of reddish-brown clayey sand to a depth of approximately 35 feet. Below this depth, the very old alluvium becomes a silty clay/clayey silt that is slightly moist to moist and hard.

Groundwater

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet. The shallower occurrences of ground water in other locations in the vicinity are likely due to localized perched conditions upon finer-grained soil layers within the granular zone. The finer-grained layers are likely lenticular and appear absent from the subject site within the upper 35 feet.

Percolation Data

Analyses were performed to evaluate permeability using the flow rate obtained at the end of the constant-head stage of field percolation testing. These analyses were performed in accordance with the procedures provided in the referenced USBR 7300-89. The procedure essentially uses a closed-form solution to the percolation out of a small-diameter well.

Using the USBR method, we calculated a composite permeability value for the head condition maintained in each well. The results are summarized in Table 1 below and the supporting analyses are included in Appendix C, Plates C-3 and C-4.

TABLE 1
Summary of Back-Calculated Permeability Coefficient

	Total Depth of Well (ft)	Depth to Water in Well (ft)	Height of Water in Well (ft)	Static Flow Rate (gal./min.)	Estimated Permeability, k_s (in/hr.)
P-1	20.0	15.0	5.0	1.5	2.27
P-2	25.0	20.0	5.0	0.75	1.13

Design of Dry Well

The ***infiltration rate*** in a dry well is dependent upon several factors including the soil permeabilities of the various soil layers throughout the soil mass, hydraulic gradient of water pressure head in the soil mass, and depth to groundwater. The infiltration rate is related to the permeability by Darcy's equation:

$$V = ki$$

Where:

V= water velocity (infiltration rate)
k= permeability
i=hydraulic gradient

The presence of differing soil layers with differing permeabilities, the variable head condition in the well shaft, and presence of ground water are factors that make determining the effective infiltration rate of the dry well somewhat complicated. We have performed the Well Permeameter tests in accordance with the test method. This test provides a means to estimate the ***Permeability Rate*** of the soils influencing the dry well, not the infiltration rate. Therefore, the effective infiltration rate must be determined using the relationship between permeability and infiltration rate as expressed by Darcy's equation. Solution of the Darcy equation essentially requires solving a differential mass balance equation. Due to these complications, the infiltration characteristics of the proposed dry well were modeled using a computer program.

Infiltration in a dry well was modeled using the software Seep/W, version 2007, by Geo-Slope International. The program allows for modeling of both partially-saturated and saturated porous medium using a finite element approach to solve Darcy's Law. The program can evaluate both steady-state and transient flow in planar and axisymmetric cases. Boundaries of the model can be identified with various conditions including fix total head, fix pressure head, fix flow rate, and head as a function of flow. Soil conductivity properties can be modeled with either Fredlund et al (1994), Green and

Corey (1971), Van Genuchten (1980), or Saxton et al. (1986). The parameters suggested by Van Genuchten (1980) were selected for use in our model and were based on test results of particle-size analyses and estimated in-place densities.

A Seep/W model was setup with the bottom of the dry well at a depth of 30 feet below ground surface. The top 20 feet of the dry well assumed a shaft that is 6 feet in diameter and contains a settling chamber having an inside diameter of 4 feet, outside diameter of 4.5 feet, and length of 18 feet. Below 20 feet, the shaft diameter was 4 feet in diameter. The annular space around the chamber between the depths of 0 and 13 feet was assumed to consist of a cement slurry. Below a depth of 13 feet, the annular space around the chamber and below the chamber is assumed to consist of gravel. A more detailed model of the dry well design can be found on Plate 2.

The model consisted of three zones of material to represent the general soil profile. The upper zone (depth 0 to 10 feet) was represented by a set of input parameters to practically make it impermeable due to the fine-grained nature of the material. For the second layer (depth 10 to 35 feet), the saturated conductivity was modeled to represent the clayey sand observed predominantly in this depth range. The properties of this layer were selected based on the coefficient of permeability estimated from percolation tests as well as laboratory gradation test results (Plates B-1 through B-3). The third layer (below depth 35 feet) was estimated from laboratory gradation test results. The soil parameters are summarized in Table 2.

Groundwater was set at a depth of 40 feet using a fix-head boundary which was set on the outside boundary of the problem. Water in the well was assumed to be at a depth of 7 feet below the ground surface so a fix-head boundary was set with a total head elevation of 93 feet around the edge of the well.

TABLE 2
Summary of Characteristic Curve Parameters

Material No.	Material Type	Depth (ft)	Sat. Perm., Ks (in/hr)	Van Genuchten Parameters				
				a (psf)	n	m	Sat. Water Content	Residual Water Content
1	Imperm.	0 – 10	0.001	196	1.21	0.17	0.40	0.010
2	SC/SP	10 – 35	1.0	28	1.17	0.14	0.42	0.010
3	ML/CL	>35	0.05	32	1.32	0.24	0.36	0.025

A steady state analysis was performed to estimate the maximum inflow that the well can accommodate. Using a well as described above, we obtain a static total flow of 0.018 ft^3/sec. A plot depicting the resulting pressure head contours and flow vectors for the model is provided on Plate C-5. The average infiltration rate can be determined by taking the flow rate divided by the wetted surface area. The surface area is equal to 258 square feet which includes the side and bottom area. Based on the above flow rate and surface area, the average "measured" infiltration rate across the wetted surface area is 3.0 in/hr.

To evaluate the time required to empty the well once no more water is introduced, the model was reanalyzed with a variable head condition that was dependent upon the volume of water leaving the well. As water infiltrates into the surrounding soil, the volume of water remaining in the well is reduced as well as the resulting water head. A graph of the well head versus exit volume is provided in Figure 2. The function assumes a void ratio of 0.4 within the zones occupied by gravel. If some other well configuration is used, then the analyses will require updating.

The analysis was performed as a transient case over a total time of 13 hours. The conditions in the model were evaluated in 12 increments of time over the total duration. From our analyses, the water is evacuated from the chamber in approximately 8.5 hours. Plots depicting the resulting pressure head contours and flow vectors at selected times are provided in Appendix C on Plates C-6 through C-10. A plot of time versus water height in the well is shown on Figure 3.

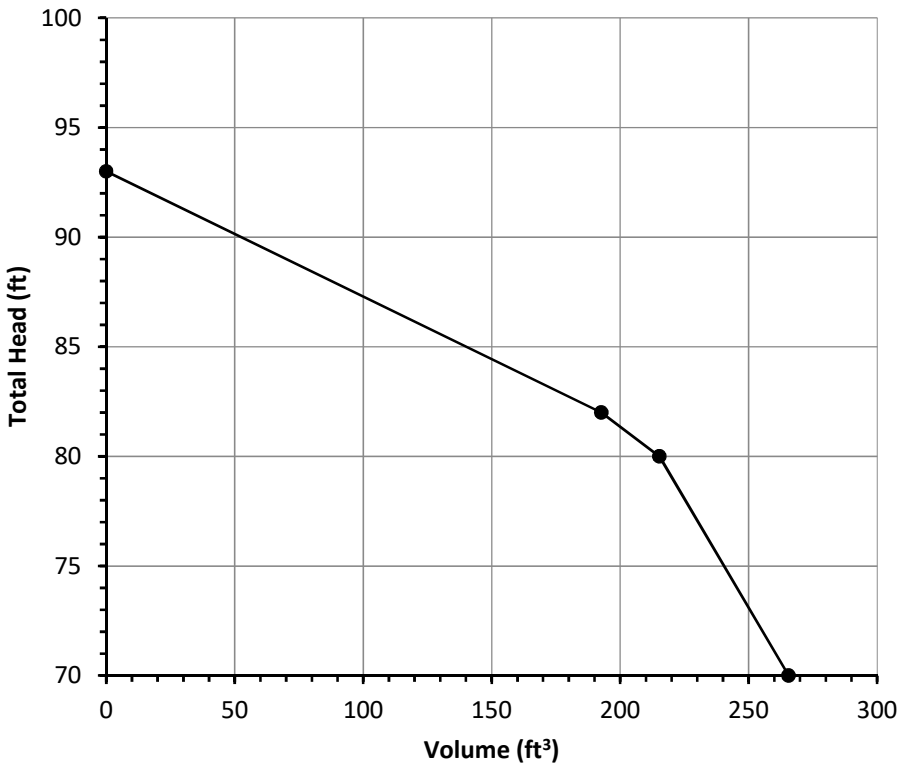

FIGURE 2- Well Head versus Exit Volume

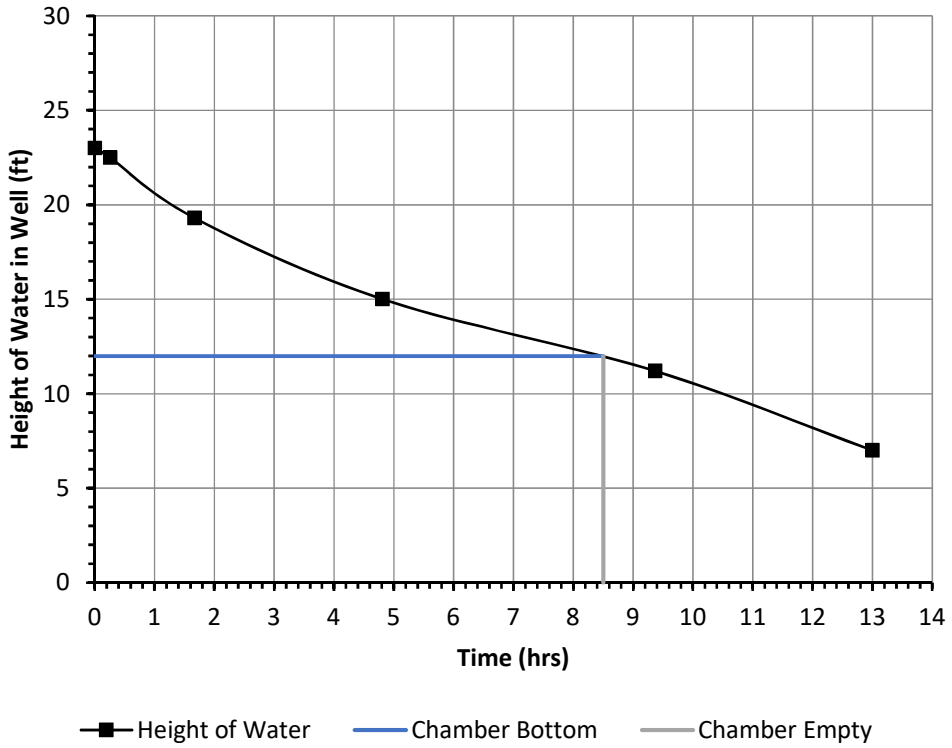

FIGURE 3- Water Head Versus Time

CONCLUSIONS AND RECOMMENDATIONS

Results of our work indicate a storm water disposal system consisting of a dry well is feasible at the site. The use of a dry well is not anticipated to result in worsening any adverse conditions or hazards that may be present for the proposed site development or adjacent properties including subsidence, landsliding, or liquefaction. As discussed above, the groundwater level in this area is approximately 41 feet below ground surface. Therefore, a dry well having a total depth of 30 will maintain a clearance above groundwater greater than the minimum required clearance of 10 feet.

Based on the results of percolation testing and analyses, the well configuration as depicted on Plate 2 may utilize a "measured" peak flow rate of 0.018 ft^3/sec. This flow rate corresponds to an average peak infiltration rate of 3.0 in./hr. This flow rate and infiltration rate only apply to the well configuration evaluated and will differ for other configurations. These values are "measured" values and as such, an appropriate factor of safety should be applied to determine the "design" rates.

The "measured" infiltration rates reported above should be adjusted by applying an appropriate factor of safety. Table 3 includes the details of estimating this factor of safety for Factor Category A per requirements of the Santa Ana Regional Water Quality Control Board. The civil engineer should assign appropriate factor values for Factor Category B to obtain the overall factor of safety.

TABLE 3
Factor Values for Factor Category A

Infiltration Facility Safety Factor Determination Worksheet					
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w * v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.5

Once water flow to the well has ceased, it is estimated to require approximately 8.5 hours to empty the chamber. As such, the time to empty for the dry well should be considered in the overall draw down time of the storm system.

Should you require multiple dry wells across the site, the wells should be spaced at least 120 feet, center to center, to avoid cross influence. The wells should be located at least 10 feet horizontally from any habitable structure or property line.

The actual flow capacity of the dry well could be less or more than the estimated value. As such, provisions should be made to accommodate excess flow quantities in the event the dry well does not infiltrate the anticipated amount. The design also assumes that sediments will be removed from the inflowing water through an upper chamber or other device. Sediments that are allowed to enter the dry well will tend to degrade the flow capacity by plugging up the infiltration surfaces.

In general, the dry well shaft is anticipated to be adequately stable under temporary construction conditions for uncased drilling. However, layers or lenses of granular materials are present and may be prone to sloughing and caving. In the event of caving, casing will be required to install the well. Workers should not enter the shaft unless the excavation is laid back or shored in accordance with OSHA requirements. The placement and compaction of backfill materials, including the gravel and slurry, should be observed by the project geotechnical consultant.

LIMITATIONS

This report is based on the geotechnical data as described herein. The materials encountered in our boring excavations and utilized in our laboratory testing for this investigation are believed representative of the project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observations by a geotechnical consultant during the construction phase of the storm water infiltration systems are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty.

This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** to assist the project consultants in the design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

This report is subject to review by the controlling governmental agency.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

David E. Albus
Principal Engineer
GE 2455

Enclosures: Plate 1- Geotechnical Map
Plate 2- Dry Well Diagram
Appendix A - Exploratory Logs
Appendix B – Laboratory Testing
Appendix C - Percolation Testing and Analyses

REFERENCES

Publications and Reports

CDMG, "Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California," Seismic Hazard Zone Report 047, 2000.

Californian Department of Water Resources Water Data Library (accessed 2019): http://wdl.water.ca.gov/waterdatalibrary/

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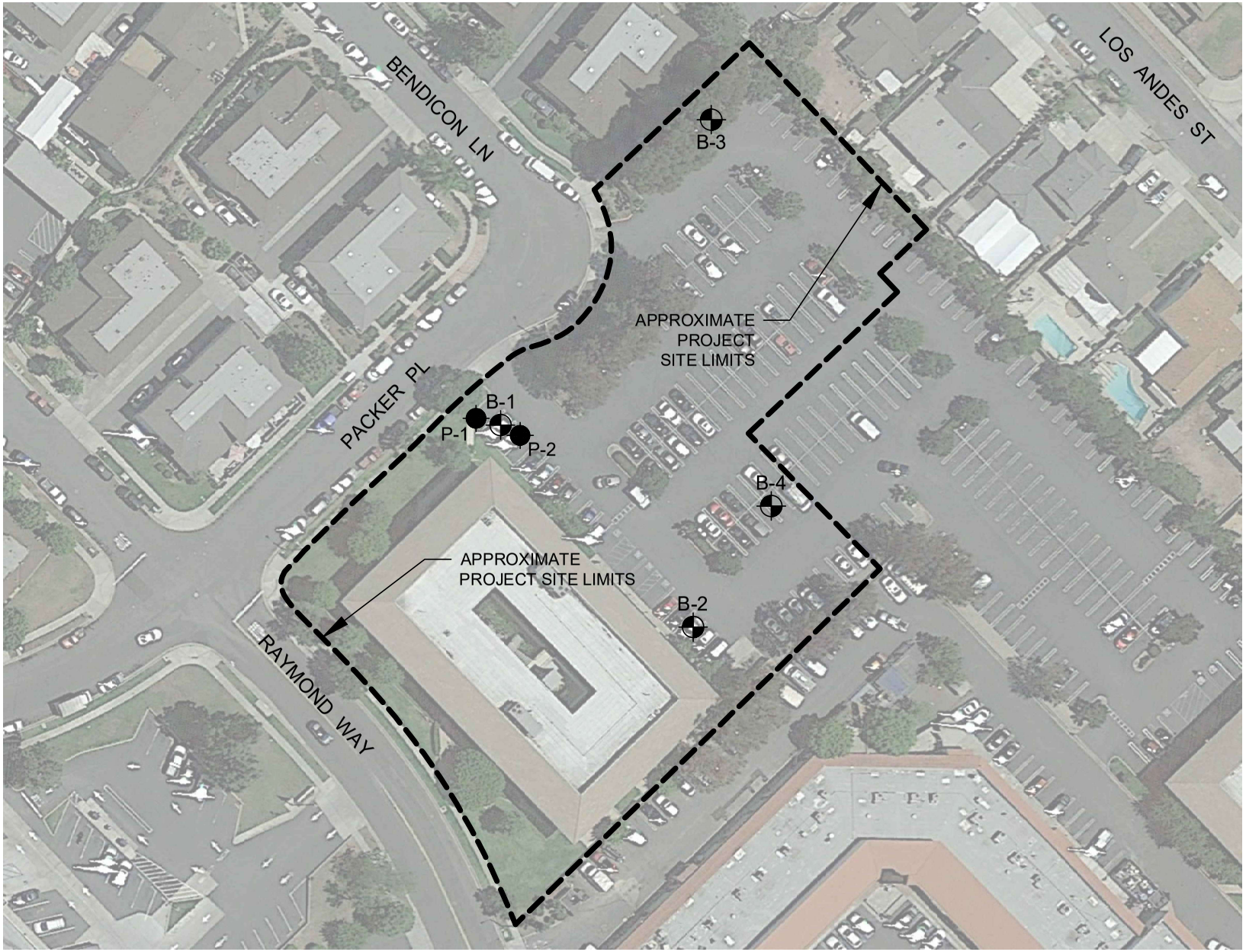
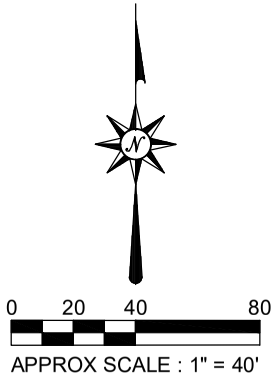
Saxton, K.E., W.J. Rawls, J.S. Romberger, and R.I. Papendick. 1986. Estimating generalized soil-water characteristics from texture. Soil Sci. Soc. Am. J. 50(4):1031-103

Department of The Navy, (1982), *Soil Mechanics, Design Manual 7.1*, Naval Facilities Engineering Command (NAVFAC)





EXPLANATION

(Locations Approximate)

- Exploratory Boring
- Percolation Test Boring

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

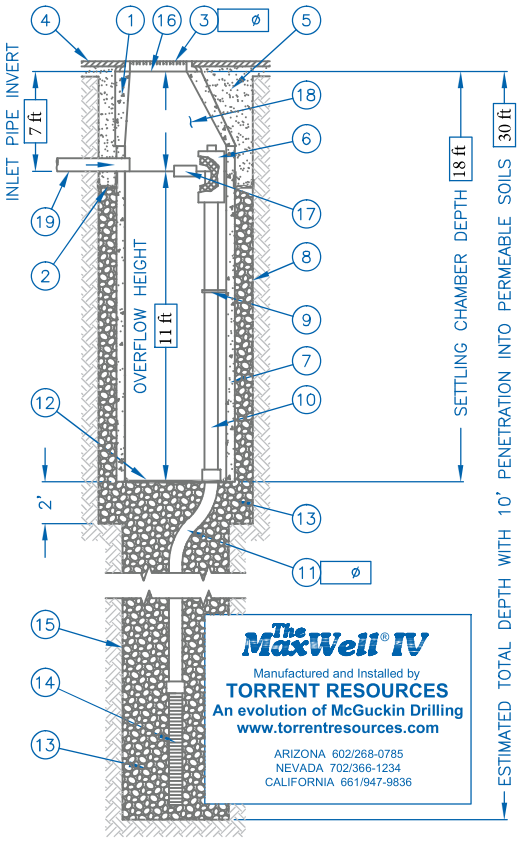
GEOTECHNICAL MAP

Job No.: 2841.00	Date: 12/2/19	Plate: 1

MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. **Manhole Cone** – Modified Flat Bottom.
2. **Moisture Membrane** – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. **Bolted Ring & Grate** – Diameter as shown. Clean cast iron with wording **"Storm Water Only"** in raised letters. **Bolted in 2 locations** and secured to cone with mortar. Rim elevation ±0.02' of plans.
4. **Graded Basin or Paving** (by Others).
5. **Compacted Base Material** – 1-Sack Slurry except in landscaped installtions with no pipe connections.
6. **PureFlo® Debris Shield** – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. **Fusion bonded epoxy coated.**
7. **Pre-cast Liner** – 4000 PSI concrete 48" ID. X 54" OD. **Center in hole** and align sections **to maximize bearing surface.**
8. **Min. 6' Ø Drilled Shaft.**
9. **Support Bracket** – Formed 12 Ga. steel. **Fusion bonded epoxy coated.**
10. **Overflow Pipe** – Sch. 40 PVC mated to drainage pipe at base seal.
11. **Drainage Pipe** – ADS highway grade with TRI-A coupler. **Suspend pipe** during backfill operations to prevent buckling or breakage. Diameter as noted.
12. **Base Seal** – Geotextile or concrete slurry.
13. **Rock** – Washed, sized between 3/8" and 1-1/2" to **best complement soil conditions.**
14. **FloFast® Drainage Screen** – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. **Min. 4' Ø Shaft** – Drilled to **maintain permeability** of drainage soils.
16. **Fabric Seal** – U.V. resistant geotextile – **to be removed by customer** at project completion.
17. **Absorbent** – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. **Freeboard Depth** Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. **Optional Inlet Pipe** (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.



AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 363
CA Lic. 528080, C-42, HAZ.
NV Lic. 0035350 A - NM Lic. 90504 GF04

U.S. Patent No. 4,923,330 - ™ Trademark 1974, 1990, 2004

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of MaxWell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" Ø from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to **"Design Suggestions For Retention And Drainage Systems"** or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized **"crowd"** equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet.** Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet .** For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

"Ø DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

"Ø BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" Ø or 30" Ø manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

"Ø INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

TORRENT RESOURCES INCORPORATED
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Plate 2

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APPENDIX A

EXPLORATORY LOGS

EXPLORATION LOG

Project:		Location:
Address:		Elevation:
Job Number:	Client:	Date:
Drill Method:	Driving Weight:	Logged By:

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		EXPLANATION							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).							
		Double triangle in core column represents SPT sampler.							
10		**Vertical Lines** in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column respresents large bag sample.							
		Other Laboratory Tests:							
15		Max = Maximum Dry Density/Optimum Moisture Content							
		EI = Expansion Index							
		SO4 = Soluble Sulfate Content							
		DSR = Direct Shear, Remolded							
		DS = Direct Shear, Undisturbed							
		SA = Sieve Analysis (1" through #200 sieve)							
		Hydro = Particle Size Analysis (SA with Hydrometer)							
20		200 = Percent Passing #200 Sieve							
		Consol = Consolidation							
		SE = Sand Equivalent							
		Rval = R-Value							
		ATT = Atterberg Limits							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							SO4 DS pH Resist Ch
		ARTIFICIAL FILL (Af) Silty Sand (SM): Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros		80/ 10"			11.1	116	
5		@ 4 ft, light grayincreased clay content		76/ 8"			10.2	111.2	Consol
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) Sandy Clay (CL): Gray, moist, hard, fine grained sand		72/ 11"			12.8	118.2	
		Clayey Sand (SC): Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche							
10		Clayey Sand/ Sandy Clay (SC/CL): yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings		73/ 8"			11		
		Clayey Sand (SC): Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings							
15		@ 15 ft, reddish brown, moist		29					SA Hydro
		Clayey Sand : Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay							
20				36					SA Hydro

Albus-Keefe & Associates, Inc.

Plate A-2

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		@ 25 ft, caliche		43	▼ ▲				
30				45	▼ ▲				SA Hydro
35		@ 35 ft, , moist to very moist		56	▼ ▲				
		Silty Clay/ Clayey Silt (CL/ ML-CL): Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide							
40			▽	31	▼ ▲				
45				37	▼ ▲				

Albus-Keefe & Associates, Inc.

Plate A-3

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
				35					
		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel wth Silt and Sand (CAB): Dark brown							
		ARTIFICIAL FILL (Af) Silty Sand (SM): Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▼		12.8	109.1	
				79	▼		11.2	111.3	
5		**Very Old Alluvium fan Deposits (Qovf)** Clay (CL): Reddish brown, slightly moist, hard							
		Clayey Sand/ Sandy Clay (SC/CL): Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▼		6.4	124.4	
		Silty Clay with Sand (CL-ML): Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10				81	▼		13.5	105.6	
		Sandy Silt (ML): Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand							
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand/ Sandy Clay (SC/CL): mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick		72/ 8"			11.2	119.6	
5				76/ 11"			7	113	
		Silty Sand (SM): Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments		57			9.9	120.1	
		@ 6 ft, dense							
		Clayey Sand (SC): Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments							
10				75/ 8"			12.1	113.6	
		Sand (SP): Light brown, moist, dense, trace clay, clay nodules							
15				31					
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

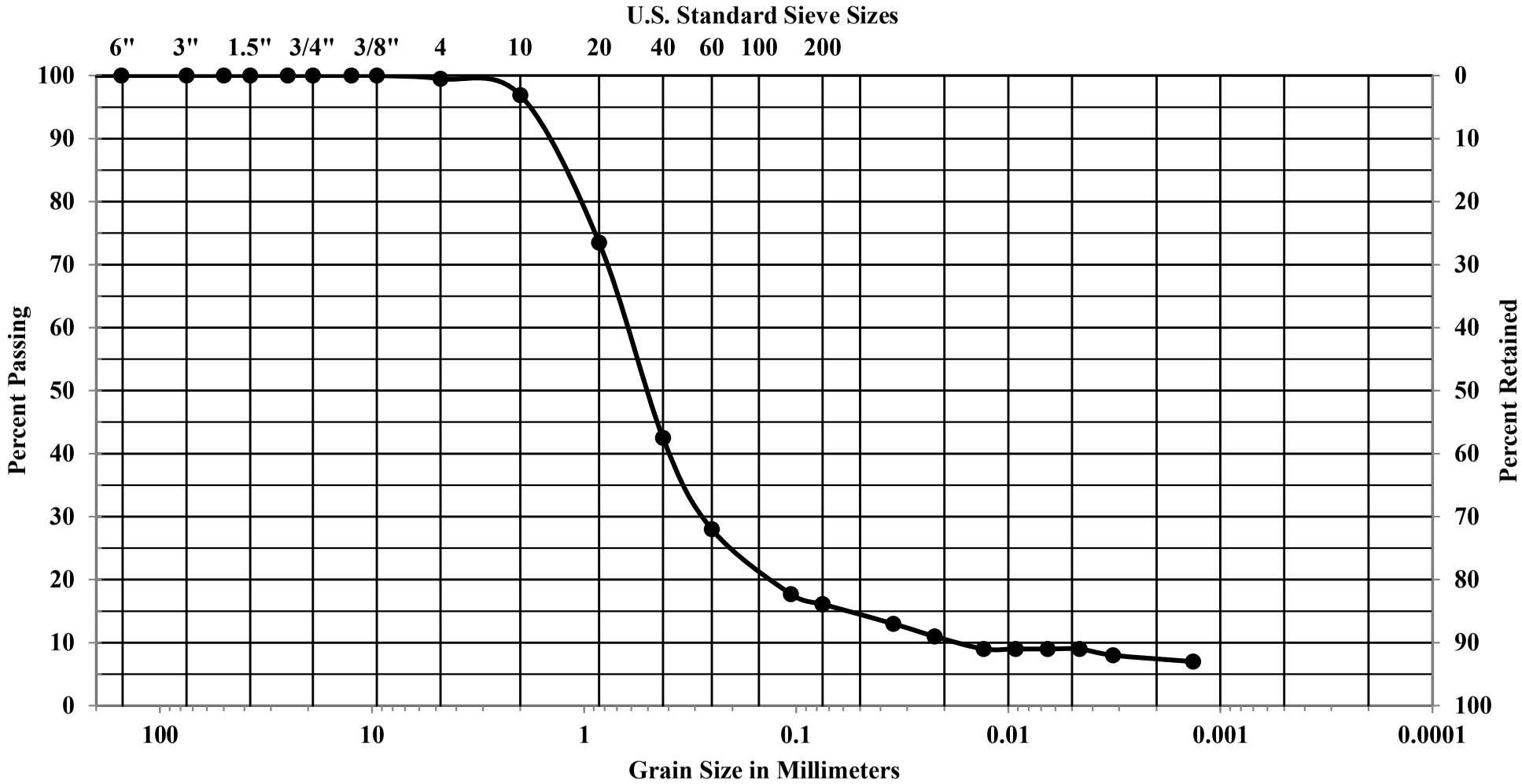
Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Asphalt (AC): Black							
		Gravel with Silt and Sand (CAB): Dark brown							
		Very Old Alluvium fan Deposits (Qovf) Clayey Sand with Gravel (SC): Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		Silty Sand (SM): Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		Silty Sand with Clay (SM): Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish browndecreased in clay content		36			13.8	117	
15		@ 15 ft, Light brownno gravel		20					
20				20					
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

APPENDIX B

LABORATORY TEST PROGRAM

GRAIN SIZE DISTRIBUTION

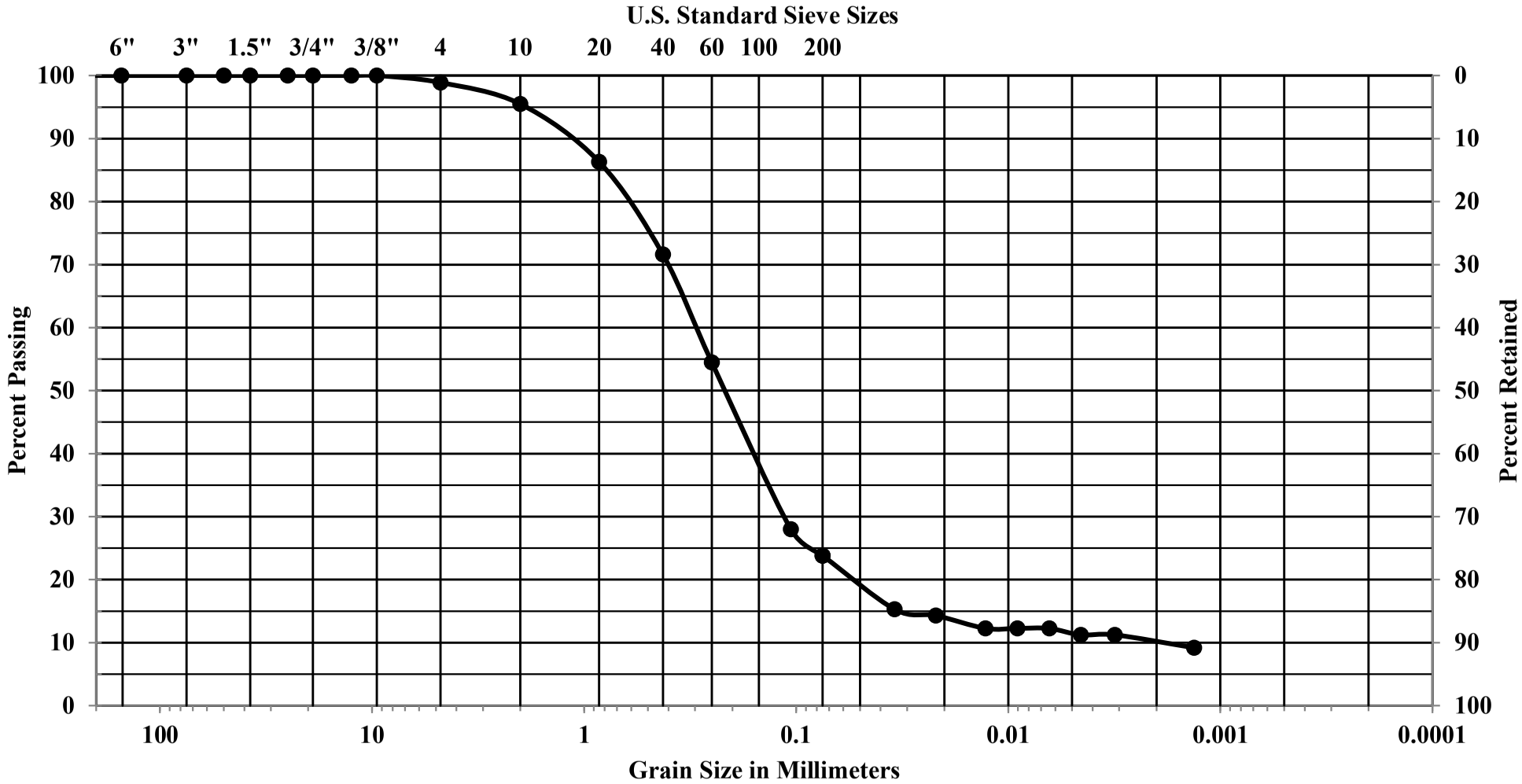
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	15	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

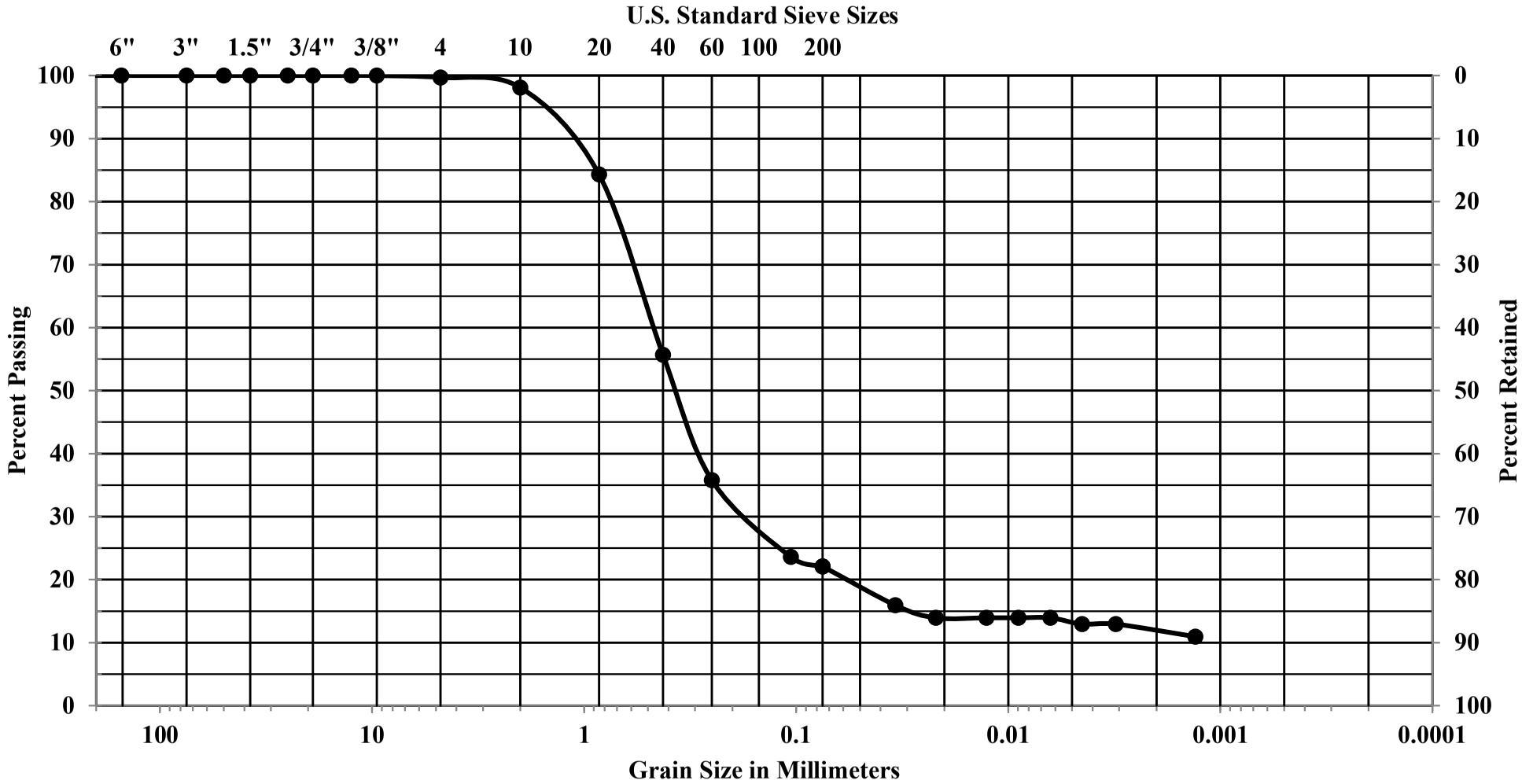
COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	20	Clayey Sand (SC)

GRAIN SIZE DISTRIBUTION

COBBLES	GRAVEL		SAND			SILT AND CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Job Number	Location	Depth	Description
2841.00	B-1	30	Clayey Sand (SC)

APPENDIX C

PERCOLATION TESTING AND ANALYSES

Field Percolation Testing - Constant Head

Client: National Core

Job. No.: 2841.00

Date Tested: 10/2/2019

Test by: SD

Location: P-1

Top of Casing to Bottom of Well (ft): 20.3

Elev. of Ground Surface (ft):

Diam. of Test Hole (in): 8

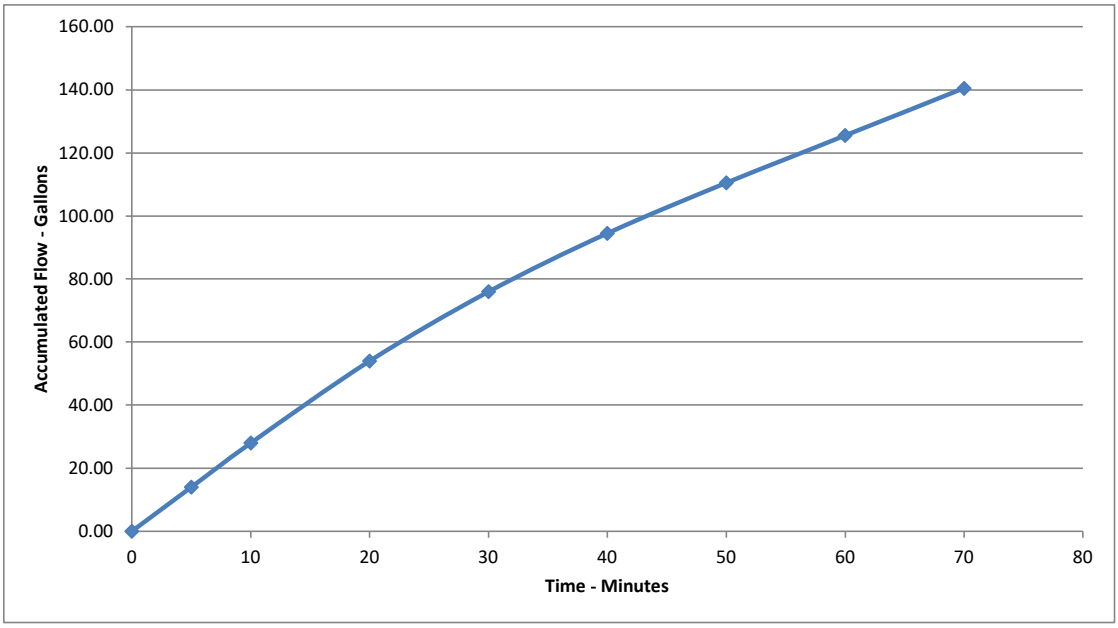
Diam. of Casing (in): 3

Ht. to Top of Casing (ft): 0.3

Water Tempurature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H_2O used (gal)
0	14:40	15.3		0.00
5	14:45	15.3	2.80	14.00
10	14:50	15.3	2.40	28.00
20	15:00	15.3	2.00	54.00
30	15:10	15.3	1.70	76.00
40	15:20	15.3	1.50	94.50
50	15:30	15.3	1.50	110.50
60	15:40	15.3	1.50	125.50
70	15:50	15.3	1.50	140.50



Field Percolation Testing - Constant Head

Client: National Core

Job. No.: 2841.00

Date Tested: 10/2/2019

Test by: SD

Location: P-2

Top of Casing to Bottom of Well (ft): 25.4

Elev. of Ground Surface (ft):

Diam. of Test Hole (in): 8

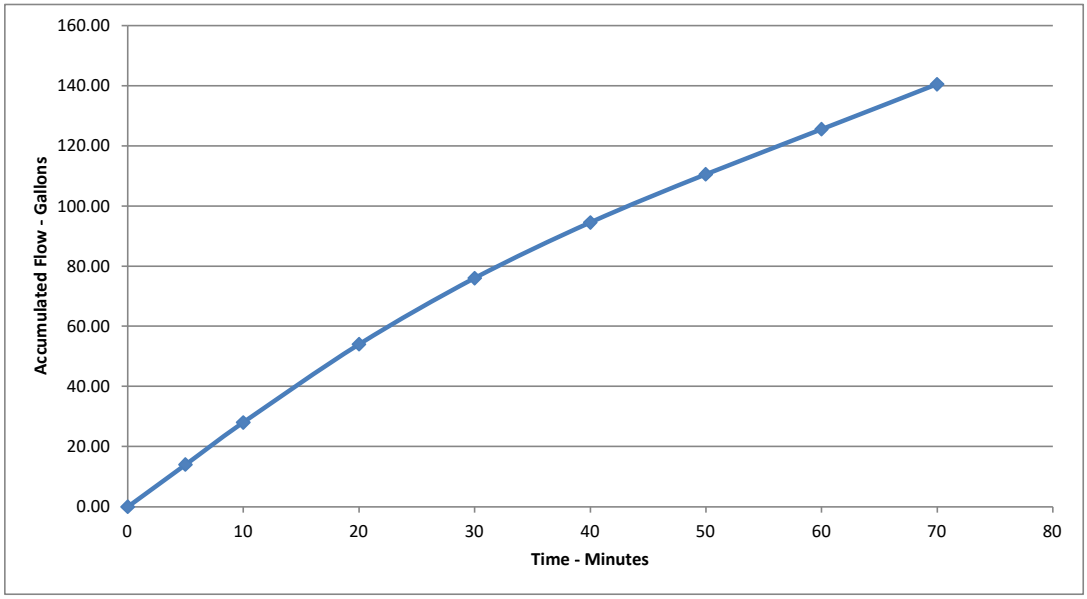
Diam. of Casing (in): 3

Ht. to Top of Casing (ft): 0.4

Water Tempurature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H_2O used (gal)
0	16:00	20.4		0.00
5	16:05	20.4	2.40	12.00
10	16:10	20.4	1.80	24.00
20	16:20	20.4	1.40	45.00
30	16:30	20.4	1.10	61.00
40	16:40	20.4	0.90	73.50
50	16:50	20.4	0.75	83.50
60	17:00	20.4	0.75	91.75
70	17:10	20.4	0.75	99.25
80	17:20	20.4	0.75	106.75



INFILTRATION WELL DESIGN

Constant Head
USBR 7300-89 Method
J.N.: 2841.00
Client: National Core
Well No.: P-1

Low Water Table	Condition 1	
High Water Table & Water Below Bottom of Well	Condition 2	
High water Table with Water Above the Well Bottom	Condition 3	
		Units:
Enter Condition (1, 2 or 3):	1	
Ground Surface to Bottom of Well (**h_1**):	20	feet
Depth to Water (**h_2**):	15	feet
Height of Water in the Well (h_1-h_2=**h**):	5	feet
Radius of Well (**r**):	4.0	Inches
Minimum Volume Required:	1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (**q**):	1.5	Gal/min.
Temperature (**T**):	20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (**V**):	0.9889	ft^3/min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (**T_u**):		Ignore T_u
Factor of Safety:	1	
Coefficient of Permeability @ 20° C (**k_{20}**):	3.15E-03	ft/min.
Design k_{20}:	2.27	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condtion III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

INFILTRATION WELL DESIGN

Constant Head
USBR 7300-89 Method
J.N.: 2841.00
Client: National Core
Well No.: P-2

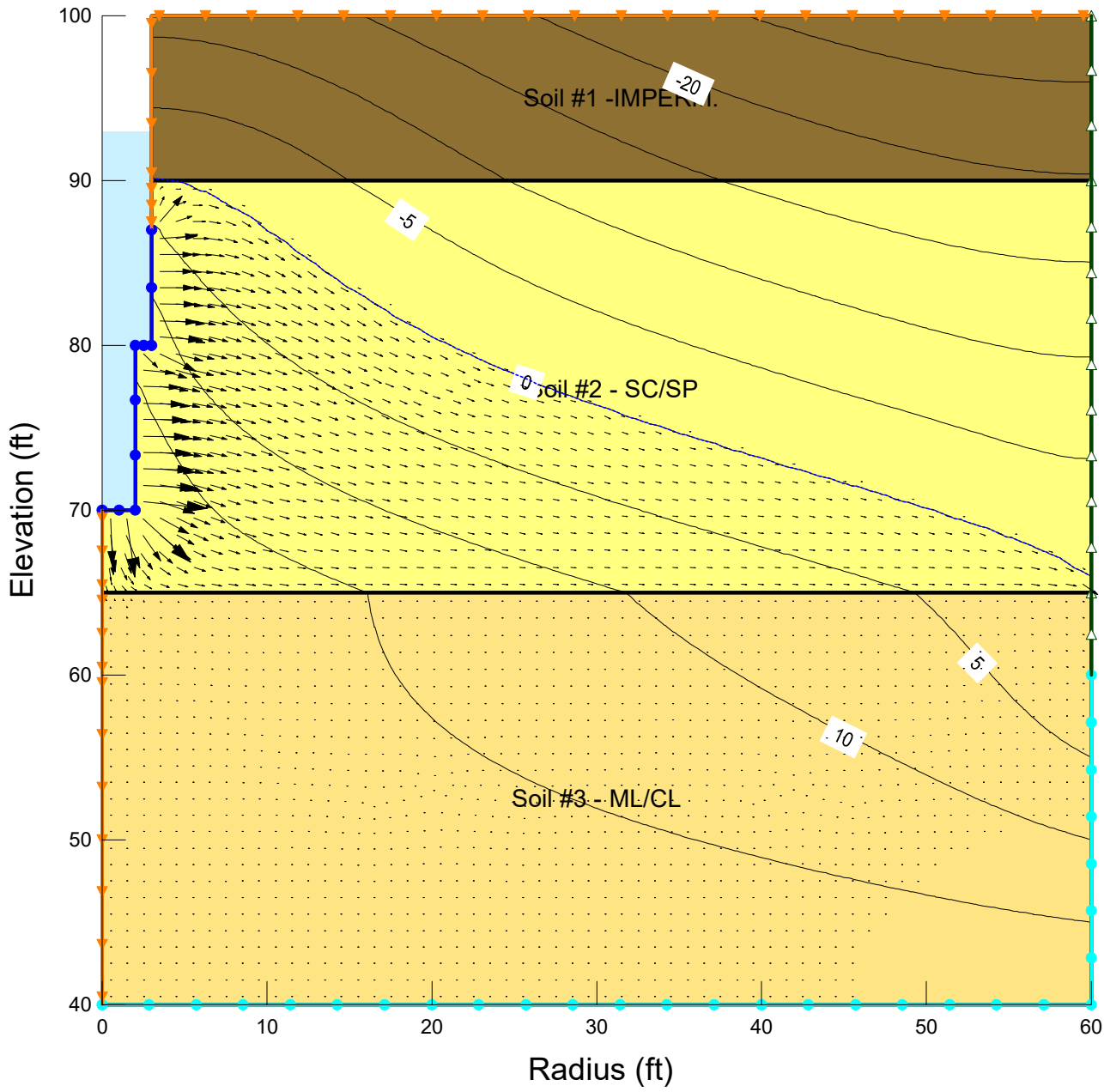
Low Water Table	Condition 1	
High Water Table & Water Below Bottom of Well	Condition 2	
High water Table with Water Above the Well Bottom	Condition 3	
		Units:
Enter Condition (1, 2 or 3):	1	
Ground Surface to Bottom of Well (**h_1**):	25	feet
Depth to Water (**h_2**):	20	feet
Height of Water in the Well (h_1-h_2=**h**):	5	feet
Radius of Well (**r**):	4.0	Inches
Minimum Volume Required:	1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (**q**):	0.75	Gal/min.
Temperature (**T**):	20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (**V**):	0.9889	ft^3/min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (**T_u**):		Ignore T_u
Factor of Safety:	1	
Coefficient of Permeability @ 20° C (**k_{20}**):	1.57E-03	ft/min.
Design k_{20}:	1.13	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condtion III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

STEADY STATE CASE



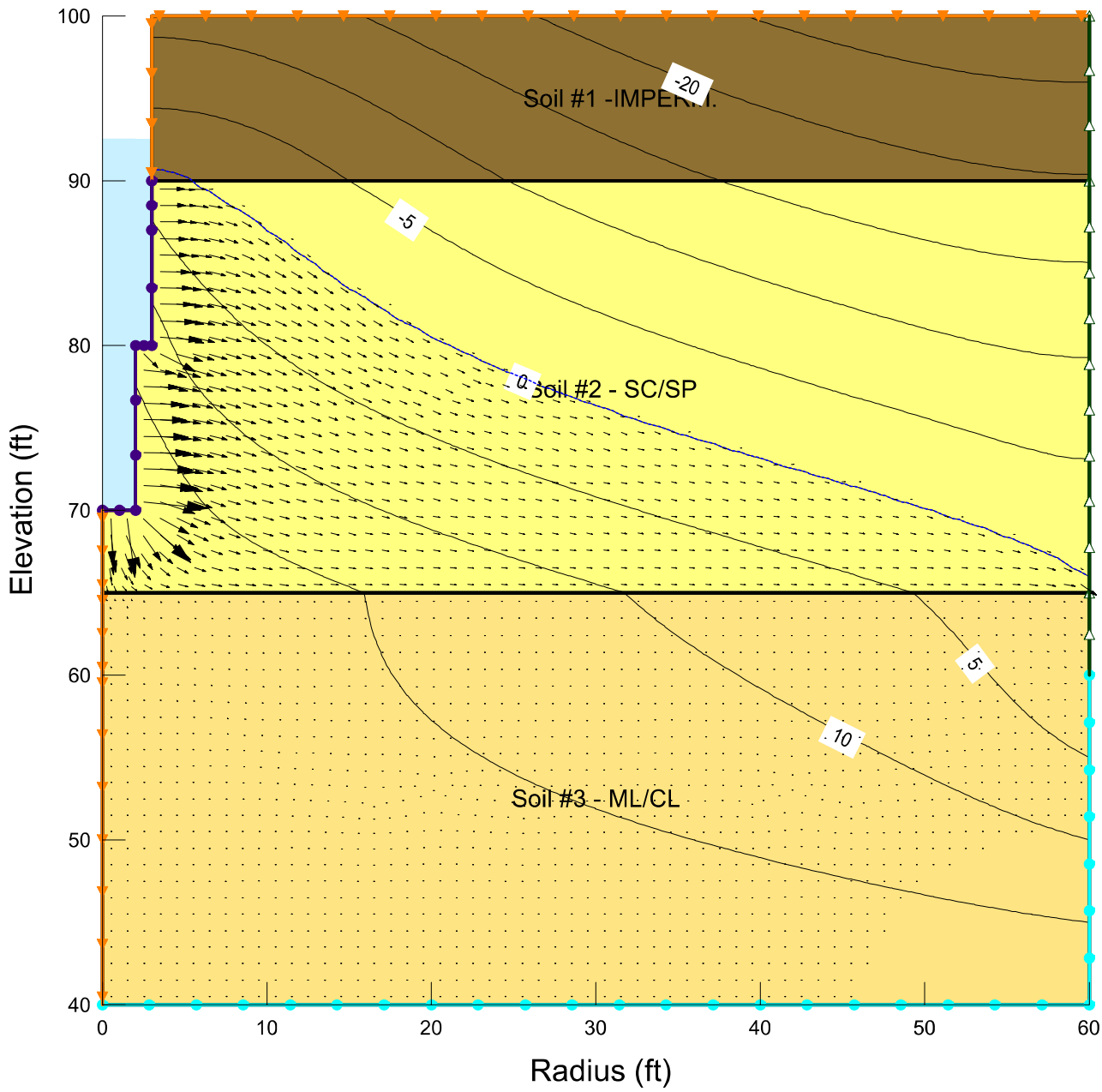
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Fixed Total Head = **93 ft.**
- Fixed Total Head = 60 ft.

TRANSIENT CASE- TIME=0.26 HR



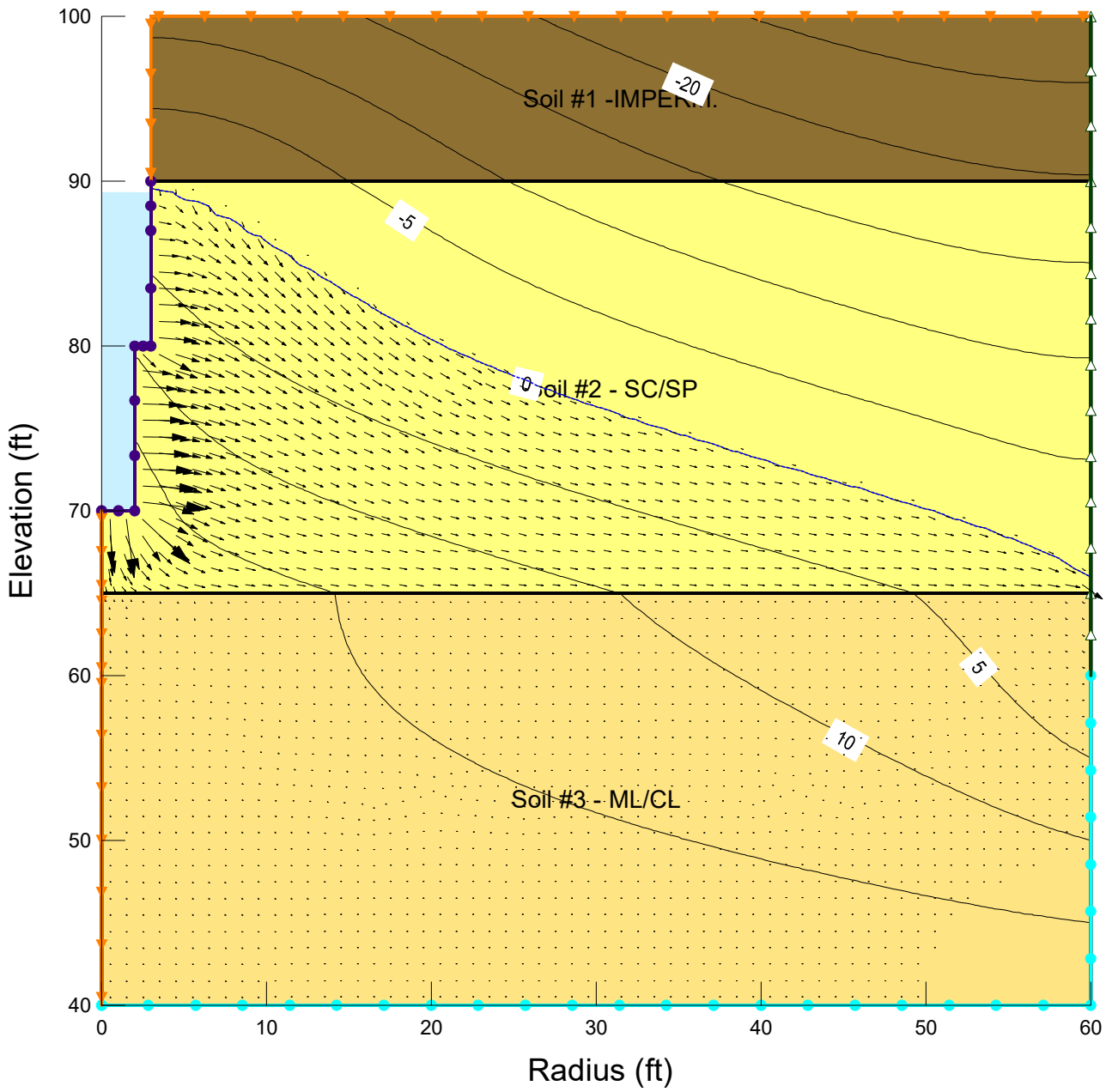
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head =**60 ft**

TRANSIENT CASE T=1.7 HR.



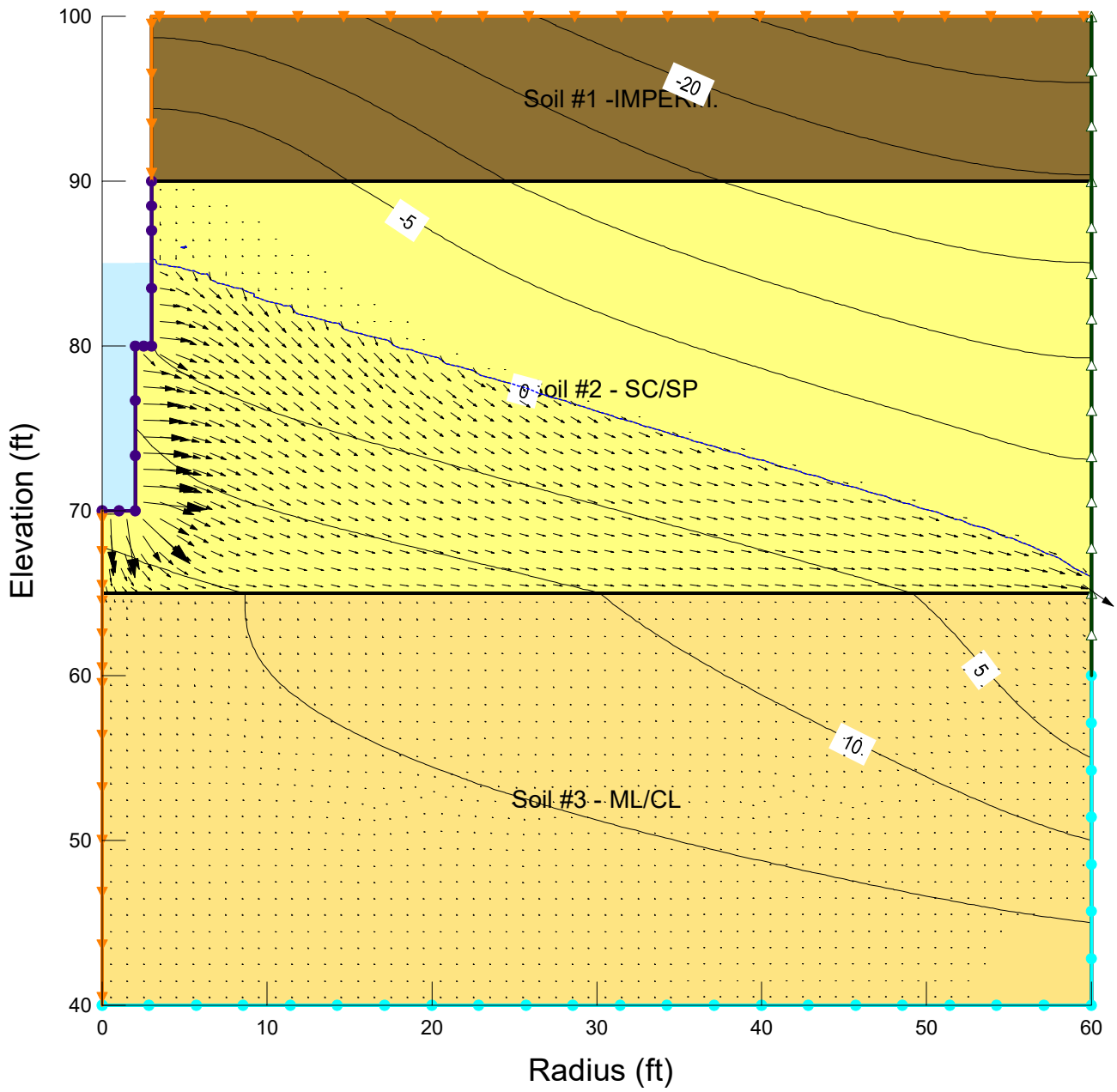
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=4.8 HR.



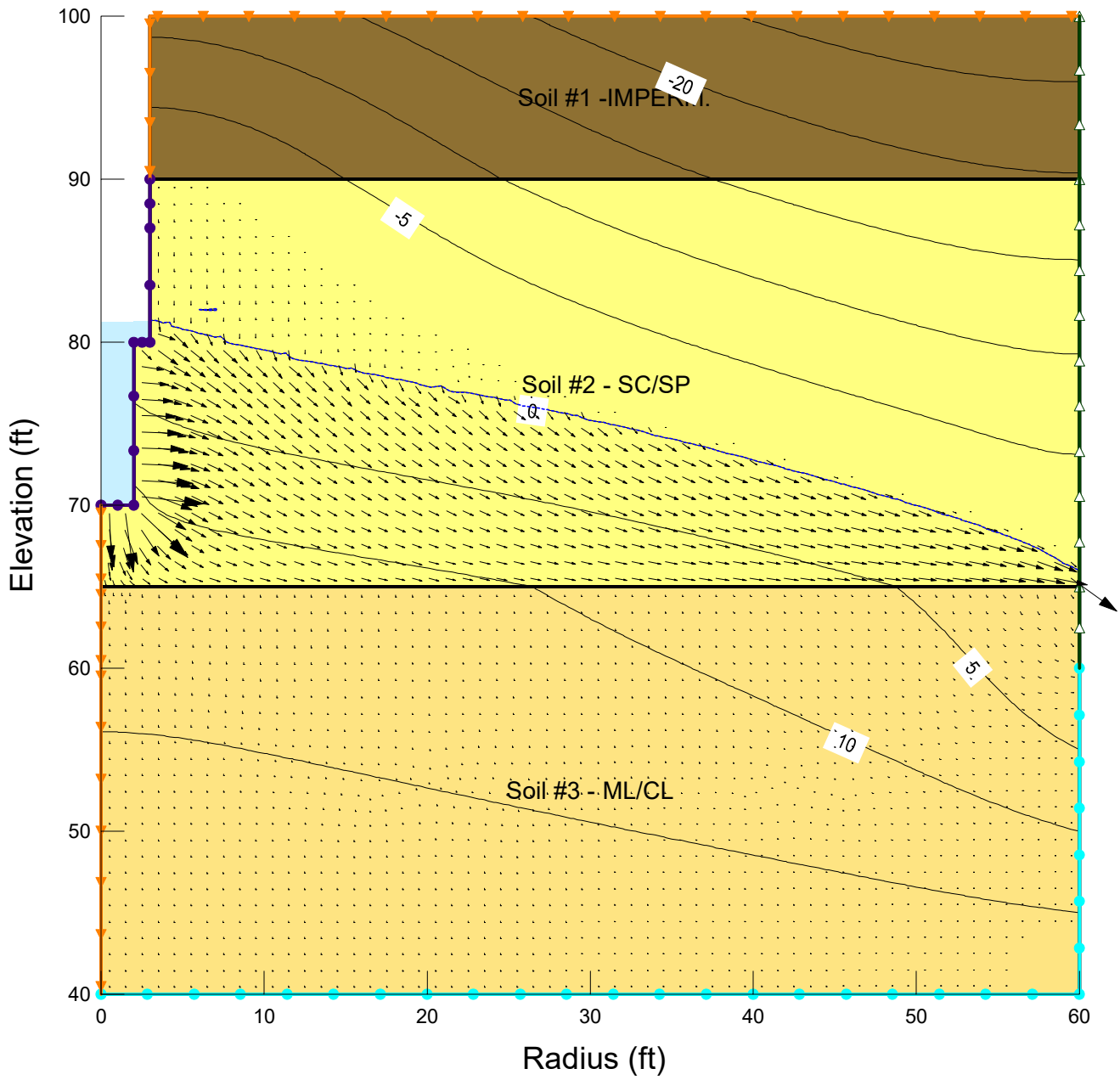
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=9.4 HR.



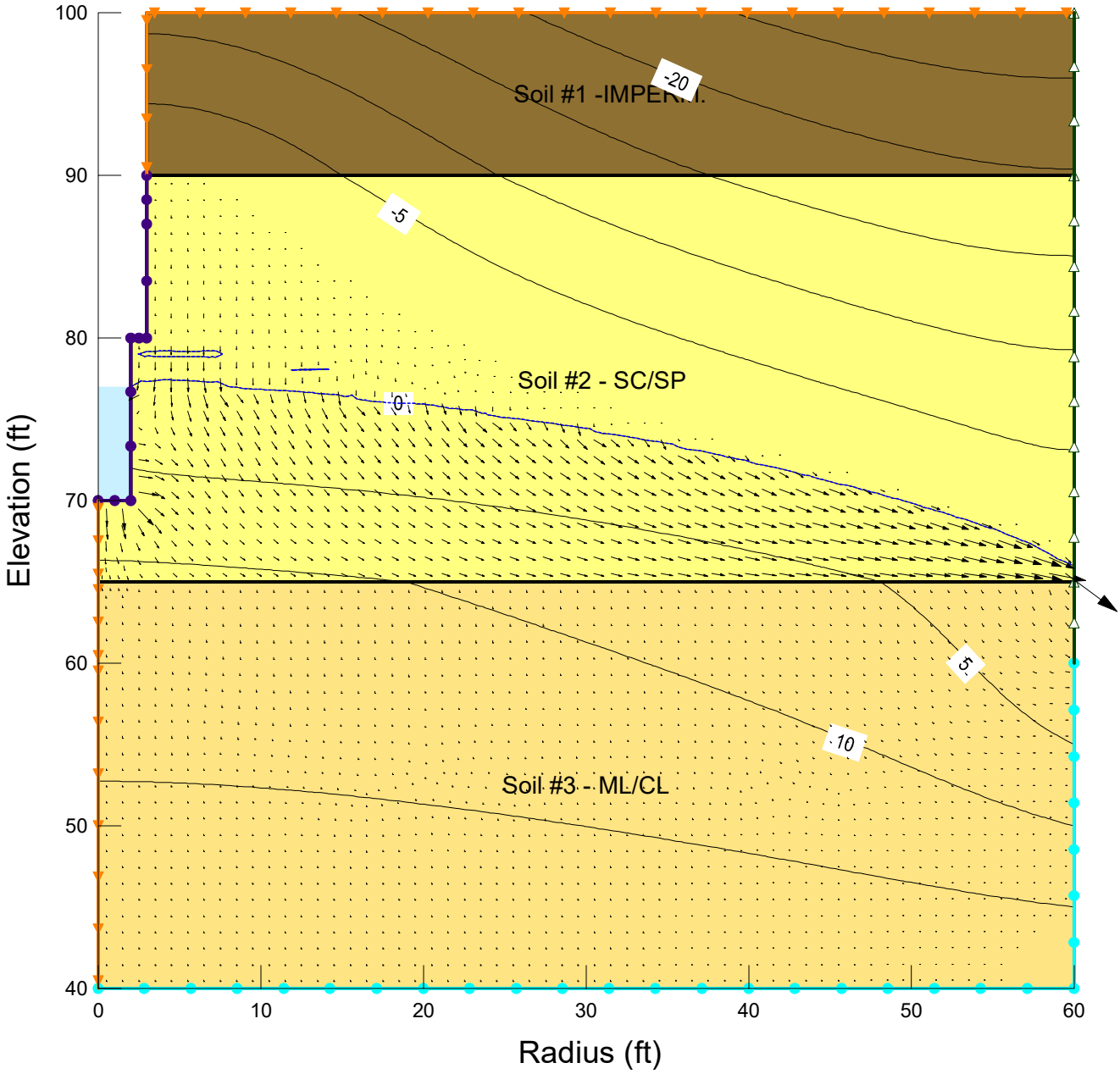
Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

TRANSIENT CASE T=13.0 HR.



Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND

- Zero Flux
- Potential Seepage Face
- Well Head Function
- Fixed Total Head = 60 ft.

APPENDIX H – NOISE ANALYSIS

Mountain View Affordable Housing Community

NOISE IMPACT ANALYSIS

CITY OF LAKE FOREST

PREPARED BY:

Bill Lawson, PE, INCE
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(949) 336-5979

APRIL 20, 2020

TABLE OF CONTENTS

TABLE OF CONTENTS ..... **III**
APPENDICES ..... **IV**
LIST OF EXHIBITS ..... **V**
LIST OF TABLES ..... **V**
LIST OF ABBREVIATED TERMS ..... **VI**
EXECUTIVE SUMMARY **1**
On-Site Traffic Noise Analysis 1
Operational Noise Analysis 2
Construction Noise Analysis 2
Construction Vibration Analysis 2
Summary of CEQA Significance Findings 3
1 INTRODUCTION **5**
1.1 Site Location 5
1.2 Project Description 5
2 FUNDAMENTALS **9**
2.1 Range of Noise 9
2.2 Noise Descriptors 10
2.3 Sound Propagation 10
2.4 Noise Control 11
2.5 Noise Barrier Attenuation 11
2.6 Land Use Compatibility With Noise 12
2.7 Community Response to Noise 12
2.8 Exposure to High Noise Levels 13
2.9 Vibration 13
3 REGULATORY SETTING **17**
3.1 Department of Housing and Urban Development Standards 17
3.2 State of California Noise Requirements 17
3.3 City of Lake Forest General Plan Safety and Noise Element 18
3.4 Operational Noise Standards 21
3.5 Construction Noise Standards 21
3.6 Construction Vibration Standards 22
4 SIGNIFICANCE CRITERIA **23**
4.1 CEQA Guidelines 23
4.2 HUD Guidelines 23
4.3 Significance Criteria Summary 24
5 EXISTING NOISE LEVEL MEASUREMENTS **27**
5.1 Measurement Procedure and Criteria 27
5.2 Noise Measurement Locations 27
5.3 Noise Measurement Results 28
6 METHODS AND PROCEDURES **31**
6.1 FHWA Traffic Noise Prediction Model 31
6.4 Construction Vibration Assessment Methodology 32

7 ON-SITE TRAFFIC NOISE IMPACTS 35
7.1 Exterior Noise Analysis 35
7.2 Interior Noise Analysis 35
8 RECEIVER LOCATIONS 37
9 OPERATIONAL NOISE IMPACTS 39
9.1 Operational Noise Sources 39
9.2 Reference Noise Levels 39
9.3 CadnaA Noise Prediction Model 42
9.4 Project Operational Noise Levels 43
9.5 Project Operational Noise Level Compliance 44
9.6 Project Operational Noise Level Increases 45
10 CONSTRUCTION ANALYSIS 49
10.1 Construction Noise Levels 49
10.2 Construction Reference Noise Levels 49
10.3 Construction Noise Level Compliance 51
10.4 Construction Vibration Analysis 52
11 REFERENCES 55
12 CERTIFICATION 57

APPENDICES

APPENDIX 3.1: HUD NOISE STANDARDS
APPENDIX 3.2: CITY OF LAKE FOREST MUNICIPAL CODE
APPENDIX 5.1: STUDY AREA PHOTOS
APPENDIX 5.2: NOISE LEVEL MEASUREMENT WORKSHEETS
APPENDIX 7.1: ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS
APPENDIX 9.1: OPERATIONAL NOISE LEVEL CALCULATIONS
APPENDIX 10.1: CONSTRUCTION NOISE LEVEL CALCULATIONS

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 6
EXHIBIT 1-B: SITE PLAN 7
EXHIBIT 2-A: TYPICAL NOISE LEVELS 9
EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION 13
EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION 15
EXHIBIT 3-A: NOISE/LAND USE NOISE COMPATIBILITY MATRIX 19
EXHIBIT 3-B: INTERIOR AND EXTERIOR NOISE STANDARDS 20
EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS 30
EXHIBIT 8-A: RECEIVER LOCATIONS 38
EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS 40
EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS 50

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 3
TABLE 3-1: STATIONARY-SOURCE NOISE LEVEL STANDARDS 21
TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY 25
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS 29
TABLE 6-1: ON-SITE ROADWAY PARAMETERS 31
TABLE 6-2: TIME OF DAY VEHICLE SPLITS 32
TABLE 6-3: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX) 32
TABLE 6-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT 33
TABLE 7-1: UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS AT BUILDING FACADES 35
TABLE 7-1: INTERIOR NOISE IMPACTS (CNEL) 36
TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS 41
TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS 43
TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS 44
TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE 44
TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES 46
TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES 47
TABLE 9-5: NIGHTTIME OPERATIONAL NOISE LEVEL CONTRIBUTIONS 48
TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS 51
TABLE 10-2: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY 52
TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE 52
TABLE 10-6: UNMITIGATED CONSTRUCTION EQUIPMENT VIBRATION LEVELS 54

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HUD	Department of Housing and Urban Development
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Mountain View Affordable Housing Community
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this Noise Impact Analysis to determine the potential impacts and the necessary mitigation measures for the proposed Mountain View Affordable Housing Community development ("Project"). The Project site is located at 24551 Raymond Way in the City of Lake Forest. The Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing office building on 1.95 acres. This study has been prepared consistent with applicable City of Lake Forest noise standards to address Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1) consistent with the City of Lake Forest CEQA Significance Thresholds Guide (1) as well as The Noise Guidebook, prepared by the Department of Housing and Urban Development (HUD). (3)

ON-SITE TRAFFIC NOISE ANALYSIS

A noise impact analysis has been completed to determine the future noise levels in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of traffic noise affecting the Project site is anticipated to be from Packer Place and Raymond Way. The Project will also experience some background traffic noise impacts from other local streets, however, traffic noise from these roadways will not expected to make a significant contribution to the noise environment.

EXTERIOR NOISE LEVELS

The future exterior traffic noise levels are shown to range from 63.2 to 65.0 dBA CNEL at the residential building facades for units facing Parker Place Raymond Way and El Toro Road. Therefore, no exterior noise mitigation measures are required to satisfy the HUD Acceptable noise level of not exceeding 65 dB at the proposed housing and City of Lake Forest 65 dBA CNEL exterior noise level standards for the residential land use and the on-site traffic noise impacts are considered *less than significant*.

INTERIOR NOISE LEVELS

This noise analysis evaluates the interior noise levels at the Project buildings based on the City of Lake Forest and HUD 45 dBA CNEL interior noise level standards. The Project buildings are shown to require a Noise Reduction (NR) of up to 20.0 dBA and a windows-closed condition requiring a means of mechanical ventilation (e.g. air conditioning). With the following standard building construction noise reduction measures, the Project will satisfy the interior noise level standards:

- Windows/Sliding Glass Doors: All units require windows and sliding glass doors that have well-fitted, well-weather-stripped assemblies, and minimum sound transmission class (STC) ratings of 27.
- Exterior Doors (Non-Glass): All exterior doors shall be well weather-stripped and have well-sealed perimeter gaps to achieve minimum sound transmission class (STC) ratings of 27. (3)

- Exterior Walls: At any penetrations of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar to form an airtight seal.
- Roof: Roof sheathing of wood construction shall be per manufacturer's specification or caulked plywood of at least one-half inch thick. Ceilings shall be per manufacturer's specification or well-sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.
- Ventilation: Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use and still receive circulated air. A forced air circulation system (e.g. air conditioning) or active ventilation system (e.g. fresh air supply) shall be provided which satisfies the requirements of the Uniform Building Code.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Mountain View Affordable Housing Community site, this analysis estimates the Project-related stationary-source noise levels at nearby off-site sensitive receiver locations. The normal activities associated with the proposed Mountain View Affordable Housing Community are anticipated to include a tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units. The operational noise analysis shows that the Project-related stationary-source noise levels at the nearby sensitive receiver locations will satisfy the City of Lake Forest exterior noise level standards. Therefore, the operational noise level impacts associated with the proposed Project activities, such as the tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units, are considered *less than significant*.

CONSTRUCTION NOISE ANALYSIS

Construction-related noise impacts are expected to create short-term and intermittent high-level noise conditions at receivers surrounding the Project site when certain activities occur at the closest point to the nearby receiver locations from primary Project construction activity. Using sample reference noise levels to represent the planned construction activities of the Mountain View Affordable Housing Community site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the City of Lake Forest General Plan, Municipal Code, and *CEQA Significance Thresholds Guide* do not identify specific construction noise level thresholds, a threshold is identified based on the National Institute for Occupational Safety and Health (NIOSH) limits for construction noise. The results of the analysis show that the Project-related short-term construction noise levels are expected to range from 56.2 to 73.7 dBA L_{eq} and will satisfy the 85 dBA L_{eq} threshold identified by NIOSH at all receiver locations.

CONSTRUCTION VIBRATION ANALYSIS

At distances ranging from 67 to 204 feet from primary Project construction activity area, construction vibration velocity levels are expected to range from 0.004 to 0.020 in/sec PPV. Based on the results of the analysis, the Project construction vibration levels will remain below

the Caltrans building damage threshold of 0.3 in/sec PPV and human annoyance threshold of 0.04 in/sec PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact Project construction activities.

CONSTRUCTION NOISE AND VIBRATION BEST PRACTICES

Though construction noise and vibration are temporary, intermittent, will be short in duration, and will not present any long-term impacts, the following best practices, while not required, would further reduce noise and vibration levels produced by the construction equipment to the nearby sensitive residential land uses. The following best practices are consistent with measures identified in the *City of Lake Forest CEQA Significance Thresholds Guide*, as follows:

- *Use noise control devices such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation changes and existing buildings can shield construction noise. Stage construction operations as far from noise sensitive uses as possible.*
- *Avoid residential areas when planning haul truck routes.*
- *Maintain all sound-reducing devices and restrictions throughout the construction period.*
- *Change the timing and/or sequence of the noisiest construction operations to avoid sensitive times of day.*

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Mountain View Affordable Housing Community Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (2) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
On-Site Traffic Noise Levels	8	*Less Than Significant*	*n/a*
Operational Noise Levels	10	*Less Than Significant*	*n/a*
Construction Noise Levels	11	*Less Than Significant*	*n/a*
Construction Vibration Levels		*Less Than Significant*	*n/a*

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Mountain View Affordable Housing Community ("Project"). This report briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for transportation noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Mountain View Affordable Housing Community Project is located at 24551 Raymond Way in the City of Lake Forest as shown on Exhibit 1-A. The Project site is currently occupied by the Mountain View Business Center. Existing residential uses are located west and north of the Project site, with office and commercial retail uses located east and south of the Project site.

1.2 PROJECT DESCRIPTION

As indicated on Exhibit 1-B, the Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing office building on 1.95 acres. The on-site Project-only operational noise sources are expected to include: tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units.

EXHIBIT 1-A: LOCATION MAP

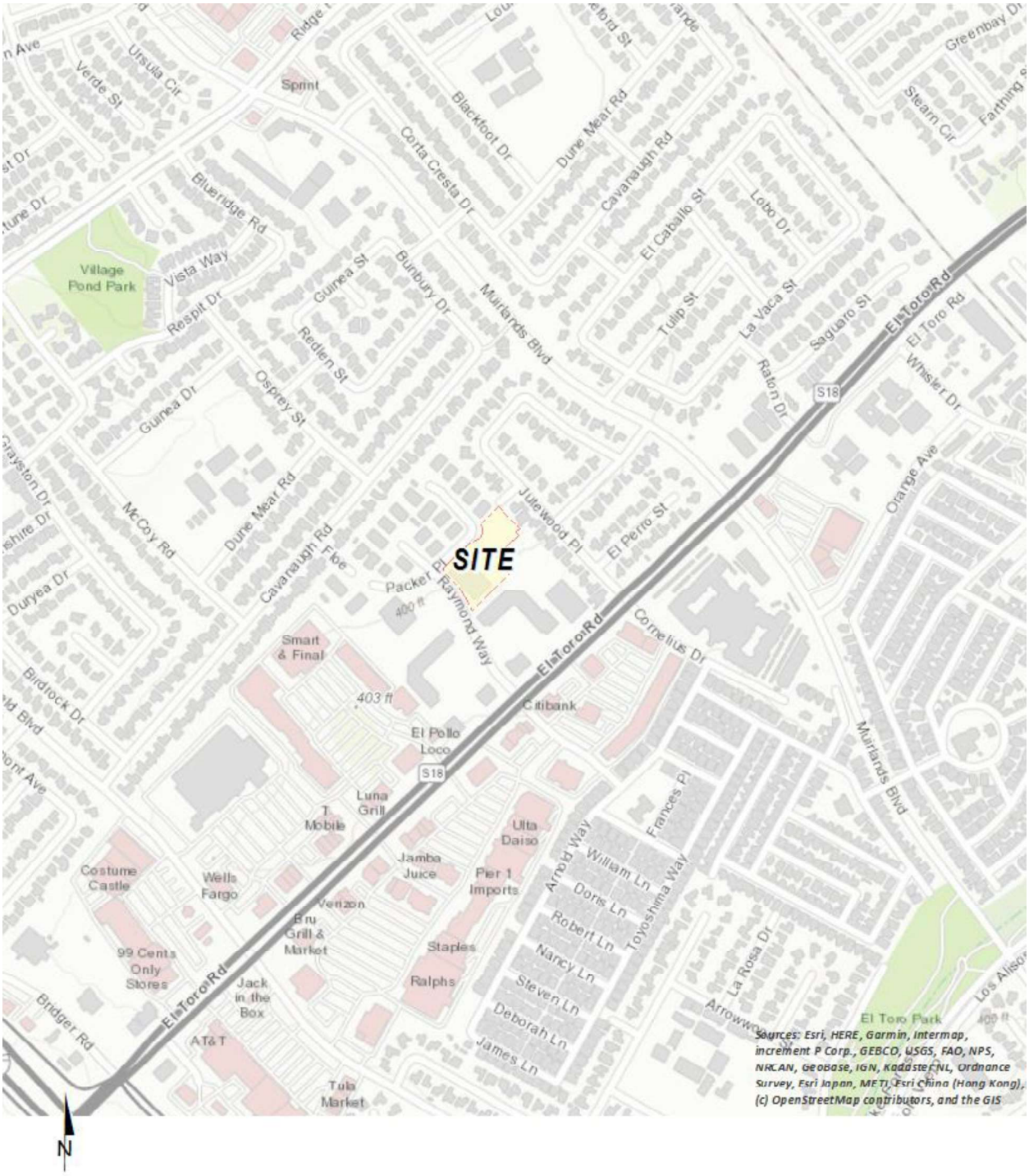
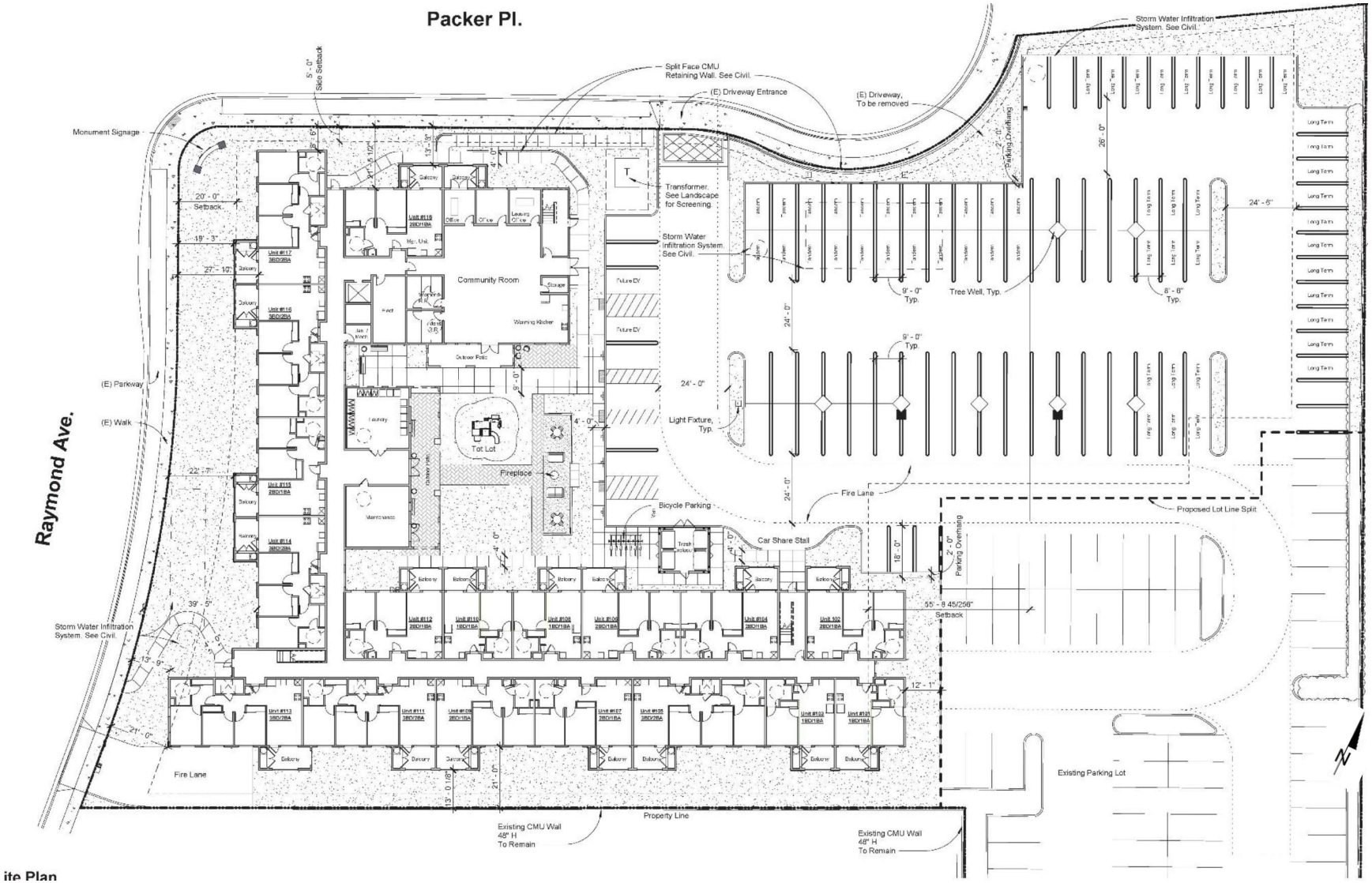


EXHIBIT 1-B: SITE PLAN



ite Plan

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2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		SLEEP DISTURBANCE
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (4) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (5) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50}, L_{25}, L_8 and L_2, are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The City of Lake Forest relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour. Therefore, the L_{eq} noise descriptor is generally 1-2 dBA higher than the L_{50} noise level.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Lake Forest and HUD relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (4)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (6)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (4)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or

receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (6)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (7)

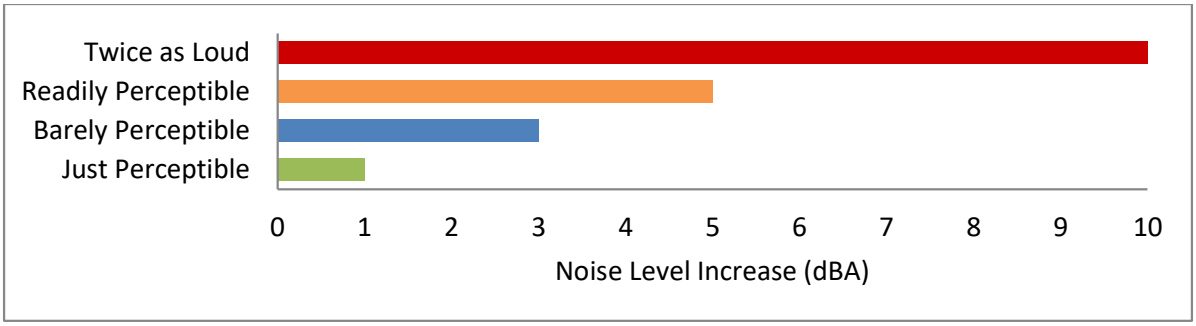
2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments (4), a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (9)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area.

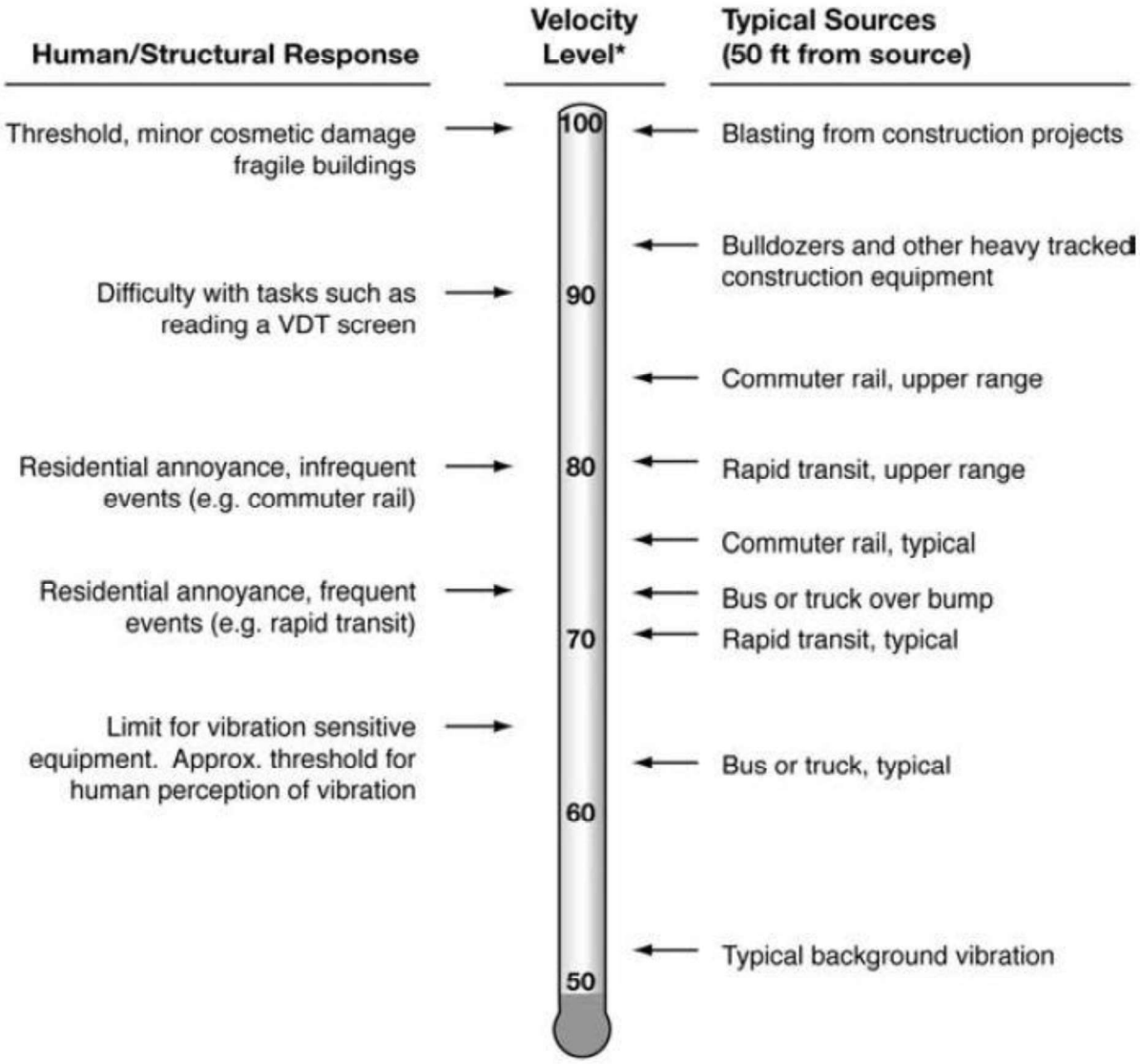
2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (10), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), vibration-sensitive equipment and/or activities

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment.

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3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT STANDARDS

The Department of Housing and Urban Development (HUD) noise standards are used in this report to evaluate Project compliance with exterior and interior noise level standards as a requirement of Project financing. The Code of Federal Regulation (CFR) identifies *Environmental Criteria and Standards* in Section 24 CFR Part 51. (9) Section 51.101(a)(8) identifies the exterior noise goal of 65 dBA CNEL or below for new developments, and an interior noise level goal of 45 dBA CNEL in Section 51.101(a)(9). Further, Section 51.103(c) includes the *Site Acceptability Standards* consistent with the exterior and interior noise goals which are used in this analysis.

Based on the residential land use noise criteria and the HUD transportation noise standards, this noise study has been prepared to satisfy an exterior noise level of less than 65 dBA CNEL and an interior noise level of less than 45 dBA CNEL. The 65 dBA CNEL exterior noise standards typically apply to outdoor areas where people congregate. In the case of residential projects, the standards typically apply to private yards of single-family homes and first floor patio areas for multi-family units. Appendix 3.1 includes the HUD noise standards used in this report.

3.2 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research. (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts. The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher.

Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 CITY OF LAKE FOREST GENERAL PLAN SAFETY AND NOISE ELEMENT

The City of Lake Forest has adopted a Safety and Noise Element of the General Plan to address public safety and quality of life issues. (12) The Safety and Noise Element specifies the maximum exterior and interior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Safety and Noise Element identifies noise standards designed to protect, create, and maintain an environment free from noise that may jeopardize the health or welfare of sensitive receivers, or degrade quality of life.

3.3.1 LAND USE COMPATIBILITY

The noise criteria identified in the City of Lake Forest Safety and Noise Element are guidelines to evaluate the land use compatibility of transportation related noise. The land use compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Noise/Land Use Noise Compatibility Matrix* (Table SN-3) in the City of Lake Forest General Plan provides guidelines to evaluate the acceptability of transportation related noise level impacts.

These guidelines are based on the Governor's Office of Planning and Research and are used to assess the long-term traffic noise impacts on land uses. Noise-sensitive land uses such as single-family residential homes and schools are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 65 dBA CNEL. For *conditionally acceptable* land use, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design*. (12)

EXHIBIT 3-A: NOISE/LAND USE NOISE COMPATIBILITY MATRIX

Land Use Categories	Community Noise Equivalent Level (CNEL)						
	55	60	65	70	75	80	
Residential - Single Family, Multi-family, duplex	A	A	B	C	C		
Residential - Mobile Homes	A	A	B	C	C		
Transient Lodging - Motels, Hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing/Convalescent Homes, Preschools, Day Care Centers(1)	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Arenas, Outdoor Spectator Sport, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Zone A - Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Zone B - Conditionally Acceptable

New construction or development should be undertaken only after detailed analysis of the noise reduction requirement is made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditionaing, will normally suffice.

Zone C - Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

Notes:

(1) Religious institutions (Churches, synagogues, temples and other places of worship) of a small size (occupancy of 100 persons or less) may occupy existing buildings within areas of exterior noise levels ranging from 65 to 75 dB CNEL without providing additional noise insulation for the building.

(2) Shaded areas indicate new construction or development should generally not be undertaken.

3.3.2 TRANSPORTATION NOISE STANDARDS

The City of Lake Forest has published the *CEQA Significance Thresholds Guide* that identifies exterior and interior noise level standards, as shown on Exhibit 3-B. (1) The City of Lake Forest General Plan and *CEQA Significance Thresholds Guide* provides specific noise level standards for all land use categories that are used to regulate transportation-related noise levels for noise sensitive uses.

EXHIBIT 3-B: INTERIOR AND EXTERIOR NOISE STANDARDS

Land Use Categories	Noise Standards[1]	
	Interior[2,3]	Exterior
Residential - Single Family, multi-family, duplex, mobile home	CNEL 45 dB	CNEL 65 dB[4]
Residential - Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB[4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	L_{eq}(12) 45 dB(A)[2,6]	-
Schools	L_{eq}(12) 45 dB(A)	CNEL 65 dB[5]
General offices, reception, clerical, etc.	L_{eq}(12) 50 dB(A)	-
Bank lobby, retail store, restaurant, typing pool, etc.	L_{eq}(12) 55 dB(A)	-
Manufacturing, kitchen, warehousing, etc.	L_{eq}(12) 65 dB(A)	-
Parks, playgrounds	-	CNEL 65 dB[5]
Golf courses, outdoor spectator sports, amusement parks	-	CNEL 70 dB[5]

[1] "CNEL" = Community Noise Equivalent Level; "L_{eq}(12)" = The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).
[2] Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.
[3] Indoor environment excluding bathrooms, toilets, closets, and corridors.
[4] Outdoor environment limited to rear yard of single-family homes, multi-family patios and balconies (with a depth of 6' or more) and common recreation areas.
[5] Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.
[6] Religious institutions (Churches, temples, and other places of worship) of a small size (occupancy of 100 persons or less) may occupy existing buildings within areas of exterior noise levels ranging from 65 to 75 dB CNEL without providing additional noise insulation for the building.

For noise-sensitive land uses such as the residential homes of the Project, the Safety and Noise Element and *CEQA Significance Thresholds Guide* requires an exterior noise level not to exceed 65 dBA CNEL within outdoor living areas (e.g., rear yards, patios and balconies 6-feet or greater, or common recreation areas). Further, school uses within the proposed Project are required to comply with an exterior noise level of 65 dBA CNEL at outdoor environments (e.g., playground areas, picnic areas, and other areas of frequent human use). This approach is consistent with Tables SN-2 and SN-3 of the General Plan Safety and Noise Element and the *CEQA Significance Thresholds Guide*.

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise such as the proposed tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units are typically evaluated against standards established under a jurisdiction's Municipal Code.

The Project operational noise impacts are governed by the City of Lake Forest Municipal Code, Title 11 – *Peace and Safety*, Division II – *Offenses Against Public Peace*, Chapter 11.16 – *Noise Control*, included in Appendix 3.2. The Municipal Code indicates the *Noise Standards* outlined in Section 11.16.040(A) shall apply to all residential property. The *Noise Standards* limit the allowable exterior noise level to 55 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.), and 50 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.), as shown on Table 3-1. (13) To assess the stationary noise sources in the Project study area, the Municipal Code, Sections 11.16.040(B)(1-5), identify percentile noise level standards. The percentile noise levels represent the noise level standard (as show on Table 3-1) for residential land use for a cumulative period of more than thirty minutes (L_{50}) in any hour. These standards shall not be exceeded for a cumulative period of 30 minutes (L_{50}), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_8) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_2) in any hour, or the standard plus 20 dBA at any time (L_{max}). (13) These standards are consistent with those identified for operational noise in the *CEQA Significance Thresholds Guide*.

TABLE 3-1: STATIONARY-SOURCE NOISE LEVEL STANDARDS

Land Use	Time Period	Maximum Permissible Exterior Noise Levels[2]				
		L_{50} (30 mins)	L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (Anytime)
Residential[1]	Daytime (7:00 a.m. - 10:00 p.m.)	55	60	65	70	75
	Nighttime (10:00 p.m. - 7:00 a.m.)	50	55	60	65	70

[1] Source: Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code.
[2] The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{25} is the noise level exceeded 25% of the time.

3.5 CONSTRUCTION NOISE STANDARDS

Noise from construction activities are typically limited to the hours of operation established under a City's Municipal Code. However, both the City of Lake Forest Municipal Code and *CEQA Significance Thresholds Guide* consider construction noise exempt from the Municipal Code stationary-source noise level standards (Section 11.16.060 of the Municipal Code), and do not establish a numeric maximum acceptable construction-source noise level threshold for potentially affected receivers, which would allow for a quantified determination of potential

impacts under CEQA. Therefore, the following construction noise level threshold is used in this noise study.

To evaluate whether the Project will generate potentially significant construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the *Criteria for Recommended Standard: Occupational Noise Exposure* prepared by the National Institute for Occupational Safety and Health (NIOSH). (14) A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. (14) For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations.

The 85 dBA L_{eq} threshold is also consistent with the FTA *Transit Noise and Vibration Impact Assessment* criteria for construction noise which identifies an hourly construction noise level threshold of 90 dBA L_{eq} during daytime hours, and 80 dBA L_{eq} during nighttime hours for construction for general assessment at noise-sensitive uses (e.g., residential, medical/hospital, school, etc.). (10) Detailed assessment, according to the FTA, identifies an 8-hour dBA L_{eq} noise level threshold specific to noise-sensitive uses of 80 dBA L_{eq}. Therefore, the Noise Study relies on the NIOSH 85 dBA L_{eq} threshold, consistent with FTA general and detailed assessment criteria for noise-sensitive uses and represents an appropriate threshold for construction noise analysis.

3.6 CONSTRUCTION VIBRATION STANDARDS

The City of Lake Forest General Plan and Municipal Code do not identify specific vibration level standards. Therefore, applicable vibration standards identified by the California Department of Transportation ("Caltrans") *Transportation and Construction Vibration Guidance Manual* are used in this report. (16) According to the Caltrans vibration manual, large bulldozers, and loaded trucks used during construction activities can produce vibration which can potentially cause annoyance at sensitive land uses within the Project study area, or damage to adjacent structures. The Caltrans vibration manual establishes thresholds for determining potential vibration impacts resulting in building damage for older residential structures of 0.3 in/sec PPV, and for human annoyance of 0.04 in/sec PPV. These Caltrans thresholds are used in this analysis to assess potential impacts at the adjacent sensitive uses to the Project site.

4 SIGNIFICANCE CRITERIA

The following significance criteria from California Environmental Quality Act (CEQA) and the Housing and Urban Development (HUD) have been used to assess the potential Project noise level impacts.

4.1 CEQA GUIDELINES

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (2) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While HUD and the City of Lake Forest General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

The closest airport to the Project site is John Wayne Airport which is located approximately 10 miles northwest of the Project site, and therefore, the Project site is not located within two miles of a public airport or within an airport land use plan; nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is provided under Guideline C.

4.2 HUD GUIDELINES

The Housing and Urban Development (HUD) Builder's Certificate of Plan, Specifications, & Site details identify the following noise-related checklist items:

- Is the property located within 1000 feet of a highway, freeway or heavily traveled road?
- Is the property located within 3000 feet of a railroad?
- Is the property located within one mile of a civil airfield or 5 miles of a military airfield.

This Noise Impact Analysis describes the potential noise level impacts associated with the nearby roadways within 1000 feet of the Project site. This includes the El Toro Road, Packer Place and Raymond Way. The nearest rail line is located approximately 2,400 feet northeast of the Project site. However, the rail line is located below grade and there is substantial existing residential

development between the Project site and rail line. Therefore, since there is no direct line of sight to the rail line, the potential rail noise levels are considered *less than significant* and will be overshadowed by the traffic noise levels on nearby roads. The closest airport to the Project site is John Wayne Airport which is located approximately 10 miles northwest of the Project site, and therefore, the Project site is not located within one mile of a civil airfield or 5 miles of a military airfield. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

ON-SITE TRAFFIC NOISE

- If the on-site noise levels:
  - exceed the exterior noise level standard of 65 dBA CNEL for outdoor areas (e.g., rear yard of single-family homes, multi-family patios and balconies (with a depth of six feet or more), common recreation areas, playgrounds, or picnic areas); or
  - exceed an interior noise level of 45 dBA CNEL for noise-sensitive uses (HUD and City of Lake Forest CEQA Significance Thresholds Guide, Table 3-1).

OPERATIONAL NOISE

- If Project-related operational (stationary source) noise levels exceed the exterior 55 dBA L_{50} daytime or 50 dBA L_{50} nighttime noise level standards for sensitive land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L_{50}), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_8) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_2) in any hour, or the standard plus 20 dBA at any time (L_{max}) (Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code, and Table 3-2 of the City of Lake Forest CEQA Significance Thresholds Guide).

CONSTRUCTION NOISE AND VIBRATION

- If Project-related construction activities create noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
- If Project-related construction activities generate vibration levels which exceed the Caltrans building damage vibration level threshold for older residential structures of 0.3 in/sec PPV, or the *distinctly perceptible* human annoyance vibration level threshold of 0.04 in/sec PPV at nearby sensitive receiver locations (Caltrans Transportation and Construction Vibration Guidance Manual, Tables 19 & 20).

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
On-Site Traffic Noise[1]	Residential & School	Exterior Noise Level Standard	65 dBA CNEL	
		Interior Noise Level Standard	45 dBA CNEL	
Operational Noise[1]	Noise-Sensitive	Exterior Noise Level Standards	See Table 3-1.	
Construction Noise & Vibration	Noise-Sensitive	Noise Level Threshold[2]	85 dBA L_{eq}	n/a
		Vibration Level Threshold (Building Damage)[3]	0.3 in/sec PPV	n/a
		Vibration Level Threshold (Distinctly Perceptible)[3]	0.04 in/sec PPV	n/a

[1] Source: HUD and the City of Lake Forest CEQA Thresholds Guide.
[2] Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.
[3] Source: Caltrans Transportation and Construction Vibration Guidance Manual, September 2013, Tables 19 & 20.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = No nighttime construction activity is permitted, so no nighttime construction noise level limits are identified; "PPV" = peak particle velocity

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Monday, December 16th, 2019. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (4) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (10)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (10) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels by the northern corner of the Project site near existing single-family residential homes. The noise levels at this location consist primarily of parking lot vehicle movements and traffic on Packer Place. The noise level measurements collected show an overall 24-hour exterior noise level of 59.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.0 dBA L_{eq} with an average nighttime noise level of 51.9 dBA L_{eq}.
- Location L2 represents the noise levels on east of the Project site near Montessori Children's School House. The noise levels at this location consist primarily of parking lot vehicle movements as well as activity from children playing at Montessori Children's School House. The noise level measurements collected show an overall 24-hour exterior noise level of 58.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 52.7 dBA L_{eq} with an average nighttime noise level of 52.0 dBA L_{eq}.
- Location L3 represents the noise levels west of the Project site near existing multi-family homes. The noise level measurements collected show an overall 24-hour exterior noise level of 62.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.8 dBA L_{eq} with an average nighttime noise level of 55.5 dBA L_{eq}. The noise levels at this location consist primarily of traffic noise from Packer Place.
- Location L4 represents the noise levels northwest of the Project site on Packer Place near existing multi-family residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 58.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.6 dBA L_{eq} with an average nighttime noise level of 49.8 dBA L_{eq}. Traffic on Packer Place represents the primary source of noise at this location.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets as well as parking lot vehicle movements from nearby businesses. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0
L2	Located east of the Project site near Montessori Children's School House.	52.7	52.0	58.8
L3	Located west of the Project site near existing multi-family homes.	57.8	55.5	62.5
L4	Located northwest of the Project site on Packer Place near existing multi-family residential homes.	54.6	49.8	58.0

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

LEGEND:

Measurement Locations

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the potential future Project-related impacts related to the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (17) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (18) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

The on-site roadway parameters including the average daily traffic (ADT) volumes used for this study are presented on Table 6-1. Future traffic volumes on City of Lake Forest roadways were estimated based on General Plan Circulation Element roadway capacity volumes by classification. (19) Soft site conditions were used to analyze the traffic noise impacts within the Project study area which account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Research by Caltrans shows that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

TABLE 6-1: ON-SITE ROADWAY PARAMETERS

Roadway Segment	Lanes	Classification[1]	Future ADT Volume[2]	Speed (mph)	Site Conditions
Packer Pl.	2	Collector	10,000	40	Soft
Raymond Way	2	Collector	10,000	40	Soft
El Toro Road	8	Principal Arterial	70,000	40	Soft

[1] Road classifications based upon the City of Lake Forest General Plan Circulation Element, Figure C-1.
[2] Roadway volumes were estimated from the City of Lake Forest General Plan Circulation Element Representative Roadway Capacities.

Table 6-2 presents the time of day vehicle splits and Table 6-3 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-2: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] Source: Typical Southern California vehicle mix & County of Orange Land Use/Noise Compatibility Manual, December 1993.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-3: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways[1]	97.42%	1.84%	0.74%	100.00%

[1] Source: County of Orange Land Use/Noise Compatibility Manual, December 1993.

To predict the future noise environment at the Project site, coordinate information was collected to identify the noise transmission path between the noise source and the receiver. The coordinate information is based on the Project site plan and its relationship to the adjacent roadways. The site plan is used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to any intervening noise barriers, and the building façade. The exterior noise level receivers are placed five feet above the pad elevation in outdoor living areas or at the proposed building façade for first-floor exterior noise level analysis. Second-floor receivers are located at a height of 15 feet, third-floor receivers are located at a height of 25 feet and fourth-floor receivers are located a height of 35 feet.

6.4 CONSTRUCTION VIBRATION ASSESSMENT METHODOLOGY

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

While vehicular traffic is rarely perceptible, construction activity has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-4. Based on the reference vibration levels provided by the Federal Transit Administration (FTA) for various construction equipment types, it is possible to estimate the potential building damage and human response (annoyance) using the following vibration assessment methods defined by the FTA and Caltrans. To describe the potential vibration impacts, the following equation is used: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 6-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment

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7 ON-SITE TRAFFIC NOISE IMPACTS

A noise impact analysis has been completed to determine the noise exposure levels that would result from adjacent and dominant traffic noise sources in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of traffic noise affecting the Project site is anticipated to be from Packer Place, Raymond Way and El Toro Road. The Project will also experience some background traffic noise impacts from other local streets, however traffic noise from these roadways is not expected to make a significant contribution to the noise environment.

7.1 EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model, and the parameters outlined in Section 6, the expected future exterior noise levels are calculated at the noise-sensitive residential uses within the Project site. Table 7-1 presents a summary of future exterior noise level impacts at the first, second, third and fourth floor building façade. The on-site traffic noise analysis calculations are provided in Appendix 7.1. The future unmitigated exterior traffic noise levels are shown to range from 58.9 to 65.0 dBA CNEL at the residential building facades for units facing Parker Place Raymond Way, and El Toro Road. Therefore, no exterior noise mitigation measures are required to satisfy HUD and the City of Lake Forest 65 dBA CNEL exterior noise level standards for the residential land use and the on-site traffic noise impacts are *less than significant*.

TABLE 7-1: UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS AT BUILDING FACADES

Unit	Roadway	Unmitigated Exterior Noise Level (dBA CNEL)[1]			
		1st Floor	2nd Floor	3rd Floor	4th Floor
118	Packer Pl.	65.0	64.9	64.5	64.0
116	Raymond Way	64.4	64.3	64.0	63.6
115	Raymond Way	64.0	63.9	63.6	63.2
101	El Toro Road	58.9	58.9	58.9	58.9

[1] Exterior noise calculations at the building façade are shown in Appendix 7.1.

7.2 INTERIOR NOISE ANALYSIS

To ensure that the interior noise levels comply with the interior noise level standards, future exterior noise levels were calculated at the first, second, third and fourth floor building façades where residential units are located.

7.2.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (6) (21) However, sound leaks, cracks and openings within the

window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assembles free of cut outs or openings.

7.2.2 INTERIOR NOISE LEVEL ASSESSMENT

Table 7-2 shows that the Project buildings will require a windows-closed condition and a means of mechanical ventilation (e.g. air conditioning). Table 7-2 shows that the future exterior noise levels at the building façades are expected to range from 58.9 to 65.0 dBA CNEL. The interior noise level analysis shows that the HUD and City of Lake Forest 45 dBA CNEL residential interior noise level standard can be satisfied using standard windows and sliding glass doors with minimum STC ratings of 27. The interior noise level assessment shows that interior noise levels will be *less than significant*.

TABLE 7-1: INTERIOR NOISE IMPACTS (CNEL)

Unit	Floor	Noise Level at Façade[1]	Required Interior NR[2]	Minimum Interior NR[3]	Upgraded Windows[4]	Interior Noise Level[5]	Threshold	Threshold Exceeded?
118	1	65.0	20.0	25	No	40.0	45	No
	2	64.9	19.9	25	No	39.9	45	No
	3	64.5	19.5	25	No	39.5	45	No
	4	64.0	19.0	25	No	39.0	45	No
116	1	64.4	19.4	25	No	39.4	45	No
	2	64.3	19.3	25	No	39.3	45	No
	3	64.0	19.0	25	No	39.0	45	No
	4	63.6	18.6	25	No	38.6	45	No
115	1	64.0	19.0	25	No	39.0	45	No
	2	63.9	18.9	25	No	38.9	45	No
	3	63.6	18.6	25	No	38.6	45	No
	4	63.2	18.2	25	No	38.2	45	No
101	1	58.9	13.9	25	No	33.9	45	No
	2	58.9	13.9	25	No	33.9	45	No
	3	58.9	13.9	25	No	33.9	45	No
	4	58.9	13.9	25	No	33.9	45	No

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[2] Noise reduction required to satisfy the 45 dBA CNEL interior noise standard for residential uses.
[3] Minimum interior noise reduction with standard building construction.
[4] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?
[5] Estimated interior noise level with minimum STC rating for all windows.
"NR" = Noise Reduction

8 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following receiver locations as shown on Exhibit 9-A were identified as representative locations for focused analysis based on the *City of Lake Forest CEQA Significance Thresholds Guide* which defines noise-sensitive uses as *residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools*. (1) Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receivers near the Project site include existing nearby residential homes, as described below. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this report will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures.

R1: Located approximately 22 feet from the Project site, R1 represents existing residential homes on Bendricon Lane. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

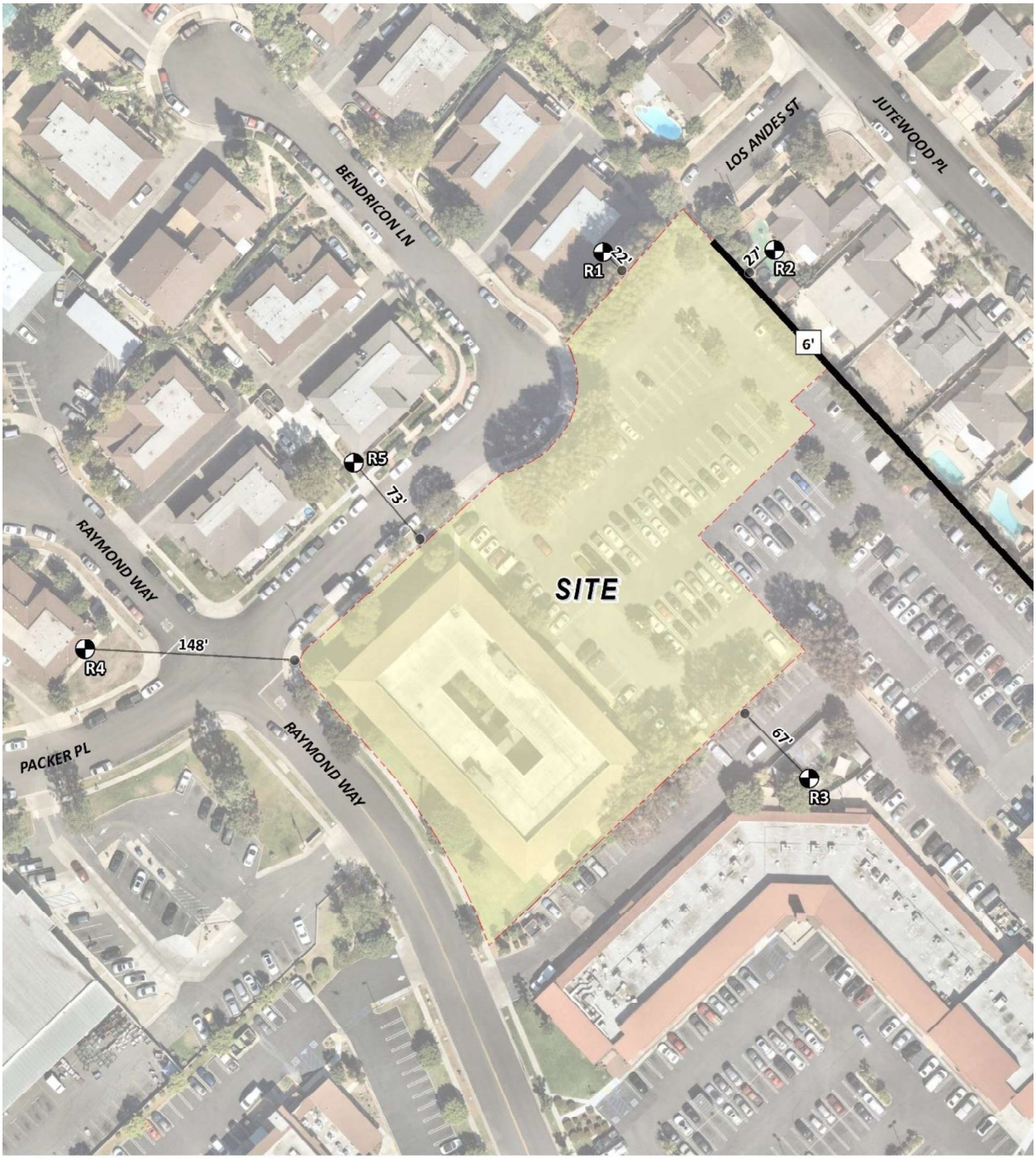
R2: Location R2 represents the existing residential homes located at 24592 Jutewood Place approximately 27 feet from the Project site boundary. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R3: Location R3 represents the existing Montessori Children's School House east of Raymond Way approximately 67 feet from the Project site boundary. A 24-hour noise measurement near this location, L2, is used to describe the existing ambient noise environment.

R4: Location R4 represents the existing multi-family residential homes at 23421 Packer Place approximately 148 feet from the Project site. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.

R5: Location R5 represents the existing multi-family residential homes at 24532 Bendricon Lane approximately 73 feet from the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



LEGEND:

- Site Boundary
- Existing Barrier
- 6' Existing Barrier Height (in feet)
- Receiver Locations
- Distance from receiver to Project site boundary (in feet)

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from the operation of the proposed Mountain View Affordable Housing Community Project. Exhibit 9-A identifies the noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

It is expected the on-site Project-related noise sources will include: tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units. This noise analysis is intended to describe noise level impacts associated with the typical operational activities at the Project site.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units all operating at the same time. These noise level impacts will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using Larson Davis Lxt Type 1 and Piccolo Type 2 integrating sound level meters and dataloggers. All sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

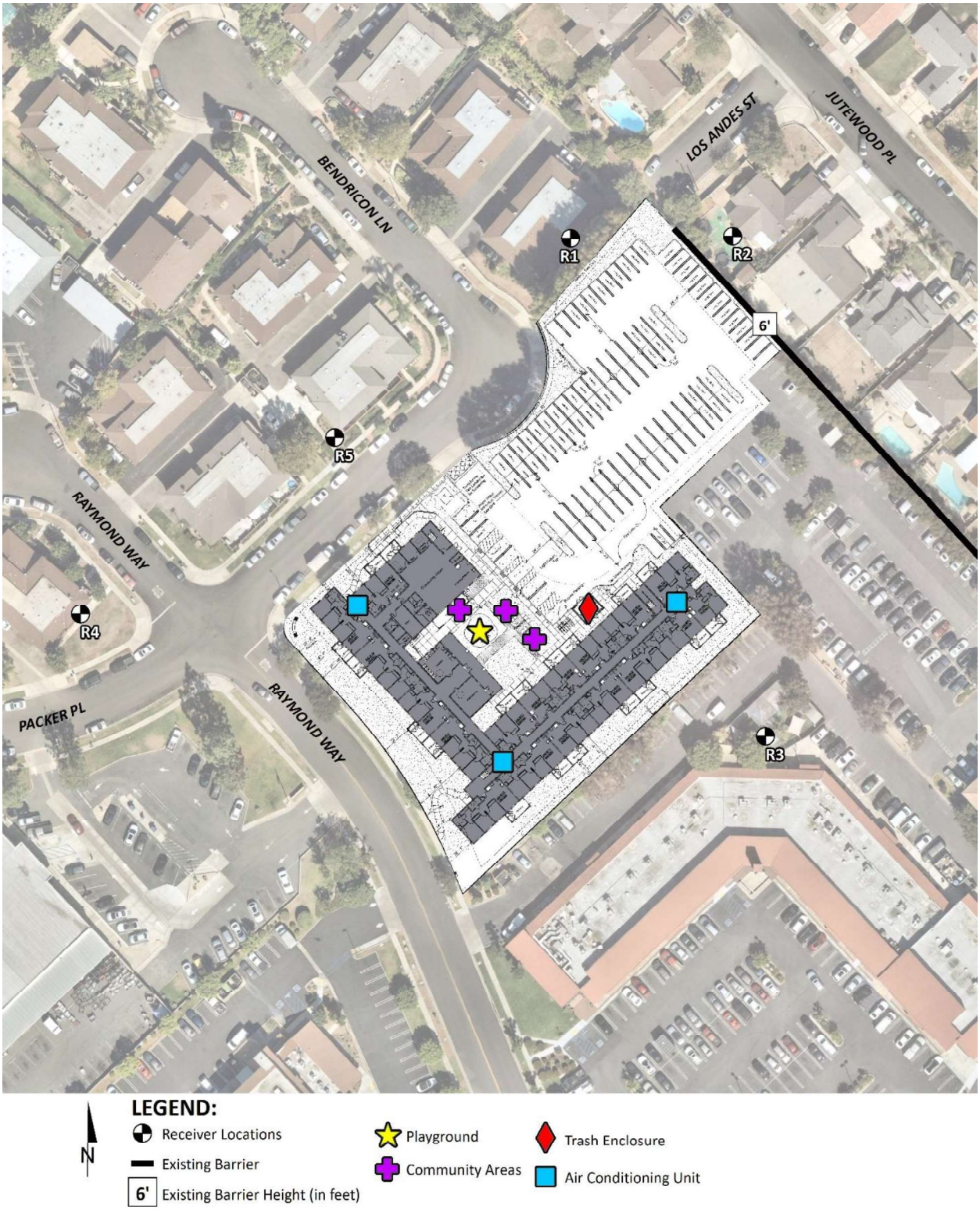


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Min./Hour[5]		Reference Noise Level (dBA L_{eq})		Sound Power Level (dBA)[6]
				Day	Night	@ Ref. Dist.	@ 50 Feet	
Playground Activities[1]	00:15:00	5'	4'	60	0	63.4	43.4	75.1
Community Area[2]	00:08:00	10'	5'	60	0	73.8	59.8	91.5
Trash Enclosure[3]	00:00:32	5'	5'	20	20	77.3	57.3	89.0
Air Conditioning Unit[4]	96:00:00	5'	5'	39	28	77.2	57.2	88.9

[1] As measured by Urban Crossroads, Inc. at the Founder's Park in Ladera Ranch.
[2] As measured by Urban Crossroads, Inc. on the Patio at Louie's by the Bay in the City of Newport Beach.
[3] As measured by Urban Crossroads, Inc. at a commercial and office park trash enclosure in the City of Costa Mesa.
[4] As measured by Urban Crossroads, Inc. at the Santee Walmart located at 170 Town Center Parkway.
[5] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Day" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.
[6] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

9.2.2 PLAYGROUND ACTIVITIES

To represent the potential noise level impacts associated with the Project's tot lot playground area, a reference noise level measurement was collected on Wednesday, October 8th, 2014 at the Founders Park in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise levels collected at the Founders Park are expected to reflect the noise level activities within the playgrounds and tot lots at the Project site, since the reference noise level measurement includes parents speaking on cell phones, kids playing on swing sets, and background girls youth soccer games, with coaches shouting instructions and people cheering and clapping. Using the uniform reference distance of 50 feet, the reference playground activity noise level is 43.4 dBA L_{eq}. The playground activities are estimated to occur for 60 minutes during the peak hour conditions.

9.2.3 COMMUNITY AREAS

To describe the outdoor common areas (community lounge and fireplace, outdoor kitchen with BBQ), a reference noise level measurement was taken at the Louie's by the Bay in Newport Beach. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating activities with patrons laughing and talking. Courtyard activities are limited to the daytime and evening hours.

9.2.4 TRASH ENCLOSURE

To describe the noise levels associated with a trash enclosure, Urban Crossroads collected a reference noise level measurement at an existing commercial and office park trash enclosure within a parking lot on the northeast corner of Baker Street and Red Hill Avenue. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The trash enclosure activity noise levels include two metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels,

trash dropping into the metal dumpster, and background parking lot vehicle movements. Noise associated with trash enclosure activities is conservatively expected to occur for 20 minutes per hour.

9.2.5 AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, with additional roof-top units operating in the background. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA L_{eq}. Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq}. The operating conditions of the reference noise level measurement reflect peak summer cooling requirements. The air conditioning units were observed to operate 39 minutes during the daytime and evening hours and 28 minutes per hour during the nighttime hours.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan and includes the effects of topography, buildings, and multiple barriers in its calculations using the latest standards to predict outdoor noise impacts. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section. Using the spatially accurate Project site plan and flown aerial imagery from Nearmap, a CadnaA noise prediction model of the Project study area was developed. The noise model provides a three-dimensional representation of the Project study area using the following key data inputs:

- Ground absorption;
- Multiple reflections at buildings and barriers;
- Reference noise level sources by type (area, point, etc.) and noise source heights;
- Multiple noise receiver locations and heights;
- Topography and earthen berms;
- Barrier and building heights.

Using the ISO 9613 protocol, the CadnaA noise prediction model will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level calculations at each receiver location and the partial noise level contributions by noise source. The reference sound power level (PWL) for the highest noise source expected at the Project site was input into the CadnaA noise prediction model. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected

to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6.0 dBA for each doubling of distance from a point source, based on existing conditions in the Project study area.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 41.0 to 49.9 dBA L_{eq}.

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	29.1	23.3	7.1	5.0	11.7
Community Area	48.8	44.5	28.9	25.9	40.1
Trash Enclosure	38.8	33.3	19.2	15.5	40.5
Air Conditioning Unit	41.4	41.1	41.4	40.8	44.1
Total (All Noise Sources)	**49.9**	**46.4**	**41.7**	**41.0**	**46.7**

[1] See Exhibit 9-A for the noise source and receiver locations.
[2] CadnaA noise model calculations are included in Appendix 9.1.

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 38.4 to 43.7 dBA L_{eq}. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). No Project playground or community area operational activities are expected during the nighttime hours from 10:00 p.m. to 7:00 a.m. Appendix 9.1 includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	0.0	0.0	0.0	0.0	0.0
Community Area	0.0	0.0	0.0	0.0	0.0
Trash Enclosure	37.8	32.3	18.2	14.5	39.5
Air Conditioning Unit	39.0	38.7	39.0	38.4	41.7
Total (All Noise Sources)	**41.5**	**39.6**	**39.0**	**38.4**	**43.7**

[1] See Exhibit 9-A for the noise source and receiver locations.
[2] CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against the City of Lake Forest exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with Mountain View Affordable Housing Community Project will satisfy the City of Lake Forest 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]		Noise Level Standards (dBA Leq)[3]		Threshold Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	49.9	41.5	55	50	No	No
R2	46.4	39.6	55	50	No	No
R3	46.4	39.0	55	50	No	No
R4	41.0	38.4	55	50	No	No
R5	46.7	43.7	55	50	No	No

[1] See Exhibit 9-A for the noise source and receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.
[3] City of Lake Forest exterior noise level standards for residential land use, as shown on Table 3-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Day" = 7:00 a.m. to 7:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (4) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Tables 9-5 and 9-6, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.1 to 1.4 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 4-1, the increases at the sensitive receiver locations will be *less than significant.*

TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	46.4	L1	54.0	54.7	0.7	5.0	No
R3	46.4	L2	52.7	53.6	0.9	5.0	No
R4	41.0	L3	57.8	57.9	0.1	5.0	No
R5	46.7	L4	54.6	55.3	0.7	5.0	No

[1] See Exhibit 8-A for the sensitive receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	41.5	L1	51.9	52.3	0.4	5.0	No
R2	39.6	L1	51.9	52.1	0.2	5.0	No
R3	39.0	L2	52.0	52.2	0.2	5.0	No
R4	38.4	L3	55.5	55.6	0.1	5.0	No
R5	43.7	L4	49.8	50.8	1.0	5.0	No

[1] See Exhibit 8-A for the sensitive receiver locations.
[2] Total Project nighttime operational noise levels as shown on Table 9-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

TABLE 9-5: NIGHTTIME OPERATIONAL NOISE LEVEL CONTRIBUTIONS

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	26.7	L1	44.1	44.2	0.1	5.0	No
R2	37.3	L2	48.1	48.4	0.3	5.0	No
R3	44.6	L3	41.7	46.4	4.7	5.0	No
R4	42.2	L3	41.7	45.0	3.3	5.0	No
R5	42.0	L3	41.7	44.9	3.2	5.0	No
R6	40.8	L3	41.7	44.3	2.6	5.0	No
R7	40.7	L3	41.7	44.2	2.5	5.0	No
R8	33.7	L3	41.7	42.3	0.6	5.0	No

[1] See Exhibit 8-A for the sensitive receiver locations.
[2] Total Project operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance Criteria as defined in Section 4.

10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction activity boundaries in relation to the nearby sensitive receiver locations.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

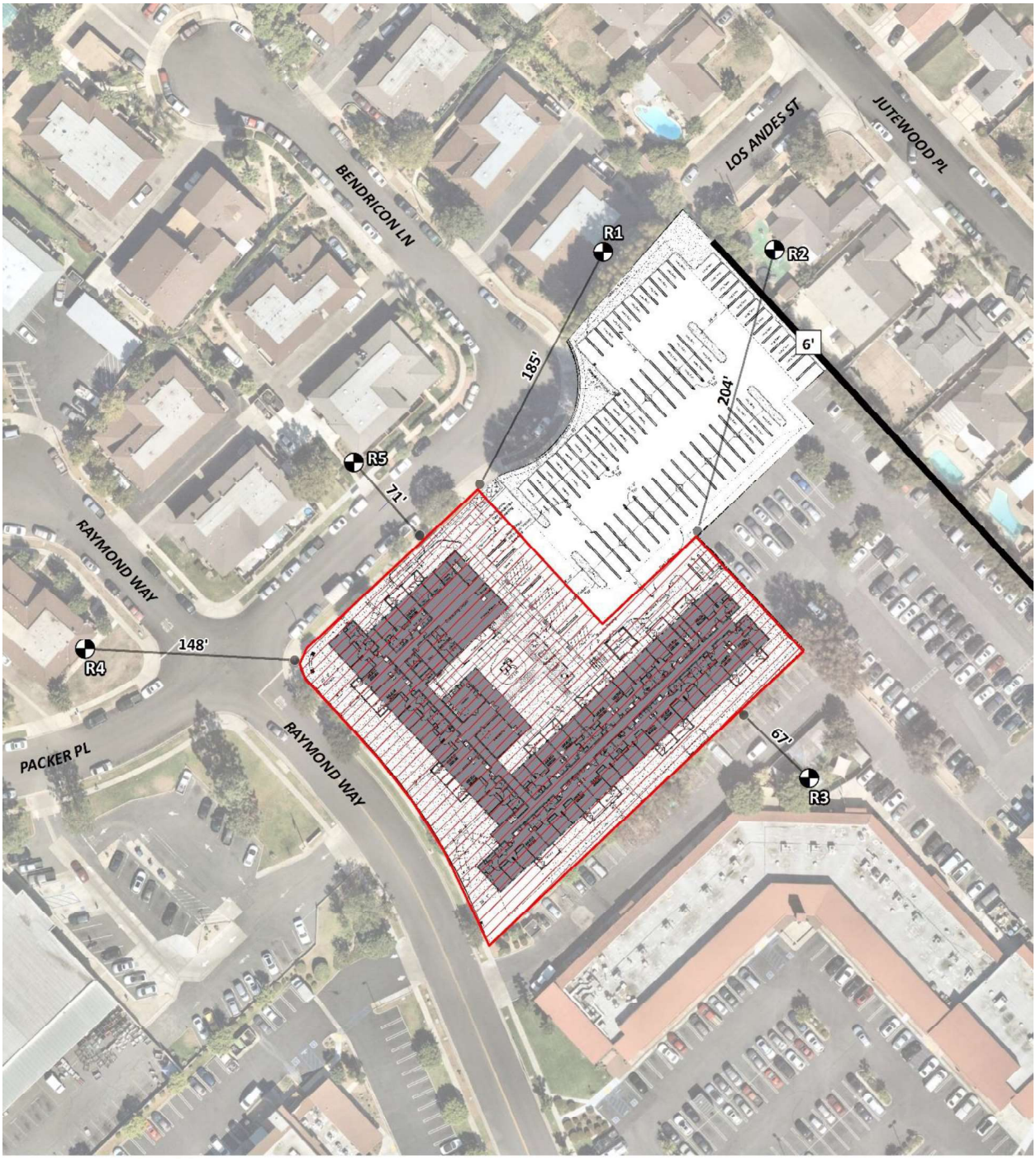
- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of construction activity area for each stage of construction to the nearest receiver location. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



LEGEND:

- Receiver Locations
- Existing Barrier
- 6' Existing Barrier Height (in feet)
- Primary Area of Construction Activity
- Distance from receiver to construction activity (in feet)

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Highest Reference Noise Level (dBA L_{eq})
Demolition	Demolition Activity	67.9	71.9
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

10.3 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of the construction activity areas to each of the nearby receiver locations. As shown on Table 10-2, the unmitigated construction noise levels are expected to range from 56.2 to 73.7 dBA L_{eq} at the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Lake Forest Municipal Code Section 11.16.060 of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturdays.

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations a construction-related the NIOSH noise level threshold of 85 dBA L_{eq} is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. The construction noise analysis shows that the noise sensitive residential receiver locations will satisfy the 85 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all noise sensitive receiver locations

TABLE 10-2: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	70.3	73.7	71.9	70.0	69.6	63.6	73.7
R2	69.5	72.9	71.1	69.2	68.8	62.8	72.9
R3	67.5	70.9	69.1	67.2	66.8	60.8	70.9
R4	62.9	66.3	64.5	62.6	62.2	56.2	66.3
R5	67.8	71.2	69.4	67.5	67.1	61.1	71.2

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	73.7	85	No
R2	72.9	85	No
R3	70.9	85	No
R4	66.3	85	No
R5	71.2	85	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.4 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). Using the vibration source level of construction equipment provided on Table 6-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-6 presents the expected Project related vibration levels at distances ranging from 67 to 204 feet from the primary area of Project construction activity.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. At distances ranging from 67 to 204 feet from primary Project construction activities, construction vibration velocity levels are expected to range from 0.004 to 0.020 in/sec PPV. Table 11-9 shows that the Project construction vibration levels will remain below the Caltrans building damage threshold of 0.3 in/sec PPV at all receiver locations.

Compared with the Caltrans construction vibration standard for human annoyance, the proposed Project construction activities will remain below the *distinctly perceptible* vibration standard of 0.04 in/sec PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact Project construction activities.

TABLE 10-6: UNMITIGATED CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec)[2]					Thresholds (in/sec PPV)		Threshold Exceeded?[3]	
		Small Bulldozer (< 80k lbs)	Jack-hammer	Loaded Trucks	Large Bulldozer (> 80k lbs)	Highest Vibration Level	Human Annoyance	Building Damage	Human Annoyance	Building Damage
R1	185'	0.000	0.002	0.004	0.004	0.004	0.04	0.3	No	No
R2	204'	0.000	0.002	0.003	0.004	0.004	0.04	0.3	No	No
R3	67'	0.001	0.008	0.017	0.020	0.020	0.04	0.3	No	No
R4	148'	0.000	0.002	0.005	0.006	0.006	0.04	0.3	No	No
R5	71'	0.001	0.007	0.016	0.019	0.019	0.04	0.3	No	No

[1] Receiver locations are shown on Exhibit 10-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-4.
[3] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

11 REFERENCES

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2. **State of California.** *California Environmental Quality Act, Appendix G & Amendments and Additions to the State CEQA Guidelines.* 2019.
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4. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
5. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
6. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
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8. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
9. **Occupational Safety and Health Administration.** *Standard 29 CRF, Part 1910.*
10. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment.* September 2018.
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19. **City of Lake Forest.** *General Plan Circulation Element.* July 2008.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
21. —. *Traffic Noise Analysis Protocol.* May 2011.

12 CERTIFICATION

The contents of this report represent an accurate depiction of the noise environment and impacts associated with the proposed Mountain View Affordable Housing Community Project. The information contained in this report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

HUD NOISE STANDARDS

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24 CFR Part 51 - Environmental Criteria and Standards

Subpart B - Noise Abatement and Control

51.100 Purpose and Authority
51.101 General policy
51.102 Responsibilities
51.103 Criteria and standards
51.104 Special requirements
51.105 Exceptions
51.106 Implementation

For more information visit: www.hud.gov

Sec. 51.100 Purpose and authority.

a. It is the purpose of this subpart B to:

1. Call attention to the threat of noise pollution;
2. Encourage the control of noise at its source in cooperation with other Federal departments and agencies;
3. Encourage land use patterns for housing and other noise sensitive urban needs that will provide a suitable separation between them and major noise sources;
4. Generally prohibit HUD support for new construction of noise sensitive uses on sites having unacceptable noise exposure;
5. Provide policy on the use of structural and other noise attenuation measures where needed; and
6. Provide policy to guide implementation of various HUD programs.

b. Authority. Specific authorities for noise abatement and control are contained in the Noise Control Act of 1972, as amended (42 U.S.C. 4901 et seq.); and the General Services Administration, Federal Management Circular 75-2; Compatible Land Uses at Federal Airfields.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

Back to Top

Sec. 51.101 General policy.

a. It is HUD's general policy to provide minimum national standards applicable to HUD programs to protect citizens against excessive noise in their communities and places of residence.

1. Planning assistance. HUD requires that grantees give adequate consideration to noise exposures and sources of noise as an integral part of the urban environment when HUD assistance is provided for planning purposes, as follows:

   i. Particular emphasis shall be placed on the importance of compatible land use planning in relation to airports, highways and other sources of high noise.

   ii. Applicants shall take into consideration HUD environmental standards impacting the use of land.

2. Activities subject to 24 CFR part 58.

   i. Responsible entities under 24 CFR part 58 must take into consideration the noise criteria and standards in the environmental review process and consider ameliorative actions when noise sensitive land development is proposed in noise exposed areas. Responsible entities shall address deviations from the standards in their environmental reviews as required in 24 CFR part 58.

   ii. Where activities are planned in a noisy area, and HUD assistance is contemplated later for housing and/or other noise sensitive activities, the responsible entity risks denial of the HUD assistance unless the HUD standards are met.

3. HUD support for new construction. HUD assistance for the construction of new noise sensitive uses is prohibited generally for projects with unacceptable noise exposures and is discouraged for projects with normally unacceptable noise exposure. (Standards of acceptability are contained in Sec. 51.103(c).) This policy applies to all HUD programs providing assistance, subsidy or insurance for housing, manufactured home parks, nursing homes, hospitals, and all programs providing assistance or insurance for land development, redevelopment or any other provision of facilities and services which are directed to making land available for housing or noise sensitive development. The policy does not apply to research demonstration projects which do not result in new construction or reconstruction, flood insurance, interstate land sales registration, or any action or emergency

assistance under disaster assistance provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster.

4. HUD support for existing construction. Noise exposure by itself will not result in the denial of HUD support for the resale and purchase of otherwise acceptable existing buildings. However, environmental noise is a marketability factor which HUD will consider in determining the amount of insurance or other assistance that may be given.
5. HUD support of modernization and rehabilitation. For modernization projects located in all noise exposed areas, HUD shall encourage noise attenuation features in alterations. For major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure. In Unacceptable noise zones, HUD shall strongly encourage conversion of noise-exposed sites to land uses compatible with the high noise levels.
6. Research, guidance and publications. HUD shall maintain a continuing program designed to provide new knowledge of noise abatement and control to public and private bodies, to develop improved methods for anticipating noise encroachment, to develop noise abatement measures through land use and building construction practices, and to foster better understanding of the consequences of noise. It shall be HUD's policy to issue guidance documents periodically to assist HUD personnel in assigning an acceptability category to projects in accordance with noise exposure standards, in evaluating noise attenuation measures, and in advising local agencies about noise abatement strategies. The guidance documents shall be updated periodically in accordance with advances in the state-of-the-art.
7. Construction equipment, building equipment and appliances. HUD shall encourage the use of quieter construction equipment and methods in population centers, the use of quieter equipment and appliances in buildings, and the use of appropriate noise abatement techniques in the design of residential structures with potential noise problems.
8. Exterior noise goals. It is a HUD goal that exterior noise levels do not exceed a day-night average sound level of 55 decibels. This level is recommended by the Environmental Protection Agency as a goal for outdoors in residential areas. The levels recommended by EPA are not standards and do not take into account cost or feasibility. For the purposes of this regulation and to meet other program objectives, sites with a day-night average sound level of 65 and below are acceptable and are allowable (see Standards in Sec. 51.103(c)).
9. Interior noise goals. It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels. Attenuation measures to meet these interior goals shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms. Minimum attenuation requirements are prescribed in Sec. 51.104(a).
10. Acoustical privacy in multifamily buildings. HUD shall require the use of building design and acoustical treatment to afford acoustical privacy in multifamily buildings pursuant to requirements of the Minimum Property Standards.

[44 FR 40861, July 12, 1979, as amended at 50 FR 9268, Mar. 7, 1985; 61 FR 13333, Mar. 26, 1996]

Back to Top

Sec. 51.102 Responsibilities.

a. Surveillance of noise problem areas. Appropriate field staff shall maintain surveillance of potential noise problem areas and advise local officials, developers, and planning groups of the unacceptability of sites because of noise exposure at the earliest possible time in the decision process. Every attempt shall be made to insure that applicants' site choices are consistent with the policy and standards contained herein.

b. Notice to applicants. At the earliest possible stage, HUD program staff shall:

1. Determine the suitability of the acoustical environment of proposed projects;
2. Notify applicants of any adverse or questionable situations; and
3. Assure that prospective applicants are apprised of the standards contained herein so that future site choices will be consistent with these standards.

c. Interdepartmental coordination. HUD shall foster appropriate coordination between field offices and other departments and agencies, particularly the Environmental Protection Agency, the Department of Transportation, Department of Defense representatives, and the Department of Veterans Affairs. HUD staff shall utilize the acceptability standards in commenting on the prospective impacts of transportation facilities and other noise generators in the Environmental Impact Statement review process.

Back to Top

Sec. 51.103 Criteria and standards.

These standards apply to all programs as indicated in Sec. 51.101.

a. Measure of external noise environments. The magnitude of the external noise environment at a site is determined by the value of the

day-night average sound level produced as the result of the accumulation of noise from all sources contributing to the external noise environment at the site. Day-night average sound level, abbreviated as DNL and symbolized as Ldn, is the 24-hour average sound level, in decibels, obtained after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m. Mathematical expressions for average sound level and day-night average sound level are stated in the Appendix I to this subpart.

b. Loud impulsive sounds. On an interim basis, when loud impulsive sounds, such as explosions or sonic booms, are experienced at a site, the day-night average sound level produced by the loud impulsive sounds alone shall have 8 decibels added to it in assessing the acceptability of the site (see Appendix I to this subpart). Alternatively, the C-weighted day-night average sound level (LCdn) may be used without the 8 decibel addition, as indicated in Sec. 51.106(a)(3). Methods for assessing the contribution of loud impulsive sounds to day-night average sound level at a site and mathematical expressions for determining whether a sound is classed as "loud impulsive" are provided in the Appendix I to this subpart.

c. Exterior standards.

1. The degree of acceptability of the noise environment at a site is determined by the sound levels external to buildings or other facilities containing noise sensitive uses. The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site.
2. The noise environment inside a building is considered acceptable if:

   i. The noise environment external to the building complies with these standards, and

   ii. the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

Site Acceptability Standards

	Day-night average sound level (in decibels)	Special approvals and requirements
Acceptable	Not exceeding 65 dB(1)	None
Normally Unacceptable	Above 65 dB but not exceeding 75 dB.	Special Approvals (2) Environmental Review (3) Attenuation (4)
Unacceptable	Above 75 dB	Special Approvals (2) Environmental Review (3) Attenuation (5)

Notes:

1. Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to Sec. 51.105(a).
2. See Sec. 51.104(b) for requirements.
3. See Sec. 51.104(b) for requirements.
4. 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See Sec. 51.104(a).)
5. Attenuation measures to be submitted to the Assistant Secretary for CPD for approval on a case-by-case basis.

[44 FR 40861, July 12, 1979, as amended at 49 FR 12214, Mar. 29, 1984]

Back to Top

Sec. 51.104 Special requirements.

a. Noise attenuation. Noise attenuation measures are those required in addition to attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation. Measures that reduce external noise at a site shall be used wherever practicable in preference to the incorporation of additional noise attenuation in buildings. Building designs and construction techniques that provide more noise attenuation than typical construction may be employed also to meet the noise attenuation requirements.

1. Normally unacceptable noise zones and unacceptable noise zones. Approvals in Normally Unacceptable Noise Zones require a minimum of 5 decibels additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 decibels but does not exceed 75 decibels.

2. Noise attenuation measures in Unacceptable Noise Zones require the approval of the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58. (See Sec. 51.104(b)(2).)

b. Environmental review requirements. Environmental reviews shall be conducted pursuant to the requirements of 24 CFR parts 50 and 58, as applicable, or other environmental regulations issued by the Department. These requirements are hereby modified for all projects proposed in the Normally Unacceptable and Unacceptable noise exposure zones as follows:

1. Normally unacceptable noise zone.

   i. All projects located in the Normally Unacceptable Noise Zone require a Special Environmental Clearance except an EIS is required for a proposed project located in a largely undeveloped area, or where the HUD action is likely to encourage the establishment of incompatible land use in this noise zone.

   ii. When an EIS is required, the concurrence of the Program Assistant Secretary is also required before a project can be approved. For the purposes of this paragraph, an area will be considered as largely undeveloped unless the area within a 2-mile radius of the project boundary is more than 50 percent developed for urban uses and infrastructure (particularly water and sewers) is available and has capacity to serve the project.

   iii. All other projects in the Normally Unacceptable zone require a Special Environmental Clearance, except where an EIS is required for other reasons pursuant to HUD environmental policies.

2. Unacceptable noise zone. An EIS is required prior to the approval of projects with unacceptable noise exposure. Projects in or partially in an Unacceptable Noise Zone shall be submitted to the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58, for approval. The Assistant Secretary or the Certifying Officer may waive the EIS requirement in cases where noise is the only environmental issue and no outdoor noise sensitive activity will take place on the site. In such cases, an environmental review shall be made pursuant to the requirements of 24 CFR parts 50 or 58, as appropriate.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

Back to Top

Sec. 51.105 Exceptions.

a. Flexibility for non-acoustic benefits. Where it is determined that program objectives cannot be achieved on sites meeting the acceptability standard of 65 decibels, the Acceptable Zone may be shifted to Ldn 70 on a case-by-case basis if all the following conditions are satisfied:

1. The project does not require an Environmental Impact Statement under provisions of Sec. 51.104(b)(1) and noise is the only environmental issue.
2. The project has received a Special Environmental Clearance and has received the concurrence of the Environmental Clearance Officer.
3. The project meets other program goals to provide housing in proximity to employment, public facilities and transportation.
4. The project is in conformance with local goals and maintains the character of the neighborhood.
5. The project sponsor has set forth reasons, acceptable to HUD, as to why the noise attenuation measures that would normally be required for new construction in the Ldn 65 to Ldn 70 zone cannot be met.
6. Other sites which are not exposed to noise above Ldn 65 and which meet program objectives are generally not available.

The above factors shall be documented and made part of the project file.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

Back to Top

Sec. 51.106 Implementation.

a. Use of available data. HUD field staff shall make maximum use of noise data prepared by others when such data are determined to be current and adequately projected into the future and are in terms of the following:

1. Sites in the vicinity of airports. The noise environment around airports is described sometimes in terms of Noise Exposure Forecasts, abbreviated as NEF or, in the State of California, as Community Noise Equivalent Level, abbreviated as CNEL. The

noise environment for sites in the vicinity of airports for which day-night average sound level data are not available may be evaluated from NEF or CNEL analyses using the following conversions to DNL: DNL ˜ NEF+35 DNL ˜ CNEL

2. Sites in the vicinity of highways. Highway projects receiving Federal aid are subject to noise analyses under the procedures of the Federal Highway Administration. Where such analyses are available they may be used to assess sites subject to the requirements of this standard. The Federal Highway Administration employs two alternate sound level descriptors: (i) The A-weighted sound level not exceeded more than 10 percent of the time for the highway design hour traffic flow, symbolized as L10; or (ii) the equivalent sound level for the design hour, symbolized as Leq. The day-night average sound level may be estimated from the design hour L10 or Leq values by the following relationships, provided heavy trucks do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10 p.m. and 7 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours: DNL ˜ L10 (design hour)–3 decibels DNL ˜ Leg (design hour) decibels Where the auto/truck mix and time of day relationships as stated in this section do not exist, the HUD Noise Assessment Guidelines or other noise analysis shall be used.
3. Sites in the vicinity of installations producing loud impulsive sounds. Certain Department of Defense installations produce loud impulsive sounds from artillery firing and bombing practice ranges. Noise analyses for these facilities sometimes encompass sites that may be subject to the requirements of this standard. Where such analyses are available they may be used on an interim basis to establish the acceptability of sites under this standard. The Department of Defense uses day-night average sound level based on C-weighted sound level, symbolized LCdn, for the analysis of loud impulsive sounds. Where such analyses are provided, the 8 decibel addition specified in Sec. 51.103(b), is not required, and the same numerical values of day-night average sound level used on an interim basis to determine site suitability for non-impulsive sounds apply to the LCdn.
4. Use of areawide acoustical data. HUD encourages the preparation and use of areawide acoustical information, such as noise contours for airports. Where such new or revised contours become available for airports (civil or military) and military installations they shall first be referred to the HUD State Office (Environmental Officer) for review, evaluation and decision on appropriateness for use by HUD. The HUD State Office shall submit revised contours to the Assistant Secretary for Community Planning and Development for review, evaluation and decision whenever the area affected is changed by 20 percent or more, or whenever it is determined that the new contours will have a significant effect on HUD programs, or whenever the contours are not provided in a methodology acceptable under Sec. 51.106(a)(1) or in other cases where the HUD State Office determines that Headquarters review is warranted. For other areawide acoustical data, review is required only where existing areawide data are being utilized and where such data have been changed to reflect changes in the measurement methodology or underlying noise source assumptions. Requests for determination on usage of new or revised areawide data shall include the following:

   i. Maps showing old, if applicable, and new noise contours, along with brief description of data source and methodology.

   ii. Impact on existing and prospective urbanized areas and on development activity.

   iii. Impact on HUD-assisted projects currently in processing.

   iv. Impact on future HUD program activity. Where a field office has determined that immediate approval of new areawide data is necessary and warranted in limited geographic areas, the request for approval should state the circumstances warranting such approval. Actions on proposed projects shall not be undertaken while new areawide noise data are being considered for HUD use except where the proposed location is affected in the same manner under both the old and new noise data.

b. Site assessments. Compliance with the standards contained in Sec. 51.103(c) shall, where necessary, be determined using noise assessment guidelines, handbooks, technical documents and procedures issued by the Department.

c. Variations in site noise levels. In many instances the noise environment will vary across a site, with portions of the site being in an Acceptable noise environment and other portions in a Normally Unacceptable noise environment. The standards in Sec. 51.103(c) shall apply to the portions of a building or buildings used for residential purposes and for ancillary noise sensitive open spaces.

d. Noise measurements. Where noise assessments result in a finding that the site is borderline or questionable, or is controversial, noise measurements may be performed. Where it is determined that noise measurements are required, such measurements will be conducted in accordance with methods and measurement criteria established by the Department. Locations for noise measurements will depend on the location of noise sensitive uses that are nearest to the predominant noise source (see Sec. 51.103(c)).

e. Projections of noise exposure. In addition to assessing existing exposure, future conditions should be projected. To the extent possible, noise exposure shall be projected to be representative of conditions that are expected to exist at a time at least 10 years beyond the date of the project or action under review.

f. Reduction of site noise by use of berms and/or barriers. If it is determined by adequate analysis that a berm and/or barrier will reduce noise at a housing site, and if the barrier is existing or there are assurances that it will be in place prior to occupancy, the environmental noise analysis for the site may reflect the benefits afforded by the berm and/or barrier. In the environmental review process under Sec. 51.104(b), the location height and design of the berm and/or barrier shall be evaluated to determine its effectiveness, and impact on design and aesthetic quality, circulation and other environmental factors.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

Back to Top

Appendix I to Subpart B to Part 51--Definition of Acoustical Quantities

1. Sound Level. The quantity in decibels measured with an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971. Fast time-averaging and A-frequency weighting are to be used, unless others are specified. The sound level meter with the A-weighting is progressively less sensitive to sounds of frequency below 1,000 hertz (cycles per second), somewhat as is the ear. With fast time averaging the sound level meter responds particularly to recent sounds almost as quickly as does the ear in judging the loudness of a sound.
2. Average Sound Level. Average sound level, in decibels, is the level of the mean-square A-weighted sound pressure during the stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals.Day-night average sound level, abbreviated as DNL, and symbolized mathematically as Ldn is defined as:[GRAPHIC OMITTED] Time t is in seconds, so the limits shown in hours and minutes are actually interpreted in seconds. LA(t) is the time varying value of A-weighted sound level, the quantity in decibels measured by an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971.3.
3. Loud Impulsive Sounds. When loud impulsive sounds such as sonic booms or explosions are anticipated contributors to the noise environment at a site, the contribution to day-night average sound level produced by the loud impulsive sounds shall have 8 decibels added to it in assessing the acceptability of a site. A loud impulsive sound is defined for the purpose of this regulation as one for which:

   i. The sound is definable as a discrete event wherein the sound level increases to a maximum and then decreases in a total time interval of approximately one second or less to the ambient background level that exists without the sound; and

   ii. The maximum sound level (obtained with slow averaging time and A-weighting of a Type 1 sound level meter whose characteristics comply with ANSI S1.4-1971) exceeds the sound level prior to the onset of the event by at least 6 decibels; and

   iii. The maximum sound level obtained with fast averaging time of a sound level meter exceeds the maximum value obtained with slow averaging time by at least 4 decibels.

   [44 FR 40861, July 12, 1979; 49 FR 10253, Mar. 20, 1984; 49 FR 12214, Mar. 29, 1984]

Back to Top

Return to Acoustics.com
Return to HUDnoise.com

APPENDIX 3.2:

CITY OF LAKE FOREST MUNICIPAL CODE

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Chapter 11.16 NOISE CONTROL

11.16.010 Declaration of policy.

In order to control unnecessary, excessive and annoying sounds, it is hereby declared to be the policy of the City to prohibit such sounds generated from all sources as specified in this chapter.

It is determined that certain sound levels are detrimental to the public health, welfare and safety, and contrary to public interest. (Ord. 171 § 1, 2007)

11.16.020 Definitions.

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

"Ambient noise level" shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"Cumulative period" shall mean an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a unit which denotes the ratio between two (2) quantities which are proportional to power: the number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base ten (10) of this ratio.

"Dwelling unit" shall have the same meaning as in Section 9.04.030(D).

"Emergency machinery, vehicle or work" shall mean any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

"Fixed noise source" shall mean a stationary device which creates sounds while fixed or motionless, including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

"Grading" shall mean any excavating or filling of earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

"Impact noise" shall mean the noise produced by the collision of one (1) mass in motion with a second mass which may be either in motion or at rest.

"Mobile noise source" shall mean any noise source other than a fixed noise source.

"Noise level" shall mean the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micronewtons per square meter. The unit of measurement shall be designated as dBa.

"Person" shall mean a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

"Residential property" shall mean a parcel of real property that is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and transitory lodgings.

"Simple tone noise" shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound level meter" shall mean an instrument meeting American National Standard Institute's Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

"Sound pressure level" of a sound, in decibels, shall mean twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated. (Ord. 297 § 14, 2017; Ord. 171 § 1, 2007)

11.16.025 Measurement of noise levels.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in Section 11.16.020. The location selected for measuring exterior noise levels shall be at any point on the affected property. Interior noise measurements shall be made within the affected dwelling unit. The measurement shall be made at a point at least four (4) feet from the wall, ceiling, or floor nearest the alleged offensive noise source and may be made with the windows of the affected unit open. (Ord. 171 § 1, 2007)

11.16.030 Designated noise zone.

The entire territory of the City of Lake Forest is hereby designated as "Noise Zone 1." (Ord. 171 § 1, 2007)

11.16.040 Exterior noise standards.

A. The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dBa	7:00 a.m.—10.00 p.m.
1	50 dBa	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dBa.

B. It shall be unlawful for any person at any location to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, to exceed:

1. The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or

2. The noise standard plus five (5) dBa for a cumulative period of more than fifteen (15) minutes in any hour; or

3. The noise standard plus ten (10) dBa for a cumulative period of more than five (5) minutes in any hour; or

4. The noise standard plus fifteen (15) dBa for a cumulative period of more than one (1) minute in any hour; or

5. The noise standard plus twenty (20) dBa for any period of time.

C. In the event the ambient noise level exceeds any of the first four (4) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth (5th) noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (Ord. 171 § 1, 2007)

11.16.050 Interior noise standards.

A. The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period

1	55 dBa	7:00 a.m.—10:00 p.m.
1	45 dBa	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dBa.

B. It shall be unlawful for any person at any location to create any noise, or to allow the creation of any noise, on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property, to exceed:

1. The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or

2. The interior noise standard plus five (5) dBa for a cumulative period of more than one (1) minute in any hour; or

3. The interior noise standard plus ten (10) dBa for any period of time.

C. In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third (3rd) noise limit category the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (Ord. 171 § 1, 2007)

11.16.060 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

A. Activities not constituting "special events" conducted on the grounds of any public or private nursery, elementary, intermediate or secondary school or college.

B. "Special events" as defined in Section 5.05.020 provided said events are conducted pursuant to a special event permit issued as described in Chapter 5.05. However, this exemption shall not preclude use of the standards set forth in Section 11.16.040 ("Exterior noise standards") or Section 11.16.050 ("Interior noise standards") as a guide for the application, review, or issuance of a special event permit.

C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.

D. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.

E. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

F. Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.

G. Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.

H. Noise sources associated with the maintenance of real property, provided said activities take place between 7:00 a.m. and 8:00 p.m. on any day except Sunday or a Federal holiday, or between the hours of 9:00 a.m. and 8:00 p.m. on Sunday or a Federal holiday.

I. Any activity to the extent regulation thereof has been preempted by State or Federal law.

J. Noise sources associated with solid waste collection and removal, provided such activities take place between 6:00 a.m. and 6:00 p.m. Monday through Friday where audible in residential areas; or between 7:00 a.m. and 6:00 p.m. on Saturdays where audible in residential areas; or between 5:00 a.m. and 9:00 p.m. any day where such activity is not audible in residential areas; or as otherwise provided in an approved franchise agreement between a waste hauler and the City. (Ord. 300 § 7, 2017; Ord. 171 § 1, 2007)

11.16.070 Schools, hospitals and churches—Special provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while the same is in use to exceed the noise limits as specified in Section 11.16.040 prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three (3) separate locations within one-tenth (1/10) of a mile of the institution indicating the presence of a school, church or hospital. (Ord. 171 § 1, 2007)

11.16.080 Motor vehicle racing.

It is unlawful to conduct motor vehicle racing, testing, timing or similar noise-producing activities at raceways, speedways, off-road vehicle courses, drag strips or other similar places, including, but not limited to, the operation of midget race cars, drag cars, motorcycles, off-road vehicles, and specialty automobiles, between the hours of eleven-thirty p.m. and eight a.m. (Ord. 171 § 1, 2007)

11.16.090 Enforcement.

The City's law enforcement personnel, the County Health Officer and their duly authorized representatives are authorized, pursuant to Penal Code Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his duty. (Ord. 171 § 1, 2007)

11.16.100 Variance procedure.

The owner or operator of a noise source which violates any of the provisions of this chapter may file an application with the Health Officer for a variance from the provisions thereof wherein said owner or operator shall set forth all actions taken to comply with said provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for its accomplishment. Said application shall be accompanied by a fee in the amount of seventy-five dollars ($75.00). A separate application shall be filed for each noise source; provided, however, that several mobile sources under common ownership, or several fixed sources on a single property may be combined into one (1) application. Upon receipt of said application and fee, the Health Officer shall refer it with his recommendation thereon within thirty (30) days to the Noise Variance Board for action thereon in accordance with the provisions of this chapter.

An applicant for a variance shall remain subject to prosecution under the terms of this chapter until a variance is granted. (Ord. 171 § 1, 2007)

11.16.110 Noise Variance Board.

The City Council shall, by resolution, appoint the Noise Variance Board, which may be composed of the City Council, Planning Commission, or any other members the City Council may select. The City Council may adopt reasonable rules and regulations for procedures to be used by the Board in carrying out its functions under the provisions of this chapter, or may allow the Board to establish such rules and regulations.

The Noise Variance Board shall evaluate all applications for variance from the requirements of this chapter and may grant said variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this chapter. Said terms, conditions, and requirements may include but shall not be limited to limitations on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment. In its determinations said Board shall consider the magnitude of nuisance caused by the offensive noise; the uses of property within the area of impingement by the noise; the time factors related to study, design, financing and construction of remedial work; the economic factors related to age and useful life of equipment; and the general public interest and welfare. Any variance granted by said Board shall be by resolution and shall be transmitted to the Development Services Department and the Health Officer for enforcement. Any violation of the terms of said variance shall be unlawful.

Meetings of the Noise Variance Board shall be held at such times and locations as said Board shall determine. All such meetings shall be open to the public.

APPENDIX 5.1:

STUDY AREA PHOTOS

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JN: 13058 Study Area Photos

L1_E
33, 37' 22.190000", 117, 42' 2.650000"

L1_N
33, 37' 20.850000", 117, 42' 4.270000"

L1_S
33, 37' 22.230000", 117, 42' 2.760000"

L1_W
33, 37' 22.250000", 117, 42' 3.040000"

L2_E
33, 37' 20.700000", 117, 42' 2.300000"

L2_N
33, 37' 20.590000", 117, 42' 2.320000"

JN: 13058 Study Area Photos

L2_S
33, 37' 20.770000", 117, 42' 2.190000"

L2_W
33, 37' 20.770000", 117, 42' 2.190000"

L3_E
33, 37' 19.300000", 117, 42' 9.820000"

L3_N
33, 37' 19.380000", 117, 42' 9.790000"

L3_S
33, 37' 19.300000", 117, 42' 9.820000"

L3_W
33, 37' 19.300000", 117, 42' 9.820000"

JN: 13058 Study Area Photos

L4_E
33, 37' 21.420000", 117, 42' 5.670000"

L4_N
33, 37' 21.390000", 117, 42' 5.650000"

L4_S
33, 37' 21.420000", 117, 42' 5.670000"

L4_W
33, 37' 21.420000", 117, 42' 5.670000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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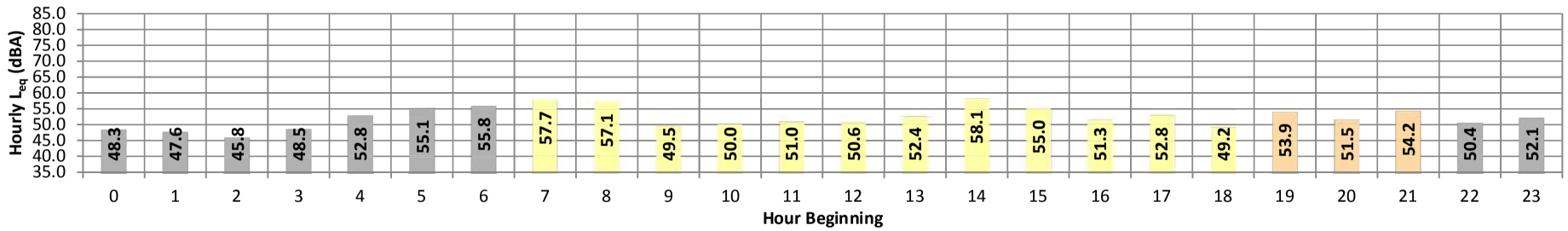
24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019
Project: El Toro Road Residential
Location: L1 - Located by the northern corner of the Project site near existing single-family residential homes.
Meter: Piccolo II
JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	48.3	55.0	45.7	54.2	53.0	51.0	50.1	48.6	47.6	46.4	46.1	45.8	48.3	10.0	58.3
	1	47.6	53.0	44.1	52.5	52.1	51.1	50.5	48.4	46.6	44.8	44.5	44.2	47.6	10.0	57.6
	2	45.8	50.3	43.1	50.0	49.7	48.8	48.2	46.2	45.1	43.7	43.5	43.2	45.8	10.0	55.8
	3	48.5	52.0	45.8	51.8	51.6	51.0	50.5	49.2	47.9	46.5	46.3	45.9	48.5	10.0	58.5
	4	52.8	56.6	50.5	56.3	55.9	55.0	54.6	53.4	52.3	51.1	50.9	50.6	52.8	10.0	62.8
	5	55.1	57.8	53.3	57.6	57.3	56.8	56.5	55.6	54.9	53.8	53.6	53.4	55.1	10.0	65.1
	6	55.8	60.5	53.6	60.2	59.6	58.4	57.6	56.2	55.3	54.1	53.9	53.7	55.8	10.0	65.8
Day	7	57.7	62.9	55.7	62.5	61.9	60.4	59.7	58.0	57.1	56.1	56.0	55.8	57.7	0.0	57.7
	8	57.1	65.1	49.8	64.7	64.2	62.9	62.0	57.7	53.9	50.6	50.2	49.9	57.1	0.0	57.1
	9	49.5	59.1	44.0	58.5	57.7	55.6	53.8	48.9	46.5	44.6	44.4	44.1	49.5	0.0	49.5
	10	50.0	59.7	44.2	59.3	58.7	56.4	54.4	49.0	46.7	44.9	44.7	44.3	50.0	0.0	50.0
	11	51.0	60.8	44.9	60.3	59.6	57.2	54.9	50.1	47.7	45.7	45.4	45.0	51.0	0.0	51.0
	12	50.6	59.3	45.4	58.7	58.0	56.2	54.6	50.3	48.1	46.1	45.8	45.5	50.6	0.0	50.6
	13	52.4	64.2	45.7	63.0	61.5	58.2	55.9	51.3	49.3	46.7	46.3	45.8	52.4	0.0	52.4
	14	58.1	65.7	52.3	65.3	64.7	62.9	61.4	58.8	56.4	53.6	53.0	52.5	58.1	0.0	58.1
	15	55.0	62.2	48.2	61.8	61.3	59.7	58.5	56.1	54.1	49.3	48.9	48.4	55.0	0.0	55.0
	16	51.3	58.7	47.6	58.3	57.7	55.9	54.4	51.2	49.9	48.2	48.0	47.7	51.3	0.0	51.3
	17	52.8	61.1	47.0	60.7	60.2	58.4	56.7	53.0	50.9	47.9	47.6	47.2	52.8	0.0	52.8
	18	49.2	56.2	45.4	55.9	55.3	54.0	52.8	49.0	47.6	46.0	45.8	45.5	49.2	0.0	49.2
Evening	19	53.9	58.8	50.8	58.5	58.1	57.0	56.5	54.6	52.9	51.4	51.2	50.9	53.9	5.0	58.9
	20	51.5	56.7	48.1	56.1	55.6	54.5	54.0	52.4	50.5	48.8	48.5	48.2	51.5	5.0	56.5
	21	54.2	58.2	52.0	57.9	57.5	56.8	56.4	54.9	53.3	52.5	52.3	52.1	54.2	5.0	59.2
Night	22	50.4	55.6	48.0	55.2	54.8	53.7	53.0	50.7	49.7	48.5	48.3	48.0	50.4	10.0	60.4
	23	52.1	55.3	50.0	55.1	54.8	54.1	53.7	52.6	51.8	50.6	50.3	50.1	52.1	10.0	62.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	49.2	56.2	44.0	55.9	55.3	54.0	52.8	48.9	46.5	44.6	44.4	44.1
	Max	58.1	65.7	55.7	65.3	64.7	62.9	62.0	58.8	57.1	56.1	56.0	55.8
Energy Average		54.1	Average:		60.7	60.1	58.2	56.6	52.8	50.7	48.3	48.0	47.6
Evening	Min	51.5	56.7	48.1	56.1	55.6	54.5	54.0	52.4	50.5	48.8	48.5	48.2
	Max	54.2	58.8	52.0	58.5	58.1	57.0	56.5	54.9	53.3	52.5	52.3	52.1
Energy Average		53.4	Average:		57.5	57.1	56.1	55.6	54.0	52.3	50.9	50.7	50.4
Night	Min	45.8	50.3	43.1	50.0	49.7	48.8	48.2	46.2	45.1	43.7	43.5	43.2
	Max	55.8	60.5	53.6	60.2	59.6	58.4	57.6	56.2	55.3	54.1	53.9	53.7
Energy Average		51.9	Average:		54.8	54.3	53.3	52.8	51.2	50.1	48.8	48.6	48.3

L_{eq} (dBA)

24-Hour	Daytime	Nighttime
53.3	**54.0**	**51.9**

24-Hour CNEL (dBA)

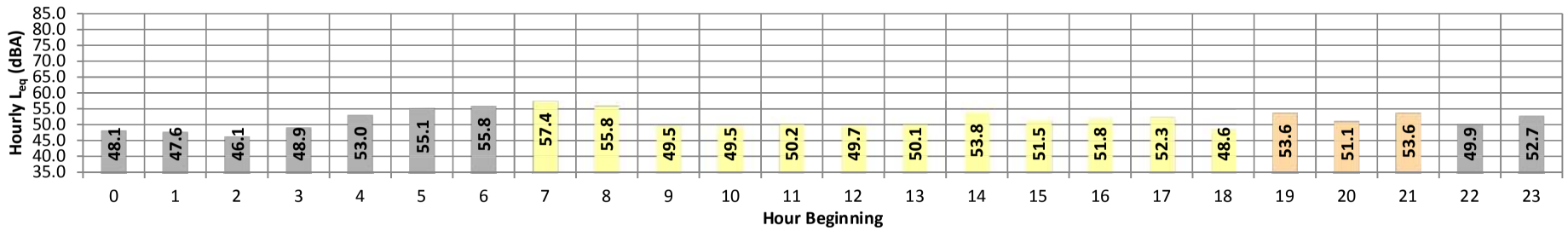
59.0

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019
Project: El Toro Road Residential
Location: L2 - Located east of the Project site near Montessori Children's School House.
Meter: Piccolo II
JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	48.1	53.5	45.5	53.1	52.5	51.1	50.2	48.3	47.4	46.2	45.9	45.6	48.1	10.0	58.1
	1	47.6	53.6	43.8	53.2	52.8	51.9	51.4	47.7	46.1	44.6	44.3	43.9	47.6	10.0	57.6
	2	46.1	50.7	43.3	50.4	50.0	49.1	48.4	46.7	45.4	44.0	43.7	43.4	46.1	10.0	56.1
	3	48.9	52.3	46.7	52.0	51.7	51.1	50.7	49.5	48.6	47.3	47.1	46.8	48.9	10.0	58.9
	4	53.0	58.5	50.7	57.8	57.3	55.7	55.2	53.2	52.3	51.3	51.1	50.8	53.0	10.0	63.0
	5	55.1	57.4	53.5	57.1	56.9	56.5	56.3	55.6	54.9	54.0	53.8	53.6	55.1	10.0	65.1
	6	55.8	60.9	53.8	60.4	59.7	58.5	57.7	56.2	55.2	54.3	54.1	53.9	55.8	10.0	65.8
Day	7	57.4	62.0	55.7	61.5	61.0	59.7	58.9	57.6	56.9	56.0	55.9	55.7	57.4	0.0	57.4
	8	55.8	65.0	50.4	64.6	64.0	61.7	59.7	54.9	53.2	51.2	50.8	50.5	55.8	0.0	55.8
	9	49.5	57.2	45.0	56.5	55.8	54.4	53.3	49.6	47.9	45.8	45.4	45.1	49.5	0.0	49.5
	10	49.5	58.2	44.4	57.3	56.5	54.5	52.8	49.6	47.4	45.1	44.8	44.5	49.5	0.0	49.5
	11	50.2	58.7	44.6	58.3	57.8	56.0	54.9	49.6	47.6	45.3	45.0	44.7	50.2	0.0	50.2
	12	49.7	58.0	45.0	57.5	56.8	55.6	54.0	49.3	47.4	45.7	45.5	45.2	49.7	0.0	49.7
	13	50.1	58.4	45.2	57.8	57.2	55.2	53.6	50.2	48.0	46.0	45.6	45.3	50.1	0.0	50.1
	14	53.8	63.0	47.9	62.4	61.7	60.1	58.0	53.0	51.2	48.8	48.4	48.0	53.8	0.0	53.8
	15	51.5	60.1	46.0	59.7	59.2	57.7	56.5	50.8	48.4	46.6	46.4	46.1	51.5	0.0	51.5
	16	51.8	60.0	47.9	59.6	58.9	56.6	54.8	51.8	50.1	48.5	48.2	48.0	51.8	0.0	51.8
	17	52.3	57.6	47.2	57.1	56.6	55.6	55.0	53.3	51.6	48.1	47.8	47.3	52.3	0.0	52.3
	18	48.6	55.5	45.2	54.9	54.0	52.2	51.1	48.9	47.5	45.9	45.6	45.3	48.6	0.0	48.6
Evening	19	53.6	58.8	50.4	58.5	58.0	56.9	56.2	54.4	52.7	51.1	50.8	50.5	53.6	5.0	58.6
	20	51.1	55.4	47.5	55.0	54.6	54.0	53.6	52.3	50.3	48.1	47.9	47.6	51.1	5.0	56.1
	21	53.6	57.2	51.7	56.8	56.5	55.5	55.1	54.2	53.2	52.3	52.0	51.8	53.6	5.0	58.6
Night	22	49.9	55.1	47.4	54.7	54.3	53.2	52.3	50.2	49.1	47.9	47.7	47.5	49.9	10.0	59.9
	23	52.7	55.8	50.6	55.6	55.3	54.6	54.2	53.3	52.4	51.2	50.9	50.7	52.7	10.0	62.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.6	55.5	44.4	54.9	54.0	52.2	51.1	48.9	47.4	45.1	44.8	44.5
	Max	57.4	65.0	55.7	64.6	64.0	61.7	59.7	57.6	56.9	56.0	55.9	55.7
Energy Average		52.6	Average:		58.9	58.3	56.6	55.2	51.6	49.8	47.8	47.5	47.1
Evening	Min	51.1	55.4	47.5	55.0	54.6	54.0	53.6	52.3	50.3	48.1	47.9	47.6
	Max	53.6	58.8	51.7	58.5	58.0	56.9	56.2	54.4	53.2	52.3	52.0	51.8
Energy Average		52.9	Average:		56.8	56.4	55.5	55.0	53.6	52.1	50.5	50.2	50.0
Night	Min	46.1	50.7	43.3	50.4	50.0	49.1	48.4	46.7	45.4	44.0	43.7	43.4
	Max	55.8	60.9	53.8	60.4	59.7	58.5	57.7	56.2	55.2	54.3	54.1	53.9
Energy Average		52.0	Average:		54.9	54.5	53.5	52.9	51.2	50.2	49.0	48.7	48.5

L_{eq} (dBA)

24-Hour	Daytime	Nighttime
52.4	**52.7**	**52.0**

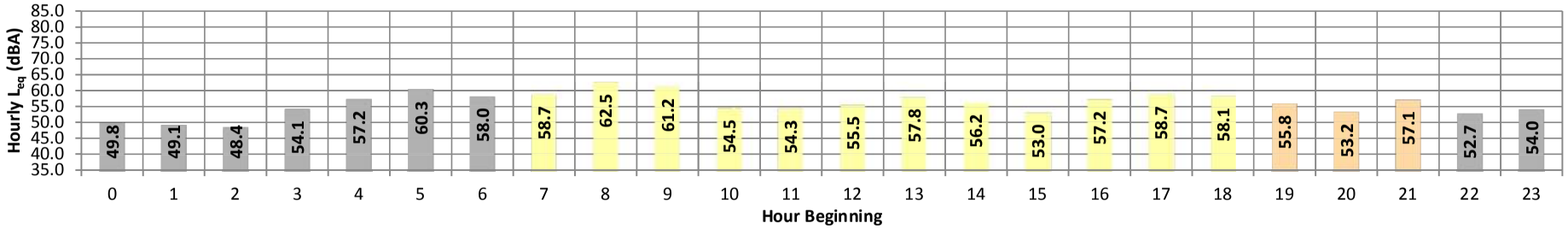
24-Hour CNEL (dBA)

58.8

24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019
Project: El Toro Road Residential
Location: L3 - Located west of the Project site near existing multi-family homes.
Meter: Piccolo II
JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	49.8	53.2	48.3	53.0	52.6	51.6	51.0	50.2	49.6	48.7	48.6	48.4	49.8	10.0	59.8
	1	49.1	53.9	46.7	53.5	53.1	52.0	51.3	49.7	48.3	47.2	47.0	46.8	49.1	10.0	59.1
	2	48.4	52.6	46.2	52.3	51.9	50.8	50.2	49.0	47.9	46.7	46.5	46.3	48.4	10.0	58.4
	3	54.1	61.6	48.1	61.2	60.1	59.3	58.8	55.2	51.5	48.7	48.5	48.3	54.1	10.0	64.1
	4	57.2	61.5	55.4	61.3	60.8	59.7	59.0	57.4	56.7	55.8	55.7	55.5	57.2	10.0	67.2
	5	60.3	65.5	56.4	65.3	65.2	64.5	63.9	60.9	58.6	57.3	56.8	56.5	60.3	10.0	70.3
	6	58.0	65.9	54.5	65.4	64.8	63.0	61.5	57.8	56.1	55.0	54.8	54.6	58.0	10.0	68.0
Day	7	58.7	66.9	55.7	66.0	65.1	62.8	61.8	58.6	57.2	56.2	56.0	55.8	58.7	0.0	58.7
	8	62.5	71.9	52.6	71.4	70.9	69.8	68.8	61.1	56.2	53.6	53.1	52.8	62.5	0.0	62.5
	9	61.2	70.3	47.4	70.0	69.7	68.8	67.4	59.2	54.5	48.6	48.0	47.5	61.2	0.0	61.2
	10	54.5	63.2	46.7	62.8	62.4	61.0	59.8	54.3	50.6	47.6	47.2	46.9	54.5	0.0	54.5
	11	54.3	63.3	46.5	62.7	62.2	60.6	59.6	54.4	50.2	47.4	47.1	46.7	54.3	0.0	54.3
	12	55.5	65.2	49.6	64.2	63.3	61.5	60.2	54.8	52.6	50.6	50.2	49.8	55.5	0.0	55.5
	13	57.8	71.3	48.5	70.0	68.0	64.4	62.7	54.8	52.0	49.7	49.2	48.7	57.8	0.0	57.8
	14	56.2	66.8	48.3	65.7	64.6	62.4	60.6	56.2	52.4	49.3	48.9	48.5	56.2	0.0	56.2
	15	53.0	61.1	48.0	60.3	59.5	57.8	56.8	53.5	50.9	48.8	48.5	48.1	53.0	0.0	53.0
	16	57.2	68.0	49.1	66.9	65.9	62.7	61.2	57.0	53.6	50.4	50.0	49.3	57.2	0.0	57.2
	17	58.7	70.4	49.2	69.4	68.1	64.7	63.3	58.0	54.3	50.8	50.2	49.4	58.7	0.0	58.7
	18	58.1	69.4	47.8	68.6	67.3	64.3	62.6	57.9	54.1	49.4	48.6	48.0	58.1	0.0	58.1
Evening	19	55.8	62.6	52.3	62.0	61.3	59.8	58.9	56.2	54.3	52.9	52.7	52.4	55.8	5.0	60.8
	20	53.2	59.9	49.8	59.4	58.9	57.0	56.1	53.8	51.9	50.3	50.1	49.9	53.2	5.0	58.2
	21	57.1	67.9	51.8	67.4	66.8	63.7	60.2	54.7	53.5	52.4	52.2	51.9	57.1	5.0	62.1
Night	22	52.7	57.5	50.4	57.0	56.5	55.5	54.7	53.0	52.0	50.9	50.7	50.5	52.7	10.0	62.7
	23	54.0	59.7	51.5	59.2	58.8	57.4	56.2	54.1	53.2	52.1	51.9	51.6	54.0	10.0	64.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	53.0	61.1	46.5	60.3	59.5	57.8	56.8	53.5	50.2	47.4	47.1	46.7
	Max	62.5	71.9	55.7	71.4	70.9	69.8	68.8	61.1	57.2	56.2	56.0	55.8
Energy Average		58.2	Average:		66.5	65.6	63.4	62.1	56.6	53.2	50.2	49.8	49.3
Evening	Min	53.2	59.9	49.8	59.4	58.9	57.0	56.1	53.8	51.9	50.3	50.1	49.9
	Max	57.1	67.9	52.3	67.4	66.8	63.7	60.2	56.2	54.3	52.9	52.7	52.4
Energy Average		55.7	Average:		62.9	62.3	60.2	58.4	54.9	53.2	51.9	51.7	51.4
Night	Min	48.4	52.6	46.2	52.3	51.9	50.8	50.2	49.0	47.9	46.7	46.5	46.3
	Max	60.3	65.9	56.4	65.4	65.2	64.5	63.9	60.9	58.6	57.3	56.8	56.5
Energy Average		55.5	Average:		58.7	58.2	57.1	56.3	54.1	52.7	51.4	51.2	50.9

L_{eq} (dBA)

24-Hour	Daytime	Nighttime
57.1	**57.8**	**55.5**

24-Hour CNEL (dBA)

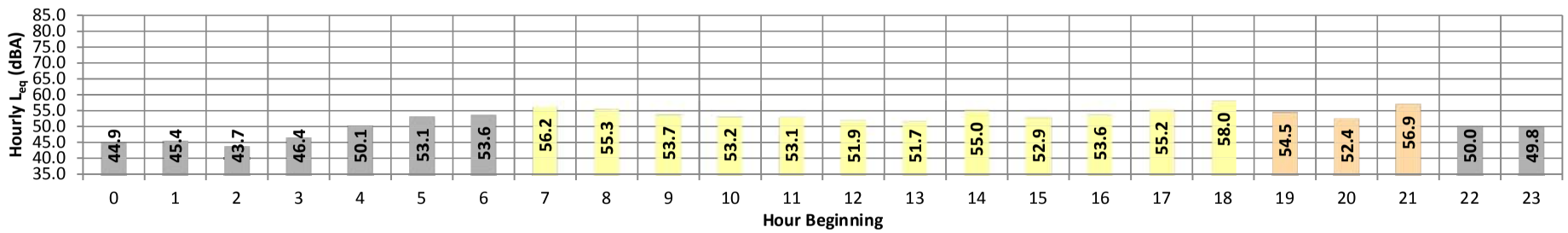
62.5

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019
Project: El Toro Road Residential
Location: L4 - Located northwest of the Project site on Packer Place near existing multi-family residential homes.
Meter: Piccolo II
JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	44.9	49.1	42.8	48.8	48.4	47.3	46.6	45.2	44.4	43.3	43.1	42.8	44.9	10.0	54.9
	1	45.4	52.0	41.6	51.5	50.9	49.5	48.3	45.9	44.2	42.5	42.1	41.7	45.4	10.0	55.4
	2	43.7	50.1	40.1	49.7	49.2	48.0	47.0	44.1	42.4	40.7	40.5	40.2	43.7	10.0	53.7
	3	46.4	52.4	42.7	52.1	51.7	50.1	49.2	47.5	44.9	43.3	43.0	42.8	46.4	10.0	56.4
	4	50.1	55.1	47.6	54.8	54.4	53.2	52.4	50.5	49.5	48.2	47.9	47.7	50.1	10.0	60.1
	5	53.1	59.8	50.6	59.5	58.6	56.2	55.1	53.1	52.2	51.1	50.9	50.7	53.1	10.0	63.1
	6	53.6	60.8	50.2	60.3	59.6	57.8	56.6	53.7	52.2	50.7	50.5	50.3	53.6	10.0	63.6
Day	7	56.2	64.5	52.6	63.9	63.1	60.6	58.9	56.0	54.6	53.2	53.0	52.7	56.2	0.0	56.2
	8	55.3	73.9	49.2	73.4	72.7	70.4	68.4	59.9	55.4	50.4	49.9	49.4	55.3	0.0	55.3
	9	53.7	65.4	43.1	64.7	63.7	60.7	58.6	52.1	47.6	44.0	43.6	43.2	53.7	0.0	53.7
	10	53.2	64.6	43.4	64.0	62.9	60.3	57.8	51.7	48.2	44.5	44.0	43.6	53.2	0.0	53.2
	11	53.1	64.8	43.1	64.2	63.1	59.5	57.0	52.1	48.1	44.2	43.8	43.3	53.1	0.0	53.1
	12	51.9	62.7	43.7	62.1	61.1	58.3	56.3	51.4	47.8	44.4	44.1	43.8	51.9	0.0	51.9
	13	51.7	61.0	42.9	60.5	59.9	57.8	56.1	51.6	48.5	44.2	43.6	43.0	51.7	0.0	51.7
	14	55.0	65.5	47.5	64.9	63.8	60.6	58.5	54.6	52.2	48.9	48.2	47.6	55.0	0.0	55.0
	15	52.9	63.9	45.6	63.3	62.1	58.9	56.8	51.9	49.2	46.5	46.2	45.7	52.9	0.0	52.9
	16	53.6	64.5	46.1	63.6	62.5	59.8	57.9	52.8	49.8	47.1	46.7	46.2	53.6	0.0	53.6
	17	55.2	67.8	45.8	66.3	65.2	61.4	59.1	53.7	50.6	46.8	46.4	46.0	55.2	0.0	55.2
	18	58.0	68.2	44.4	67.5	67.1	66.0	64.5	55.7	51.0	46.5	45.5	44.6	58.0	0.0	58.0
Evening	19	54.5	64.6	48.7	63.7	62.8	59.4	58.0	54.5	51.6	49.6	49.3	48.9	54.5	5.0	59.5
	20	52.4	63.2	46.1	62.1	60.9	58.2	55.9	52.1	49.9	46.7	46.5	46.2	52.4	5.0	57.4
	21	56.9	66.4	52.9	65.5	65.2	62.6	60.4	56.4	54.2	53.2	53.1	53.0	56.9	5.0	61.9
Night	22	50.0	57.9	46.0	57.4	56.8	55.2	53.6	49.8	48.1	46.6	46.3	46.1	50.0	10.0	60.0
	23	49.8	54.0	47.4	53.7	53.3	52.3	51.6	50.3	49.3	48.0	47.8	47.5	49.8	10.0	59.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	51.7	61.0	42.9	60.5	59.9	57.8	56.1	51.4	47.6	44.0	43.6	43.0
	Max	58.0	73.9	52.6	73.4	72.7	70.4	68.4	59.9	55.4	53.2	53.0	52.7
Energy Average		54.5	Average:		64.9	63.9	61.2	59.2	53.6	50.2	46.7	46.3	45.8
Evening	Min	52.4	63.2	46.1	62.1	60.9	58.2	55.9	52.1	49.9	46.7	46.5	46.2
	Max	56.9	66.4	52.9	65.5	65.2	62.6	60.4	56.4	54.2	53.2	53.1	53.0
Energy Average		55.0	Average:		63.8	63.0	60.1	58.1	54.3	51.9	49.8	49.6	49.3
Night	Min	43.7	49.1	40.1	48.8	48.4	47.3	46.6	44.1	42.4	40.7	40.5	40.2
	Max	53.6	60.8	50.6	60.3	59.6	57.8	56.6	53.7	52.2	51.1	50.9	50.7
Energy Average		49.8	Average:		54.2	53.7	52.2	51.2	48.9	47.4	46.0	45.8	45.5

L_{eq} (dBA)

24-Hour	Daytime	Nighttime
53.4	**54.6**	**49.8**

24-Hour CNEL (dBA)

58.0

APPENDIX 7.1:

ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	First Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Packer Pl.	*Job Number:*	13058
Lot No:	118	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	45.0	feet
Centerline Dist. to Observer:	53.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	52.134
Medium Trucks:	52.058
Heavy Trucks:	52.135

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-0.38	-1.20	*-1.36*	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.37	-1.20	*-1.57*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.38	-1.20	*-2.01*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.4	60.7	54.6	63.2	63.9
Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3
Heavy Trucks:	57.0	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	65.6	63.8	61.1	56.0	64.5	65.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.4	60.7	54.6	63.2	63.9
Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3
Heavy Trucks:	57.0	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	65.6	63.8	61.1	56.0	64.5	65.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	First Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	116	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	50.0	feet
Centerline Dist. to Observer:	58.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	57.210
Medium Trucks:	57.140
Heavy Trucks:	57.210

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-0.98	-1.20	*-1.37*	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.97	-1.20	*-1.55*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.98	-1.20	*-1.95*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	55.5	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	65.0	63.2	60.5	55.4	63.9	64.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	55.5	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	65.0	63.2	60.5	55.4	63.9	64.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	First Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	115	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	54.0	feet
Centerline Dist. to Observer:	62.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	61.262
Medium Trucks:	61.196
Heavy Trucks:	61.262

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.43	-1.20	*-1.37*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.42	-1.20	*-1.54*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.43	-1.20	*-1.91*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	64.5	62.7	60.0	54.9	63.5	64.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	64.5	62.7	60.0	54.9	63.5	64.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Second Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Packer Pl.	*Job Number:*	13058
Lot No:	118	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	45.0	feet
Centerline Dist. to Observer:	53.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	15.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	53.647
Medium Trucks:	53.198
Heavy Trucks:	52.516

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-0.56	-1.20	*-7.31*	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.51	-1.20	*-7.87*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.42	-1.20	*-9.05*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	56.9	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	65.4	63.6	60.9	55.8	64.4	64.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.2	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	56.9	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	65.4	63.6	60.9	55.8	64.4	64.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Second Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	116	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	50.0	feet
Centerline Dist. to Observer:	58.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	15.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	58.592
Medium Trucks:	58.181
Heavy Trucks:	57.558

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.14	-1.20	*-7.44*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.09	-1.20	*-7.95*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.02	-1.20	*-9.02*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6
Vehicle Noise:	64.8	63.1	60.3	55.2	63.8	64.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6
Vehicle Noise:	64.8	63.1	60.3	55.2	63.8	64.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Second Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	115	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	54.0	feet
Centerline Dist. to Observer:	62.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	15.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	62.554
Medium Trucks:	62.169
Heavy Trucks:	61.587

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.56	-1.20	*-7.52*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.52	-1.20	*-8.00*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.46	-1.20	*-9.00*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	54.9	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.9	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	64.4	62.6	59.9	54.8	63.4	63.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	54.9	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.9	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	64.4	62.6	59.9	54.8	63.4	63.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Third Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Packer Pl.	*Job Number:*	13058
Lot No:	118	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	45.0	feet
Centerline Dist. to Observer:	53.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	25.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	56.903
Medium Trucks:	56.125
Heavy Trucks:	54.752

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-0.95	-1.20	*-13.23*	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.86	-1.20	*-14.11*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.69	-1.20	*-15.95*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.6	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	65.1	63.3	60.5	55.5	64.0	64.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.6	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	65.1	63.3	60.5	55.5	64.0	64.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Third Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	116	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	50.0	feet
Centerline Dist. to Observer:	58.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	25.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	61.587
Medium Trucks:	60.869
Heavy Trucks:	59.605

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.46	-1.20	*-13.59*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.38	-1.20	*-14.41*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.25	-1.20	*-16.09*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	55.1	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	64.5	62.8	60.0	54.9	63.5	64.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	55.1	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.4
Vehicle Noise:	64.5	62.8	60.0	54.9	63.5	64.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Third Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	115	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	54.0	feet
Centerline Dist. to Observer:	62.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	25.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.368
Medium Trucks:	64.692
Heavy Trucks:	63.504

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.85	-1.20	*-13.85*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.78	-1.20	*-14.61*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.66	-1.20	*-16.19*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	54.7	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	54.2	45.2	46.5	54.8	54.9
Vehicle Noise:	64.1	62.4	59.6	54.5	63.1	63.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	54.7	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	54.2	45.2	46.5	54.8	54.9
Vehicle Noise:	64.1	62.4	59.6	54.5	63.1	63.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Fourth Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Packer Pl.	*Job Number:*	13058
Lot No:	118	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	45.0	feet
Centerline Dist. to Observer:	53.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	35.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	61.628
Medium Trucks:	60.581
Heavy Trucks:	58.632

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.47	-1.20	*-18.11*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.35	-1.20	*-19.25*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.14	-1.20	*-21.65*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	55.1	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	56.2	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	64.6	62.8	60.0	54.9	63.5	64.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	55.1	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	56.2	54.8	45.7	47.0	55.3	55.5
Vehicle Noise:	64.6	62.8	60.0	54.9	63.5	64.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Fourth Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	116	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	50.0	feet
Centerline Dist. to Observer:	58.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	35.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.977
Medium Trucks:	65.000
Heavy Trucks:	63.188

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-1.91	-1.20	*-18.80*	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.81	-1.20	*-19.86*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.63	-1.20	*-22.08*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	54.3	45.2	46.5	54.8	55.0
Vehicle Noise:	64.1	62.3	59.6	54.5	63.1	63.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	55.7	54.3	45.2	46.5	54.8	55.0
Vehicle Noise:	64.1	62.3	59.6	54.5	63.1	63.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario:	Fourth Floor With Wall	*Project Name:*	El Toro Road Residential
Road Name:	Raymond Ave.	*Job Number:*	13058
Lot No:	115	*Analyst:*	P. Mara

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,000	vehicles
Vehicle Speed:	40	mph
Near/Far Lane Distance:	20	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	54.0	feet
Centerline Dist. to Observer:	62.0	feet
Barrier Distance to Observer:	8.0	feet
Observer Height (Above Pad):	35.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Barrier Elevation:	0.0	feet
Road Grade:	0.0%	

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	2.000		
Medium Trucks:	4.000		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	69.520
Medium Trucks:	68.593
Heavy Trucks:	66.878

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	67.36	-1.44	-2.25	-1.20	*-19.28*	0.000	0.000
Medium Trucks:	76.31	-18.68	-2.16	-1.20	*-20.28*	0.000	0.000
Heavy Trucks:	81.16	-22.63	-2.00	-1.20	*-22.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.8	62.0	59.2	54.1	62.7	63.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.8	62.0	59.2	54.1	62.7	63.2

APPENDIX 9.1:

OPERATIONAL NOISE LEVEL CALCULATIONS

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13058

CadnaA Noise Prediction Model

13058_01.cna

Date:

24.02.20

Analyst:

B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	49.9	41.4	50.0	55.0	50.0	0.0				5.00	a	6119923.18	2173389.61	5.00
R2		R2	46.4	39.6	47.5	55.0	50.0	0.0				5.00	a	6120040.71	2173391.09	5.00
R3		R3	41.6	39.0	45.7	55.0	50.0	0.0				5.00	a	6120064.58	2173027.68	5.00
R4		R4	40.9	38.4	45.1	55.0	50.0	0.0				5.00	a	6119567.05	2173116.72	5.00
R5		R5	46.7	43.7	50.5	55.0	50.0	0.0				5.00	a	6119751.73	2173244.85	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		0.0	0.0	0.0				585.00	0.00	252.00	0.0	500	(none)	5.00	g	6120000.17	2173125.32	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		0.0	0.0	0.0				585.00	0.00	252.00	0.0	500	(none)	5.00	g	6119873.69	2173009.41	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		0.0	0.0	0.0				585.00	0.00	252.00	0.0	500	(none)	5.00	g	6119768.35	2173123.05	50.00
POINTSOURCE		COURT01	91.5	91.5	91.5	Lw	91.5		0.0	0.0	0.0				900.00	0.00	0.00	0.0	500	(none)	5.00	a	6119875.95	2173119.28	5.00
POINTSOURCE		COURT02	91.5	91.5	91.5	Lw	91.5		0.0	0.0	0.0				900.00	0.00	0.00	0.0	500	(none)	5.00	a	6119896.72	2173098.51	5.00
POINTSOURCE		COURT03	91.5	91.5	91.5	Lw	91.5		0.0	0.0	0.0				900.00	0.00	0.00	0.0	500	(none)	5.00	a	6119842.35	2173119.65	5.00
POINTSOURCE		PLAY	75.1	75.1	75.1	Lw	75.1		0.0	0.0	0.0				900.00	0.00	0.00	0.0	500	(none)	4.00	a	6119857.07	2173104.55	4.00
POINTSOURCE		TRASH	89.0	89.0	89.0	Lw	89		0.0	0.0	0.0				300.00	0.00	180.00	0.0	500	(none)	5.00	a	6119935.98	2173120.79	5.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
			left	right		horz.	vert.	Begin		End	
					(ft)	(ft)	(ft)	(ft)		(ft)	
BARRIERS		BARRIERS00001						6.00	a		

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(ft)	
BUILDING		BUILDING00001	x	0		45.00	a

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APPENDIX 10.1:

CONSTRUCTION NOISE LEVEL CALCULATIONS

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13058

CadnaA Noise Prediction Model

13058_01Construction.cna

Date:

24.02.20

Analyst:

B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	73.6	73.6	80.3	85.0	0.0	0.0				5.00	a	6119923.18	2173389.61	5.00
R2		R2	72.9	72.9	79.6	85.0	0.0	0.0				5.00	a	6120040.71	2173391.09	5.00
R3		R3	70.9	70.9	77.6	85.0	0.0	0.0				5.00	a	6120064.58	2173027.68	5.00
R4		R4	66.3	66.3	72.9	85.0	0.0	0.0				5.00	a	6119567.05	2173116.72	5.00
R5		R5	71.1	71.1	77.8	85.0	0.0	0.0				5.00	a	6119751.73	2173244.85	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(ft^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
SITEBOUNDARY		SITEBOUNDARY00001	114.3	114.3	114.3	75.3	75.3	75.3	Lw''	75.3		0.0	0.0	0.0							0.0	500	(none)			

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
			left	right		horz.	vert.	Begin		End	
					(ft)	(ft)	(ft)	(ft)		(ft)	
BARRIERS		BARRIERS00001						6.00	a		

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(ft)	
BUILDING		BUILDING00001	x	0		45.00	a

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APPENDIX I – TRANSPORTATION ASSESSMENT

FEHR PEERS

FINAL MEMORANDUM

Date: May 11, 2020

To: Alexa Washburn, National Community Renaissance

From: Paul Herrmann, P.E.
Jessica Johnson

Subject: Mountain View Affordable Housing Community Transportation Assessment

OC19-0668

This memorandum documents a transportation assessment conducted by Fehr & Peers for the proposed Mountain View Affordable Housing Community project (Project) located at 24551 Raymond Way in Lake Forest, California.

In the first part of this assessment, Fehr & Peers provides a review of proposed trip generation of the Project. The second part of this assessment reviews Vehicle Miles Traveled (VMT) in compliance with Senate Bill 743 (SB 743). This VMT analysis is consistent with requirements of the Office of Planning and Research's (OPR's) technical advisory.

The results of the assessment conclude that the proposed Project is anticipated to generate fewer total trips than the existing land use and would result in a less-than-significant transportation impact. The Project is also presumed to result in a less-than-significant transportation impact related to VMT as it is a 100% affordable housing project.

PROJECT DESCRIPTION

The Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing approximately 31,000 square feet (SF) office building on 1.96 acres. The Project is located within a quarter mile of the Orange County Transportation Authority bus route 89 (El Toro-Raymond) transit stop on El Toro Road.

PROJECT TRIP GENERATION

Trip generation rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017) and affordable housing rates from the *Transportation Assessment Guidelines* (Los Angeles Department of Transportation [LADOT], 2019) were used to estimate the number of trips associated with the Project. ITE trip generation rates for General Office (ITE Code 710) were used for the existing office building(s). Since ITE does not distinguish trip generation rates for market-rate housing and affordable housing, trip generation rates from the LADOT *Transportation Assessment Guidelines* were used to estimate the number of trips associated with the affordable housing and PSH units.

Affordable housing trip generation rates differ from market-rate housing rates due to the potential limited access to private vehicles and higher use of public transit of affordable housing residents. The affordable housing and PSH trip generation rates are based on vehicle trip count data collected in Los Angeles in 2016. LA's Transportation Assessment Guidelines identify different trip generation rates according to type of housing and proximity to high quality transit. High quality transit is transit with 15-minute headways or less. The Project is located within a quarter mile of a transit stop with 30-minute headways. As the Project is not located within a half mile of a transit priority area (TPA) with high quality transit, rates for outside of a TPA were used. **Appendix A** includes the LADOT trip generation rates for affordable housing projects. The trip generation rates used are presented in **Table 1** below:

Table 1: Trip Generation Rates

Land Use	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Affordable Housing (Family) - (Outside of TPA) [2,3]	-	4.15	40%	60%	0.55	55%	45%	0.43
Permanent Supportive Housing - (Outside of TPA)[2,3]	-	1.50	71%	29%	0.09	49%	51%	0.16
General Office[1]	710	9.74	86%	14%	1.16	16%	84%	1.15

Source: 1. *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017)
2. *Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines* (LADOT, 2019)
3. TPA refers to transit priority area

As presented in **Table 2**, the Project is expected to generate approximately 263 daily trips, including approximately 33 trips (14 inbound/19 outbound) during the AM peak hour, and approximately 27 trips (15 inbound/12 outbound) during the PM peak hour. To estimate a conservative scenario, no additional transit credits were applied to the trip generation estimates. Compared to the existing

office, the Project would generate approximately 39 less daily trips, including approximately 3 less trips during the AM peak hour and approximately 9 less trips during the PM peak hour.

Table 2: Project Trip Generation Estimate

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Project								
Affordable Housing (Family) [2]	59 DU	245	13	19	32	14	11	25
Permanent Supportive Housing[2]	12 DU	18	1	0	1	1	1	2
Project Total		**263**	**14**	**19**	**33**	**15**	**12**	**27**
Existing								
General Office[1]	31 KSF	**302**	**31**	**5**	**36**	**6**	**30**	**36**
Net New Total Trips		**(39)**	**(17)**	**14**	**(3)**	**9**	**(18)**	**(9)**

Notes: DU = dwelling units
KSF = 1,000 square feet
Source: 1. *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017)
2. *Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines* (LADOT, 2019)

VEHICLE MILES TRAVELED (VMT) ASSESSMENT

SB 743, signed by the California Governor in 2013, changed the way transportation impacts are identified. Specifically, the legislation has directed the Office of Planning and Research (OPR) to look at different metrics for identifying transportation as an impact under California Environmental Quality Act (CEQA). The Final OPR guidelines, released in November 2017, identify VMT as the preferred metric for traffic impact analysis moving forward. The City of Lake Forest has not adopted thresholds of significance related to VMT, so this assessment was conducted consistent with the Technical Advisory[1] prepared by OPR.

According to the Technical Advisory, agencies such as Lake Forest may "use 'screening thresholds' to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing."

[1] *Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.* http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

There is a presumption of less-than-significant impact for residential development as "infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development"

Since the proposed Project is 100 percent affordable housing, it is presumed to result in a less-than-significant transportation impact related to VMT.

CONCLUSION

The Project is anticipated to generate less trips during the AM and PM peak hours as compared to the existing office building. Project traffic distribution is assumed to assign traffic in all directions. Therefore, the Project traffic would result in intersection operations equal to or better than existing operations in the vicinity of the Project site.

Consistent with the Technical Advisory provided by OPR, the proposed Project is presumed to result in a less-than-significant transportation impact related to VMT since it is 100 percent affordable housing.