

PARTNER

PHASE II SUBSURFACE INVESTIGATION REPORT

Long Beach - Phase II
901 East Pacific Coast Highway
Long Beach, California 90813

July 2, 2019
Partner Project Number: 18-232543.2

Prepared for:
Mercy Housing
1500 South Grand Avenue, Suite 100
Los Angeles, California 90015



Engineers who understand your business

July 2, 2019

Christine Anderson
Mercy Housing
1500 South Grand Avenue, Suite 100
Los Angeles, California 90015

Subject: Phase II Subsurface Investigation Report
Long Beach - Phase II
901 East Pacific Coast Highway
Long Beach, California 90813
Partner Project Number: 18-232543.2

Dear Ms. Anderson:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the assessment performed at the above-referenced property. The following report describes the field activities, methods, and findings of the Phase II Subsurface Investigation conducted at the above-referenced property.

This assessment was performed consistent with acceptable industry standards. The independent conclusions represent Partner's best professional judgment based upon existing conditions and the information and data available to us during the course of this assignment.

We appreciate the opportunity to provide these services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Rob Vaughn at (949) 481-9818.

Sincerely,

Partner Engineering and Science, Inc.

DRAFT

Mark Bullivant
Project Geologist

DRAFT

Rob Vaughn
National Client Manager

DRAFT

Samantha J. Fujita, PG
Regional Manager – Subsurface Investigation

TABLE OF CONTENTS

1.0	Introduction	1
1.1	Purpose	1
1.2	Limitations	1
1.3	User Reliance	1
2.0	Site Background.....	2
2.1	Site Description.....	2
2.2	Site History	2
2.3	Geology and Hydrogeology	3
3.0	Field Activities	4
3.1	Preparatory Activities.....	4
3.1.1	Utility Clearance.....	4
3.1.2	Health and Safety Plan.....	4
3.2	Drilling Equipment.....	4
3.3	Sample Locations	4
3.4	Soil Sampling	4
3.5	Groundwater Sampling.....	5
3.6	Soil Gas Sampling	5
3.7	Post-Sampling Activities.....	6
4.0	Data Analysis.....	7
4.1	Laboratory Analysis	7
4.2	Regulatory Agency Comparison Criteria	7
4.3	Soil Sample Data Analysis.....	8
4.4	Groundwater Sample Data Analysis	8
4.5	Soil Gas Sample Data Analysis.....	8
4.6	Discussion	8
5.0	Summary and Conclusions.....	9

ATTACHMENTS

Tables	1. Summary of Investigation Scope
	2. Soil Sample TPH-cc Laboratory Results
	3. Groundwater Sample VOCs Laboratory Results
	4. Soil Gas Sample VOCs Laboratory Results
Figures	1. Site Vicinity Map
	2. Topographic Map
	3. Sample Location Map
Appendices	A. Boring Logs
	B. Laboratory Analytical Reports

1.0 INTRODUCTION

1.1 Purpose

The purpose of the investigation was to evaluate the potential impact of petroleum hydrocarbons, volatile organic compounds (VOCs), and/or polychlorinated biphenyls (PCBs) to soil gas, soil, and/or groundwater as a consequence of a release or releases from the on-site automotive repair/body activities. Mercy Housing provided project authorization of Partner Proposal Number P18-232543.2.

1.2 Limitations

This report presents a summary of work conducted by Partner. The work includes observations of site conditions encountered and the analytical results provided by an independent third-party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. It cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

Conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally-accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

1.3 User Reliance

Partner was engaged by Mercy Housing (the Addressee), or their authorized representative, to perform this investigation. The engagement agreement specifically states the scope and purpose of the investigation, as well as the contractual obligations and limitations of both parties. This report and the information therein, are for the exclusive use of the Addressee. This report has no other purpose and may not be relied upon, or used, by any other person or entity without the written consent of Partner. Third parties that obtain this report, or the information therein, shall have no rights of recourse or recovery against Partner, its officers, employees, vendors, successors or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, the Addressee and their respective officers, employees, vendors, successors and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees) and costs attributable to such use. Unauthorized use of this report shall constitute acceptance of, and commitment to, these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted.

This report has been completed under specific Terms and Conditions relating to scope, relying parties, limitations of liability, indemnification, dispute resolution, and other factors relevant to any reliance on this report. Any parties relying on this report do so having accepted Partner's standard Terms and Conditions, a copy of which can be found at <http://www.partneresi.com/terms-and-conditions.php>.

2.0 SITE BACKGROUND

2.1 Site Description

The subject property consists of two parcels of land comprising 0.363 acre located on the northeast corner of the East Pacific Coast Highway and Myrtle Avenue intersection within a mixed residential and commercial area of Long Beach, Los Angeles County, California. The subject property is currently developed with three single-story commercial buildings, which were constructed in 1956, 1951/1960, and 1962. The subject property is currently occupied by D'Paz Automotive Service & Arturo's Paint and Body Shop for commercial use. On-site operations consist of general automotive maintenance and repair and automotive body and painting work. In addition to the current structures, the subject property is improved with asphalt-paved parking and concrete walkways.

The subject property is bound by residential properties to the north across an alley, vacant land to the east, commercial properties to the south across East Pacific Coast Highway, and residential properties and vacant land to the west across Myrtle Avenue. Refer to Figure 1 for a site plan showing site features and surrounding properties.

2.2 Site History

Partner completed a Phase I Environmental Site Assessment Report (Phase I) for the subject property, dated March 5, 2019, on behalf of Mercy Housing. According to the reviewed historical sources, the subject property was previously undeveloped as early as 1896, developed with dwellings between 1921 and 1950, and developed with the current structures between 1951 and 1962.

According to historical sources, regulatory records, and previous environmental reports, the subject property has been occupied by automotive repair businesses since approximately 1951 and an automotive spray booth since at least 1962. According to the regulatory database report, Long Beach Fire Department (LBFD), South Coast Air Quality Management District (SCAQMD), and Department of Toxic Substances Control (DTSC) records, the subject property was permitted to generate hazardous waste related to automotive repair and automotive body operations such as oxygenated solvents, unspecified solvent mixture, waste oil and mixed oil, waste paint, and unspecified aqueous solution from at least 1993 to 2017. The subject property was permitted to operate spray paint booths with solvents from 1962 to 2018. Various minor violations were identified with the SCAQMD and LBFD, which were subsequently abated.

During Partner's site reconnaissance, excessive spilling and staining of hazardous substances, including motor oil, hydraulic oil, anti-freeze, and paint solvent waste were observed throughout service areas on the subject property. Partner also observed a two-stage clarifier located in the tire service area of the western automotive repair building. The clarifier was reportedly connected to a sealed drain within the hazardous waste storage room. Partner observed oily liquids within the chambers of the clarifier. The installation date of the clarifier is unknown; however, Partner presumes the clarifier was installed when the building was constructed in the 1950s. Clarifiers can act as conduits to the subsurface of properties and when utilized to treat waste water streams, can act as preferential pathways for contaminants in the waste streams. Additionally, the structural integrity of clarifiers and their associated piping can become compromised over time. Based on the presumed age of the clarifier and associated drains, the presence of oily liquid substance

within the clarifier, and the historical vehicle repair operations at the subject property, the potential exists that a release from these features may have resulted in an impact to the subsurface of the subject property.

Additionally, Partner observed the presence of one in-ground hydraulic lift within the tire service area of the western automotive repair building. The lift was presumably installed in the 1950s, when the building was constructed. Based on the pre-1977 installation of the lifts, the potential exists that the hydraulic fluid within the lift systems previously contained PCBs. Due to the age of the equipment, the integrity of the equipment is unknown; therefore, the potential exists that a release of hydraulic fluid which may have contained PCBs has occurred on site.

Although no releases were reported for the subject property, Partner notes that current regulatory oversight measures were not in place prior to the mid-1980s. Relatively few if any requirements were enforced prior to this time with regard to storage, use, and disposal of typical automotive repair fluids and, consequently, impacts to soil and groundwater are commonly encountered at historical automotive repair facilities as a result of spills, improper disposal, and occasionally normal usage. Based on the available information, the long-term use of the subject property for automotive repair/body operations represents a recognized environmental condition (REC).

2.3 Geology and Hydrogeology

Review of the United States Geological Survey (USGS) Long Beach, California Quadrangle topographic map, indicates the subject property is situated approximately 25 feet above mean sea level, and the local topography is sloping gently to the south. Refer to Figure 2 for a topographic map of the site vicinity.

The subject property is situated within the Peninsular Ranges geomorphic province of the State of California. The subject property is in the western portion of Los Angeles Coastal Plain and is underlain by a thin veneer of recent alluvium composed of sand, silt and clay. The recent alluvium is underlain by gravel, sand, silt, and clay of Upper Pleistocene Lakewood Formation to approximately 200 feet below ground surface (bgs). The Lakewood Formation is underlain by sand, silt and clay of lower Pleistocene San Pedro Formation to 1,200 feet bgs.

Based on borings advanced during this investigation, the underlying subsurface consists predominantly of silt and silty sand from the ground surface to approximately 30 feet below ground surface (bgs). Groundwater was encountered during this investigation between 26 and 30 feet bgs. Refer to Appendix A for boring logs from this investigation.

3.0 FIELD ACTIVITIES

The Phase II Subsurface Investigation scope included the advancement of 10 borings (B1 through B10) to collect representative soil, groundwater, and/or soil gas samples. Refer to Table 1 for a summary of the borings, sampling schedule and laboratory analyses for this investigation.

3.1 Preparatory Activities

Prior to the initiation of fieldwork, Partner completed the following activities.

3.1.1 Utility Clearance

Partner delineated the work area with white spray paint and notified Underground Service Alert (USA) to clear public utility lines as required by law at least two business days prior to drilling activities. USA issued ticket number B19156045 for the project.

In addition, Partner subcontracted with Ground Penetrating Radar Systems (GPRS) on June 18, 2019 to clear boring locations of utilities. GPRS systematically free-traversed each proposed boring location with a Radiodetection model RD7000 electromagnetic induction (EM) equipment unit with line-tracing capabilities, and a GSSI model SIR-3000 ground penetrating radar (GPR) unit. The data was interpreted in real time for evidence of utility lines and/or other subsurface features of potential concern. Based on the findings of the GPR survey, no subsurface utilities were identified within the proposed boring locations.

3.1.2 Health and Safety Plan

Partner prepared a site-specific Health and Safety Plan, which was reviewed with on-site personnel involved in the project prior to the commencement of drilling activities.

3.2 Drilling Equipment

On June 18, 2019, Partner subcontracted with Kehoe Testing and Engineering (Kehoe) (State of California Water Well Drilling Contractor License Number 786163) to provide and operate drilling equipment. Kehoe, under the direction of Partner, advanced borings B1 through B7 with a limited-access Geoprobe Model 520 direct push rig and advanced borings B7 through B10 with a truck-mounted Geoprobe Model 6600 direct push rig. Sampling equipment was decontaminated between sample intervals and boring locations to prevent cross-contamination.

3.3 Sample Locations

Boring B1 was advanced within the eastern area of staining. Boring B2 was advanced with the northeastern area of staining. Boring B3 was advanced to the east of the eastern clarifier. Borings B4, B6, and B7 were advanced within the southern, northeast, and northwest portions of the large area of staining. Boring B5 was advanced to the north of the hydraulic lift. Boring B8 was advanced to the south of the western clarifier. Boring B9 was advanced within the western area of staining. Boring B10 was advanced to the south exterior of the southern interior staining and hazardous materials storage. Refer to Figure 3 for a map indicating sample locations.

3.4 Soil Sampling

Borings B1 through B7 were overlain by concrete, which was penetrated using a concrete coring attachment advanced by the direct-push drill rig. Borings B8 through B10 were overlain by asphalt, which was

penetrated using a punch bit attachment advanced by the direct-push drill rig. Borings B1, B2, B4, B6, B7, B9, and B10 were advanced to a terminal depth of 10 feet bgs. Boring B3 was advanced to drilling refusal at a terminal depth of 20 feet bgs. Boring B5 was advanced to a terminal depth of 12 feet bgs. Boring B8 was advanced to a terminal depth of 30 feet bgs.

Soil samples were collected using a 2-foot long by 1.5-inch diameter sampler with a 2-foot long acetate liner and sampling point. The sampler was advanced by the direct-push drill rig using 3-foot long (4-foot long for the truck-mounted rig) by 1.25-inch diameter hollow rods with the inner rods in place. At approximately 1 foot above the desired sampling depth, an inner rod was removed and the sampler was advanced to the desired sampling depth to allow undisturbed soil to enter the sampling liner. The sampler was retrieved from the subsurface and the soil-filled liner was removed.

Each acetate liner was cut using a hacksaw. Samples were collected from the lower half of the liner using a disposable plastic syringe and retained in two sodium bisulfate-preserved and one methanol-preserved volatile organics analysis (VOA) vials in accordance with United States Environmental Protection Agency (EPA) Method 5035 sampling protocol. The remainder of the lower half of the liner was capped on either end with Teflon tape and plastic caps. The capped liners and VOA vials were labeled for identification and stored in an iced cooler. The soil in the upper half of the liner was visually inspected for discoloration, monitored for odors, classified in accordance with the Unified Soil Classification System, placed in a sealable plastic bag, and field-screened with a photoionization detector (PID). None of the samples exhibited discoloration or an odor and none of the PID readings suggested the presence of elevated volatile organics concentrations.

Soil samples were collected from borings B1, B3, B4, B6, B7, B9, and B10 at 2, 5, and 10 feet bgs, from boring B2 at 5, 10, 15, and 20 feet bgs, from boring B5 at 4, 8, and 12 feet bgs, and from boring B8 at 5, 10, 15, 20, 25, and 30 feet bgs.

3.5 Groundwater Sampling

After soil sampling to the terminal depth, a temporary monitoring well was installed within the drill rods at boring B8 by advancing the sampler fitted with an expendable steel point to the terminal depth and retracting the rods to expose a steel well screen.

Groundwater samples were retrieved from the temporary monitoring well using a new section of 3/8-inch diameter polyethylene tubing with a check valve at the terminal end and conveyed into two hydrochloric acid-preserved VOA vials. Each vial was filled with no observable headspace or air bubbles to minimize the potential for volatilization, labeled for identification, and stored in an iced cooler.

A groundwater sample was collected from a temporary well point at boring B8 screened from 26 to 30 feet bgs.

3.6 Soil Gas Sampling

Soil Gas Probe Construction

Soil gas probes screened at 5 feet bgs were constructed within nine of the boreholes (B1 through B4 and B6 through B10) upon completion of soil sampling. Boreholes were backfilled with dry, granular bentonite to approximately 6 inches below the desired sampling depth, as needed. A new section of 1/4-inch diameter

polyethylene tubing with a new ¼-inch diameter polypropylene filter at the terminal end was inserted into the borehole to the desired sampling depth. One-inch diameter polyvinyl chloride (PVC) casing was used as a guide for the tubing to ensure that the desired sampling depth was achieved. Sand was poured into the boring annulus to form an approximately 1-foot long sand pack around the polypropylene filter, at which time the PVC piping was withdrawn. Approximately 1 foot of dry, granular bentonite was placed atop the sand pack and the remainder of the borehole was backfilled with hydrated bentonite to the ground surface to form a seal. The sampling end of the tubing was fitted with a valve and the probe was labeled for identification.

Soil Gas Sampling Methodology

Soil gas samples were collected in general accordance with the July 2015 Department of Toxic Substances Control (DTSC) and Los Angeles Regional Water Quality Control Board (LARWQCB) "Advisory – Active Soil Gas Investigations."

Soil gas samples were collected using 1-liter, stainless-steel, cylindrical SUMMA canisters. The sampling containers were provided by SunStar Laboratories, Inc. (SunStar) a state-certified laboratory (California Department of Public Health Environmental Laboratory Accreditation Program certificate number 2250) in Lake Forest, California, which subjected each canister to a rigorous cleaning process using a combination of dilution, heat, and high vacuum. After cleaning, the canisters were batch certified to be free of target contaminants to a specified reporting limit via gas chromatography/mass spectroscopy prior to delivery.

Partner received the SUMMA canisters evacuated to approximately minus 30 inches of mercury. The SUMMA canisters were fitted with stainless-steel flow controllers, which Sunstar calibrated to maintain constant flow (approximately 0.1 liter per minute) for approximately 5 to 10 minutes of sampling time.

Each probe was allowed to equilibrate for a minimum of two hours after installation prior to sampling. After equilibration, the sample tubing and sampler screen were purged of ambient air using a separate 1-liter SUMMA purge volume canister evacuated to approximately minus 30 inches of mercury. A tracer gas [1,1-difluoroethane (1,1-DFA)] was placed around each probe at the ground surface while sampling to detect ambient air intrusion. The tracer gas was not detected in any sample, indicating that the integrity of the bentonite seal was maintained. Once the sampling tubing was purged of ambient air, the sampling end of the tubing was fitted to the sampling canister and the port valve was opened, causing air to enter the sample container due to the pressure differential. Partner closed the valves after the canister was evacuated to approximately minus 1 to 2 inches of mercury, with pertinent data (e.g., time, canister vacuum) recorded at the start and end of sampling.

The SUMMA canisters were labeled for identification and stored away from direct sunlight prior to analysis.

Partner successfully connected individual one-liter SUMMA canisters to each sampling point. Soil gas samples were collected from borings B1 through B4 and B6 through B10 at 5 feet bgs.

3.7 Post-Sampling Activities

Probes and/or temporary well points were removed, as necessary, from the subsurface and the boreholes were backfilled with hydrated bentonite chips following sampling activities. Boreholes advanced in improved areas were capped with concrete or asphalt patch to match existing ground cover after being backfilled. No significant amounts of derived wastes were generated during this investigation.

4.0 DATA ANALYSIS

4.1 Laboratory Analysis

Partner collected 34 soil samples, one groundwater sample, and nine soil gas samples on June 18, 2019, which were transported in an iced cooler (soil and groundwater samples) or at room temperature (soil gas samples) under chain-of-custody protocol to SunStar for analysis on June 19, 2019. Based on field-screening results, visual observations, and/or olfactory observations, one soil sample per clarifier, hazardous materials storage, and staining/spills boring (nine soil samples total) and the groundwater sample were analyzed for carbon chain total petroleum hydrocarbons (TPH-cc) via EPA Method 8015B and for VOCs via EPA Method 8260B and one soil sample from the hydraulic lift boring was analyzed for TPH-cc via EPA Method 8015B and PCBs via EPA Method 8082. Each of the nine soil gas samples was analyzed for VOCs via EPA Method TO-15. The remaining soil samples were placed on hold at the laboratory.

Laboratory analytical results are included in Appendix B and discussed below.

4.2 Regulatory Agency Comparison Criteria

Maximum Soil Screening Levels

Maximum Soil Screening Levels (SSLs) are concentrations of petroleum hydrocarbons that are allowed to remain in soil without potentially degrading the quality of groundwater underlying a site. Maximum SSLs are established and enforced by the Los Angeles Regional Water Quality Control Board (LARWQCB).

Department of Toxic Substances Control Attenuation Factor and Regional Screening Levels

Regional Screening Levels (RSLs) are generic, risk-based chemical concentrations developed by the EPA for use in initial screening-level evaluations. RSLs combine human health toxicity values with standard exposure factors to estimate contaminant concentrations that are considered to be health protective of human exposures over a lifetime through direct-contact exposure pathways (e.g., via inhalation and/or ingestion of and/or dermal contact with impacted soil and/or indoor air). RSLs are not legally enforceable standards, but rather are considered guidelines to evaluate if potential risks associated with encountered chemical impacts may warrant further evaluation.

The DTSC Office of Human and Ecological Risk (HERO) developed California-Modified RSLs based on a review of 1) RSL concentrations, and 2) recent toxicity values.

While soil gas detections are not immediately comparable to the indoor air quality guidelines within the RSLs, the DTSC issued a recommended default attenuation factor of 0.001 (for proposed residential redevelopment contaminant source sampling locations) for sites where the attenuation factor for the building slab is unknown or cannot be determined in the October 2011 document Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air. With the subsurface contaminant concentrations and default attenuation factors, the associated contaminant concentrations in indoor air can be estimated as Calculated Residential and Commercial/Industrial Soil Gas Screening Levels (SGSLs).

In addition, the DTSC is currently evaluating a recommended default attenuation factor of 0.03 for sub-slab soil gas and near-source exterior soil gas from the June 2015 document Office of Solid Waste and Emergency Response (OSWER) Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air.

4.3 Soil Sample Data Analysis

One of the analyzed soil samples (B4-2) contained detectable concentrations of total petroleum hydrocarbons as diesel (TPH-d) and total petroleum hydrocarbons as motor oil (TPH-o) above the laboratory reporting limits (RLs). The detected concentrations of TPH-d and TPH-o did not exceed the Maximum SSLs. None of the remaining analyzed soil samples contained TPH-cc above laboratory RLs and the RLs did not exceed the applicable screening levels.

None of the analyzed soil samples contained VOCs or PCBs above the laboratory RLs and the laboratory RLs were below applicable RSLs.

Refer to Table 2 for a summary of the soil sample TPH-cc laboratory analysis results.

4.4 Groundwater Sample Data Analysis

The analyzed groundwater sample did not contain detectable concentrations of TPH-cc above the laboratory RLs and the laboratory RLs were below applicable screening levels.

The analyzed groundwater sample contained a detectable concentration of tetrachloroethylene (PCE) above the laboratory RL. The detected concentration of PCE did not exceed the MCL. None of the remaining VOCs were detected in the analyzed groundwater sample above laboratory RLs and the RLs did not exceed the MCLs.

Refer to Table 3 for a summary of the groundwater sample VOCs laboratory analysis results.

4.5 Soil Gas Sample Data Analysis

Benzene; toluene; ethylbenzene; m,p-xylene; o-xylene; PCE; trichloroethylene (TCE); acetone; chloroform; cyclohexane; heptane; 1,3,5-trimethylbenzene (TMB); 1,2,4-TMB; 2-butanone; methyl isobutyl ketone; 1,3-butadiene; and isopropyl alcohol were detected in the analyzed soil gas samples at concentrations exceeding laboratory RLs.

None of the detected concentrations of VOCs in soil gas exceed the current regulatory guideline for residential redevelopment.

Refer to Table 4 for a summary of the soil gas sample VOCs laboratory analysis results.

4.6 Discussion

Partner understands that the subject property is slated for redevelopment as a residential building. Based on the proposed redevelopment of the subject property for residential use, the detected concentrations of VOCs in soil gas do not appear to represent a concern for vapor intrusion for the proposed construction at this time. Based on the lack of detections in soil, groundwater, and soil gas above current regulatory guidelines, there does not appear to be a release above de minimis concentrations at this time.

5.0 SUMMARY AND CONCLUSIONS

Partner conducted a Phase II Subsurface Investigation at the subject property to evaluate the potential impact of petroleum hydrocarbons, VOCs, and/or PCBs to soil gas, soil, and/or groundwater as a consequence of a release or releases from the on-site automotive repair/body activities. The scope of the Phase II Subsurface Investigation included 10 borings. Nine soil samples and one groundwater sample were analyzed for TPH-cc and VOCs, one soil sample was analyzed for TPH-cc and PCBs, and nine soil gas samples were analyzed for VOCs.

Subsurface lithology encountered in the upper 30 feet bgs consisted of silty sand and silt. Groundwater was encountered at a depth of 26 to 30 feet bgs.

The detected concentrations of TPH-d and TPH-o did not exceed the Maximum SSLs. None of the analyzed soil samples contained VOCs or PCBs above the laboratory RLs and the laboratory RLs were below applicable RSLs.

The detected concentration of PCE did not exceed the MCL. None of the remaining VOCs were detected in the analyzed groundwater sample above laboratory RLs and the RLs did not exceed the MCLs.

None of the detected concentrations of VOCs in soil gas exceed the current regulatory guideline for residential redevelopment.

Partner understands that the subject property is slated for redevelopment as a residential building. Based on the proposed redevelopment of the subject property for residential use, the detected concentrations of VOCs in soil gas do not appear to represent a concern for vapor intrusion for the proposed construction at this time. Based on the lack of detections in soil, groundwater, and soil gas above current regulatory guidelines, there does not appear to be a release above de minimis concentrations at this time. Partner recommends the implementation of a Soil Management Plan during the proposed redevelopment activities.

TABLES

Table 1: Summary of Investigation Scope
 901 East Pacific Coast Highway
 Long Beach, California 90813
 Partner Project Number 18-232543.2
 June 18, 2019

Boring Identification	Location	Terminal Depth (feet bgs)	Matrix Sampled	Sampling Depths* (feet bgs)	Target Analytes
B1	Eastern Area of Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B2	Northeastern Area of Staining	20**	Soil Gas	5	VOCs
			Soil	2, 5, 10, 15, 20	TPH-cc / VOCs
B3	East of Eastern Clarifier	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B4	Southern Portion of Large Area of Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B5	North of the Hydraulic Lift	12	Soil Gas	5	VOCs
			Soil	<u>4</u> , 8, 12	TPH-cc / PCBs
B6	Northeast Portion of Large Area of Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B7	Northwest Portion of Large Area of Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B8	South of Western Clarifier	30	Soil Gas	5	VOCs
			Soil	2, 5, 10, 15, 20, 25, 30	TPH-cc / VOCs
			Groundwater	30	
B9	Western Area of Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs
B10	South Exterior of South Interior Staining	10	Soil Gas	5	VOCs
			Soil	2, 5, 10	TPH-cc / VOCs

Notes:

*Depths in bold analyzed for carbon chain total petroleum hydrocarbons (TPH-cc) via United States Environmental Protection Agency (EPA) Method 8015M. Depths in italics analyzed for volatile organic compounds (VOCs) via EPA Method 8260B (soil) or TO-15 (soil gas). Underlined depths analyzed for polychlorinated biphenyls (PCBs) via EPA Method 8082.

**Refusal encountered at the terminal depth

bgs = below ground surface

Table 2: Soil Sample TPH-cc Laboratory Results
 901 East Pacific Coast Highway
 Long Beach, California 90813
 Partner Project Number 18-232543.2
 June 18, 2019

EPA Method	TPH-cc via 8015M										
Units	(mg/kg)										
Analyte	Maximum SSL	B1-2	B2-10	B3-2	B4-2	B5-4	B6-2	B7-2	B8-10	B9-2	B10-2
TPH-d	1,000	< 10	< 10	< 10	320	< 10	< 10	< 10	< 10	< 10	< 10
TPH-o	10,000	< 10	< 10	< 10	510	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

TPH-cc = carbon chain total petroleum hydrocarbons

EPA = United States Environmental Protection Agency

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TPH-o = total petroleum hydrocarbons as oil

mg/kg = milligrams per kilogram

SSLs = Soil-screening levels (Los Angeles Regional Water Quality Control Board - April 27, 2004) for groundwater at a depth of 20-150 feet

< = not detected above indicated laboratory Reporting Limit (RL)

Values in bold exceed laboratory RLs

Table 3: Groundwater Sample VOCs Laboratory Results
 901 East Pacific Coast Highway
 Long Beach, California 90813
 Partner Project Number 18-232543.2
 June 18, 2019

EPA Method	VOCs via 8260B	
Units	(µg/L)	
Analyte	MCL	B8-GW
PCE	5.0	2.7
Other VOCs	Varies	ND

Notes:

VOCs = volatile organic compounds

EPA = United States Environmental Protection Agency

µg/L = micrograms per liter

MCLs = Maximum Contaminant Levels (California Department of Public Health - January 30, 2013)

PCE = tetrachloroethylene

< = not detected above indicated laboratory Reporting Limit (RL)

ND = not detected above laboratory RLs

Values in bold exceed laboratory RLs

Table 4: Soil Gas Sample VOCs Laboratory Results
 901 East Pacific Coast Highway
 Long Beach, California 90813
 Partner Project Number 18-232543.2
 June 18, 2019

EPA Method	VOCs via 8260B										
Units	$(\mu\text{g}/\text{m}^3)$										
Analyte	DTSC Proposed Residential SGSL [^]	Future Residential Development SGSL [^]	B1-SG	B2-SG	B3-SG	B4-SG	B6-SG	B7-SG	B8-SG	B9-SG	B10-SG
Benzene	3.23	97	< 160	4.8	< 160	< 160	< 160	5.9	< 160	< 160	< 160
Toluene	10,333	310,000	940	16	< 190	< 190	< 190	14	< 190	< 190	< 190
Ethylbenzene	36.7	1,100	< 220	61	< 220	220	160	10	160	130	310
m,p-Xylenes	3,333	100,000	< 220	290	< 220	790	620	40	670	440	1,100
o-Xylenes	3,333	100,000	< 220	140	< 220	220	180	16	150	92	260
PCE	15	460	< 350	280	< 350	< 350	< 350	14	< 350	< 350	< 350
TCE	16	480	< 270	4.1	< 270	< 270	< 270	3.7	< 270	< 270	< 270
Acetone	1,066,667	32,000,000	< 120	66	< 120	360	84	62	< 120	360	< 120
Chloroform	4	120	< 250	8.4	< 250	< 250	< 250	< 5.0	< 250	< 250	< 250
Cyclohexane	210,000	94,000	< 170	4.5	< 170	< 170	< 170	< 3.5	< 170	< 170	< 170
Heptane	14,000	NA	< 210	7.8	< 210	< 210	< 210	4.6	< 210	< 210	< 210
1,3,5-TMB	2,100	63,000	< 250	8.6	< 250	< 250	< 250	6.7	< 250	< 250	< 250
1,2,4-TMB	2,100	63,000	< 250	410	< 250	< 250	< 250	23	< 250	< 250	< 250
2-Butanone	173,333	5,200,000	<150	19	<150	<150	<150	< 15	<150	<150	<150
Methyl isobutyl ketone	103,333	3,100,000	< 210	4.1	< 210	< 210	< 210	< 42	< 210	< 210	< 210
1,3-Butadiene	0.57	17	< 110	< 4.5	< 110	< 110	< 110	7.6	< 110	< 110	< 110
Isopropyl Alcohol	7,000	210,000	< 130	< 13	980	< 130	< 130	67	1,600	< 130	< 130
Other VOCs	Varies	Varies	ND								

Notes:

[^]Calculated soil gas screening levels (SGSLs) for soil gas concentrations were derived by dividing the April 2019 Department of Toxic Substances Control (DTSC) or April 2019 United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for each compound using the DTSC proposed 2015 EPA attenuation factor of 0.03 regardless of depth (pending approval by the DTSC) or the DTSC approved 2011 attenuation factor of 0.001 for future residential development. DTSC RSLs are provided in the April 2019 DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA)

Note 3. Where DTSC RSLs were not available, EPA RSLs were utilized.

VOCs = volatile organic compounds

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

PCE = tetrachloroethylene

TCE = trichloroethylene

TMB = trimethylbenzene

< = not detected above indicated laboratory Reporting Limit (RL)

ND = not detected above laboratory RLs

Values in bold exceed laboratory RLs

Highlighted values exceed one or more regulatory guideline

FIGURES

PARTNER



PARTNER
 Engineering and Science, Inc.
 2154 Torrance Boulevard, Suite 200
 Torrance, California 90501
 Project Number: 18-232543.2

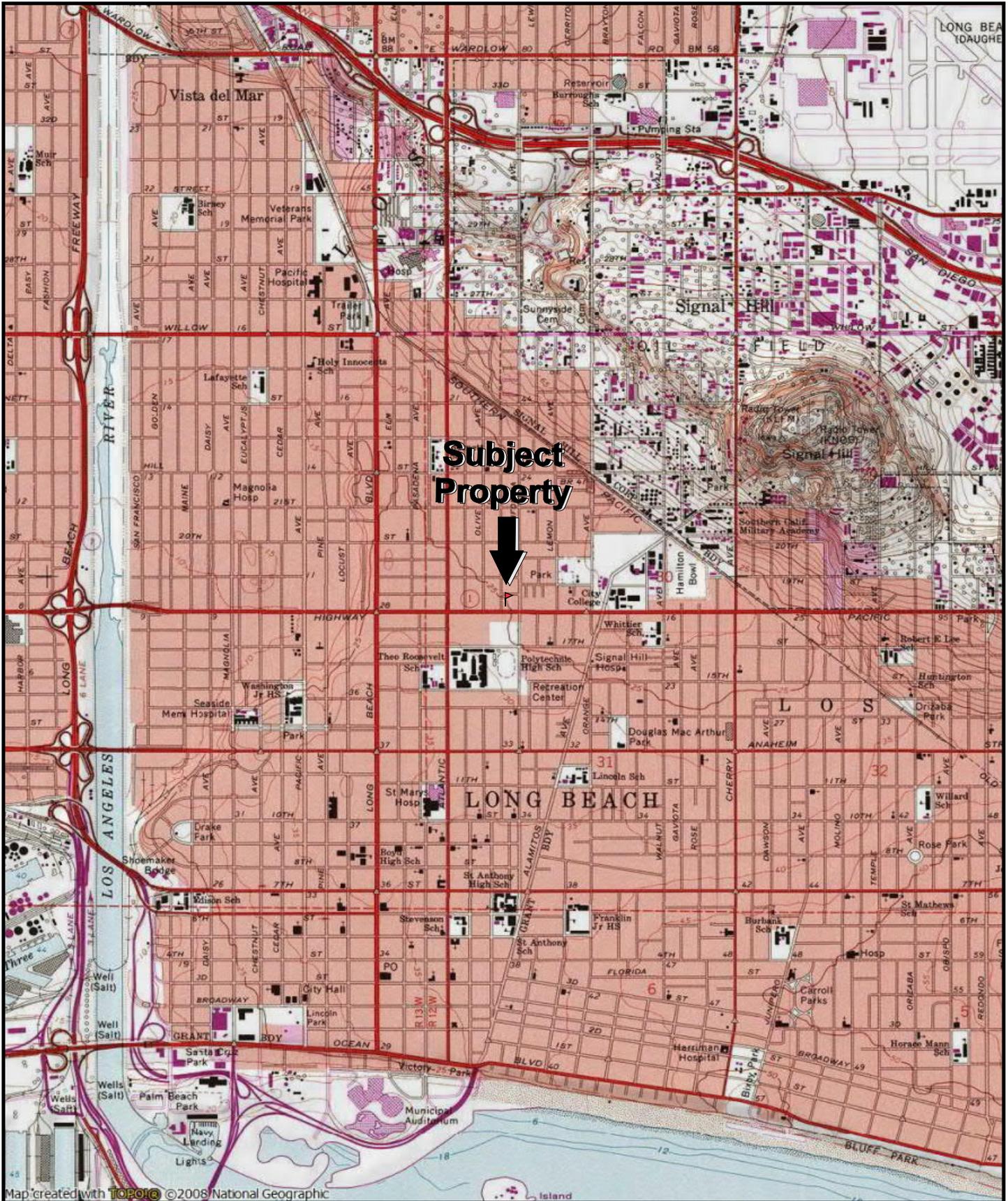


Legend

Subject Property 

Site Vicinity Map

Figure	Prepared By	Date
1	M. Bullivant	July 2019
901 East Pacific Coast Highway Long Beach, California 90813		



Subject Property



Map created with **Topo!** ©2008 National Geographic

PARTNER

Engineering and Science, Inc.
2154 Torrance Boulevard, Suite 200
Torrance, California 90501

Project Number: 18-232543.2



Legend

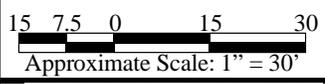
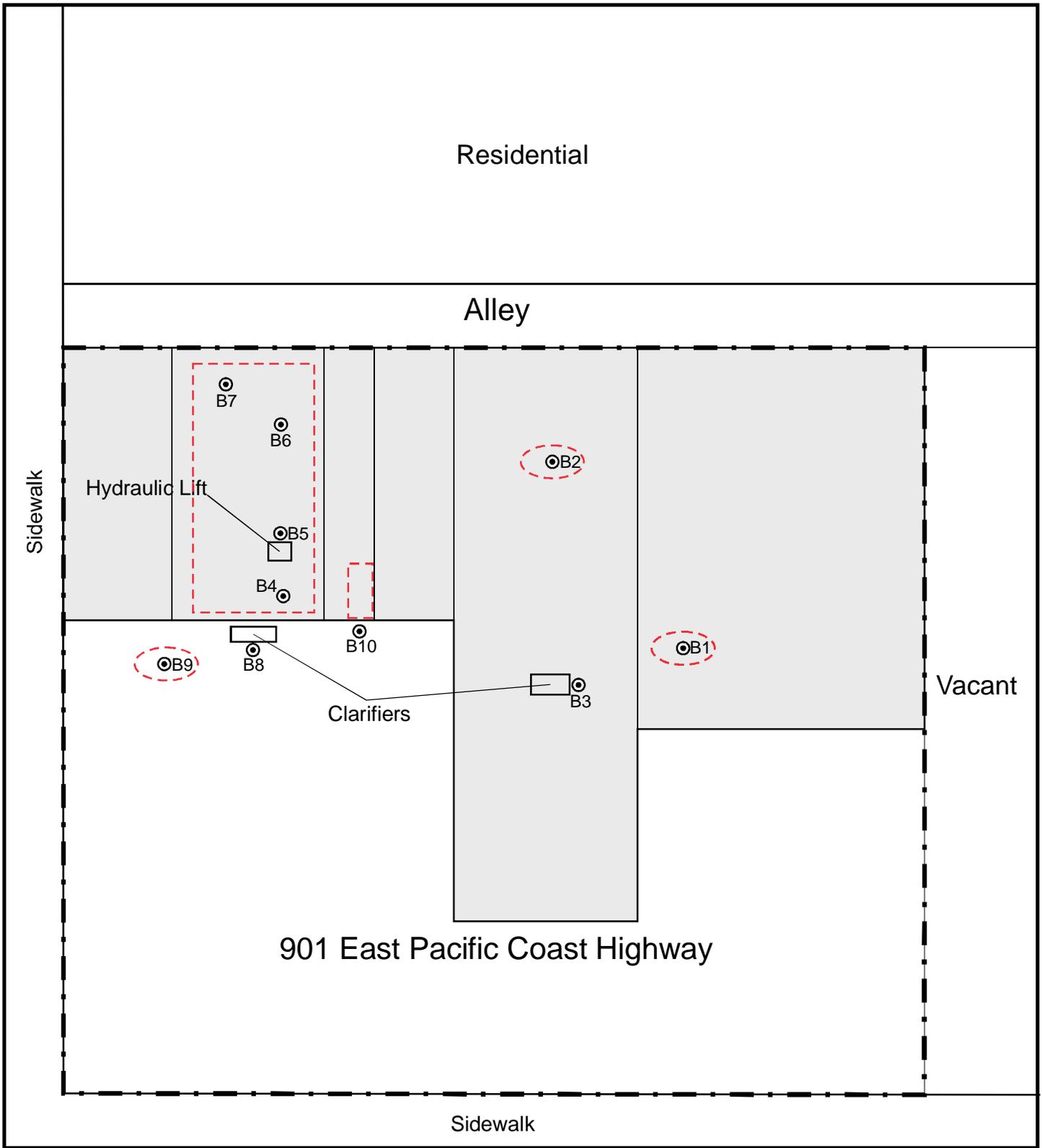
Subject Property



Long Beach, California Quadrangle
Version: 1978 Current as of: 1981

Topographic Map

Figure	Prepared By	Date
2	M. Bullivant	July 2019
901 East Pacific Coast Highway Long Beach, California		



Pacific Coast Highway

PARTNER
 Engineering and Science, Inc.
 2154 Torrance Boulevard, Suite 200
 Torrance, California 90501
 Project Number: 18-232543.2



Legend

- Subject Property 
- Boring Location 
- Staining 

Sample Location Map

Figure	Prepared By	Date
3	M. Bullivant	June 2019
901 East Pacific Coast Highway Long Beach, California 90813		

APPENDIX A: BORING LOGS

Boring Number:		B1		Page 1 of 1	
Location:		Eastern area of staining		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	NA
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflo tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				4" thick concrete ground cover	
2	B1-2	0.0	ML	Silt: light brown, firm, damp	
3					
4					
5	B1-5	0.3	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed
6					
7					
8					
9					
10	B1-10	0.2	SM	Silty sand: brown, loose, moist	
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:		B2		Page 1 of 1	
Location:		Northeastern area of staining		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	NA
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				4" thick concrete ground cover	
2	B2-2	0.2	ML	Silt: light brown, firm, damp	
3					
4					
5	B2-5	0.0	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed
6					
7					
8					
9					
10	B2-10	0.0	SM	Silty sand: brown, loose, moist	
11					
12					
13					
14					
15	B2-15	0.0	ML	Silt: dark brown, firm, moist	
16					
17					
18					
19					
20	B2-20	0.0	SP	Poorly-graded fine sand: loose-firm, moist	
21					**Refusal encountered at 20 feet bgs. Temporary soil gas probe removed, boring backfilled with hydrated entonite and capped at surface with cement to match existing ground cover.
22					
23					
24					
25					

Boring Number:		B3			Page 1 of 1	
Location:		East of eastern clarifier			Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway			Date Completed:	6/20/2019
		Long Beach, California 90813			Depth to Groundwater:	NA
Project Number:		18-232543.2			Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1				4" thick concrete ground cover		
2	B3-2	0.2	ML	Silt: light brown, firm, damp		
3						
4						
5	B3-5	0.0	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed	
6						
7						
8						
9						
10	B3-10	0.5	SM	Silty sand: brown, loose, moist		
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B4		Page 1 of 1	
Location:		Southern portion of large area of staining		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	NA
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				4" thick concrete ground cover	
2	B4-2	0.0	ML	Silt: light brown, firm, damp	
3					
4					
5	B4-5	0.0	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed
6					
7					
8					
9					
10	B4-10	0.1	SM	Silty sand: brown, loose, moist	
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:		B5		Page 1 of 1	
Location:		North of the hydraulic lift		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	NA
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflo tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				**4" thick concrete ground cover	
2					
3					
4	B5-4	0.0	ML	Silt: light brown, firm, damp	
5					
6					
7					
8	B5-8	0.2	SM	Silty sand: brown, loose, moist	
9					
10					
11					
12	B5-12	0.1	SM	Silty sand: brown, loose, moist	
13					Boring terminated at 12 feet bgs. Boring backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:		B6		Page 1 of 1	
Location:		Northeast portion of large area of staining		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	NA
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				4" thick concrete ground cover	
2	B6-2	0.0	ML	Silt: light brown, firm, damp	
3					
4					
5	B6-5	0.3	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed
6					
7					
8					
9					
10	B6-10	0.0	SM	Silty sand: brown, loose, moist	
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:		B7			Page 1 of 1	
Location:		Northwest portion of large area of staining			Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway			Date Completed:	6/20/2019
		Long Beach, California 90813			Depth to Groundwater:	NA
Project Number:		18-232543.2			Field Technician:	M. Bullivant
Drill Rig Type:		Limited access model Geoprobe model 540 direct push drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1				4" thick concrete ground cover		
2	B7-2	0.3	MI	Silt: light brown, firm, damp		
3						
4						
5	B7-5	0.0	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed	
6						
7						
8						
9						
10	B7-10	0.1	SM	Silty sand: brown, loose, moist		
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B8		Page 1 of 2	
Location:		South of western clarifier		Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway		Date Completed:	6/20/2019
		Long Beach, California 90813		Depth to Groundwater:	26'
Project Number:		18-232543.2		Field Technician:	M. Bullivant
Drill Rig Type:		Truck-mounted Geoprobe model 6600 direct push drill rig		Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing		2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"		Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes
1				4" thick concrete ground cover	
2	B8-2	0.0	ML	Silt: light brown, firm, damp	
3					
4					
5	B8-5	0.2	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed
6					
7					
8					
9					
10	B8-10	0.0	SM	Silty sand: brown, loose, moist	
11					
12					
13					
14					
15	B8-15	0.0	ML	Silt: dark brown, firm, moist	
16					
17					
18					
19					
20	B8-20	0.1	SP	Poorly-graded fine sand: loose-firm, moist	
21					
22					
23					
24					
25	B8-25	0.2	SP	Poorly-graded fine sand: loose-firm, moist	

Boring Number:		B8			Page 2 of 2	
Location:		South of western clarifier			Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway			Date Completed:	6/20/2019
		Long Beach, California 90813			Depth to Groundwater:	26'
Project Number:		18-232543.2			Field Technician:	M. Bullivant
Drill Rig Type:		Truck-mounted Geoprobe model 6600 direct push drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
26						
27						
28						
29						
30	B8-30	0.0	SP	Poorly-graded fine sand, light bornw, loose, wet	Groundwater sample collected using Hydropunch technology. Screen set from 26 to 30 feet bgs.	
31					Boring terminated at 30 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.	
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						

Boring Number:		B9			Page 1 of 1	
Location:		Western area of staining			Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway			Date Completed:	6/20/2019
		Long Beach, California 90813			Depth to Groundwater:	NA
Project Number:		18-232543.2			Field Technician:	M. Bullivant
Drill Rig Type:		Truck-mounted Geoprobe model 6600 direct push drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1				4" thick concrete ground cover		
2	B9-2	0.0	MI	Silt: light brown, firm, damp		
3						
4						
5	B9-5	0.5	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed	
6						
7						
8						
9						
10	B9-10	0.0	SM	Silty sand: brown, loose, moist		
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Boring Number:		B10			Page 1 of 1	
Location:		South exterior of south interior staining			Date Started:	6/20/2019
Site Address:		901 East Pacific Coast Highway			Date Completed:	6/20/2019
		Long Beach, California 90813			Depth to Groundwater:	NA
Project Number:		18-232543.2			Field Technician:	M. Bullivant
Drill Rig Type:		Truck-mounted Geoprobe model 6600 direct push drill rig			Partner Engineering and Science	
Sampling Equipment:		Acetate liners, plastic syringes, and nylaflow tubing			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:		1.5"			Torrance, California 90501	
Depth	Sample	PID	USCS	Description	Notes	
1				4" thick concrete ground cover		
2	B10-2	0.0	ML	Silt: light brown, firm, damp		
3						
4						
5	B10-5	0.0	ML	Silt: light brown, firm, damp	**Temporary soil gas probe installed	
6						
7						
8						
9						
10	B10-10	0.0	SM	Silty sand: brown, loose, moist		
11					Boring terminated at 10 feet bgs. Temporary soil gas probe removed, backfilled with hydrated bentonite and capped at surface with cement to match existing ground cover.	
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

APPENDIX B: LABORATORY ANALYTICAL REPORTS



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

26 June 2019

Mark Bullivant
Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance, CA 90501
RE: Long Beach

Enclosed are the results of analyses for samples received by the laboratory on 06/19/19 18:09. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-2	T192044-01	Soil	06/18/19 09:40	06/19/19 18:09
B2-10	T192044-05	Soil	06/18/19 09:55	06/19/19 18:09
B3-2	T192044-08	Soil	06/18/19 10:40	06/19/19 18:09
B4-2	T192044-11	Soil	06/18/19 11:22	06/19/19 18:09
B7-2	T192044-14	Soil	06/18/19 11:35	06/19/19 18:09
B6-2	T192044-17	Soil	06/18/19 12:00	06/19/19 18:09
B5-4	T192044-20	Soil	06/18/19 12:27	06/19/19 18:09
B8-10	T192044-24	Soil	06/18/19 13:10	06/19/19 18:09
B8-GW	T192044-29	Water	06/18/19 14:00	06/19/19 18:09
B9-2	T192044-30	Soil	06/18/19 14:34	06/19/19 18:09
B10-2	T192044-33	Soil	06/18/19 14:42	06/19/19 18:09

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

DETECTIONS SUMMARY

Sample ID: B1-2 **Laboratory ID:** T192044-01

No Results Detected

Sample ID: B2-10 **Laboratory ID:** T192044-05

No Results Detected

Sample ID: B3-2 **Laboratory ID:** T192044-08

No Results Detected

Sample ID: B4-2 **Laboratory ID:** T192044-11

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	320	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	510	10	mg/kg	EPA 8015B	

Sample ID: B7-2 **Laboratory ID:** T192044-14

No Results Detected

Sample ID: B6-2 **Laboratory ID:** T192044-17

No Results Detected

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

Sample ID: B5-4

Laboratory ID: T192044-20

No Results Detected

Sample ID: B8-10

Laboratory ID: T192044-24

No Results Detected

Sample ID: B8-GW

Laboratory ID: T192044-29

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Tetrachloroethene	2.7	1.0	ug/l	EPA 8260B	

Sample ID: B9-2

Laboratory ID: T192044-30

No Results Detected

Sample ID: B10-2

Laboratory ID: T192044-33

No Results Detected

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B1-2
T192044-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		78.1 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0061	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0061	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0061	"	"	"	"	"	"	
Bromoform	ND	0.0061	"	"	"	"	"	"	
Bromomethane	ND	0.0061	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0061	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0061	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0061	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0061	"	"	"	"	"	"	
Chlorobenzene	ND	0.0061	"	"	"	"	"	"	
Chloroethane	ND	0.0061	"	"	"	"	"	"	
Chloroform	ND	0.0061	"	"	"	"	"	"	
Chloromethane	ND	0.0061	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0061	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0061	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0061	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.012	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0061	"	"	"	"	"	"	
Dibromomethane	ND	0.0061	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0061	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0061	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0061	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0061	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0061	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0061	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B1-2
T192044-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1,1-Dichloroethene	ND	0.0061	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
cis-1,2-Dichloroethene	ND	0.0061	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.0061	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.0061	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.0061	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.0061	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.0061	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.0061	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.0061	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.0061	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.0061	"	"	"	"	"	"	"
p-Isopropyltoluene	ND	0.0061	"	"	"	"	"	"	"
Methylene chloride	ND	0.0061	"	"	"	"	"	"	"
Naphthalene	ND	0.0061	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.0061	"	"	"	"	"	"	"
Styrene	ND	0.0061	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.0061	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.0061	"	"	"	"	"	"	"
Tetrachloroethene	ND	0.0037	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.0061	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.0061	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.0061	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.0061	"	"	"	"	"	"	"
Trichloroethene	ND	0.0037	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.0061	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.0061	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.0061	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.0061	"	"	"	"	"	"	"
Vinyl chloride	ND	0.0061	"	"	"	"	"	"	"
Benzene	ND	0.0061	"	"	"	"	"	"	"
Toluene	ND	0.0061	"	"	"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B1-2
T192044-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	0.0061	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
m,p-Xylene	ND	0.012	"	"	"	"	"	"	"
o-Xylene	ND	0.0061	"	"	"	"	"	"	"
Surrogate: Toluene-d8		104 %		76.1-127	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		103 %		85.9-114	"	"	"	"	"
Surrogate: Dibromofluoromethane		113 %		77.8-142	"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B2-10
T192044-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		86.2 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0049	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0098	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0049	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B2-10
T192044-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0049	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0049	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0049	"	"	"	"	"	"	
Styrene	ND	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0049	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0029	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0049	"	"	"	"	"	"	
Trichloroethene	ND	0.0029	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0049	"	"	"	"	"	"	
Benzene	ND	0.0049	"	"	"	"	"	"	
Toluene	ND	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.0049	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B2-10
T192044-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.0098	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0049	"	"	"	"	"	"	"
Surrogate: Toluene-d8		103 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		100 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		114 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B3-2
T192044-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		74.9 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0068	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0068	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0068	"	"	"	"	"	"	
Bromoform	ND	0.0068	"	"	"	"	"	"	
Bromomethane	ND	0.0068	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0068	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0068	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0068	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0068	"	"	"	"	"	"	
Chlorobenzene	ND	0.0068	"	"	"	"	"	"	
Chloroethane	ND	0.0068	"	"	"	"	"	"	
Chloroform	ND	0.0068	"	"	"	"	"	"	
Chloromethane	ND	0.0068	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0068	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0068	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0068	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.014	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0068	"	"	"	"	"	"	
Dibromomethane	ND	0.0068	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0068	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0068	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0068	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0068	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0068	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0068	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0068	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B3-2
T192044-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0068	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0068	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.0068	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.0068	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.0068	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.0068	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.0068	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.0068	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.0068	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.0068	"	"	"	"	"	"	"
p-Isopropyltoluene	ND	0.0068	"	"	"	"	"	"	"
Methylene chloride	ND	0.0068	"	"	"	"	"	"	"
Naphthalene	ND	0.0068	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.0068	"	"	"	"	"	"	"
Styrene	ND	0.0068	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.0068	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.0068	"	"	"	"	"	"	"
Tetrachloroethene	ND	0.0041	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.0068	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.0068	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.0068	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.0068	"	"	"	"	"	"	"
Trichloroethene	ND	0.0041	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.0068	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.0068	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.0068	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.0068	"	"	"	"	"	"	"
Vinyl chloride	ND	0.0068	"	"	"	"	"	"	"
Benzene	ND	0.0068	"	"	"	"	"	"	"
Toluene	ND	0.0068	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0068	"	"	"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B3-2
T192044-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.014	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0068	"	"	"	"	"	"	"
Surrogate: Toluene-d8		103 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		99.6 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		115 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B4-2

T192044-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	320	10	"	"	"	"	"	"	
C29-C40 (MORO)	510	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		81.2 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0045	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0045	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0045	"	"	"	"	"	"	
Bromoform	ND	0.0045	"	"	"	"	"	"	
Bromomethane	ND	0.0045	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0045	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0045	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0045	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0045	"	"	"	"	"	"	
Chlorobenzene	ND	0.0045	"	"	"	"	"	"	
Chloroethane	ND	0.0045	"	"	"	"	"	"	
Chloroform	ND	0.0045	"	"	"	"	"	"	
Chloromethane	ND	0.0045	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0045	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0045	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0045	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0090	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0045	"	"	"	"	"	"	
Dibromomethane	ND	0.0045	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0045	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0045	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0045	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0045	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0045	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0045	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0045	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B4-2

T192044-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0045	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0045	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0045	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0045	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0045	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0045	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0045	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0045	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0045	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0045	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0045	"	"	"	"	"	"	
Methylene chloride	ND	0.0045	"	"	"	"	"	"	
Naphthalene	ND	0.0045	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0045	"	"	"	"	"	"	
Styrene	ND	0.0045	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0045	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0045	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0027	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0045	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0045	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0045	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0045	"	"	"	"	"	"	
Trichloroethene	ND	0.0027	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0045	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0045	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0045	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0045	"	"	"	"	"	"	
Vinyl chloride	ND	0.0045	"	"	"	"	"	"	
Benzene	ND	0.0045	"	"	"	"	"	"	
Toluene	ND	0.0045	"	"	"	"	"	"	
Ethylbenzene	ND	0.0045	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B4-2
T192044-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.0090	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0045	"	"	"	"	"	"	"
Surrogate: Toluene-d8		103 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		96.7 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		119 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B7-2

T192044-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		78.3 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0055	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0055	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0055	"	"	"	"	"	"	
Bromoform	ND	0.0055	"	"	"	"	"	"	
Bromomethane	ND	0.0055	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0055	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0055	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0055	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0055	"	"	"	"	"	"	
Chlorobenzene	ND	0.0055	"	"	"	"	"	"	
Chloroethane	ND	0.0055	"	"	"	"	"	"	
Chloroform	ND	0.0055	"	"	"	"	"	"	
Chloromethane	ND	0.0055	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0055	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0055	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.011	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0055	"	"	"	"	"	"	
Dibromomethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0055	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0055	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0055	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0055	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0055	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0055	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0055	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B7-2

T192044-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0055	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0055	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.0055	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.0055	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.0055	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.0055	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.0055	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.0055	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.0055	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.0055	"	"	"	"	"	"	"
p-Isopropyltoluene	ND	0.0055	"	"	"	"	"	"	"
Methylene chloride	ND	0.0055	"	"	"	"	"	"	"
Naphthalene	ND	0.0055	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.0055	"	"	"	"	"	"	"
Styrene	ND	0.0055	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.0055	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.0055	"	"	"	"	"	"	"
Tetrachloroethene	ND	0.0033	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.0055	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.0055	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.0055	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.0055	"	"	"	"	"	"	"
Trichloroethene	ND	0.0033	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.0055	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.0055	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.0055	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.0055	"	"	"	"	"	"	"
Vinyl chloride	ND	0.0055	"	"	"	"	"	"	"
Benzene	ND	0.0055	"	"	"	"	"	"	"
Toluene	ND	0.0055	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0055	"	"	"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B7-2

T192044-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.011	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0055	"	"	"	"	"	"	"
Surrogate: Toluene-d8		101 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		100 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		117 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B6-2
T192044-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		80.2 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0074	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0074	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0074	"	"	"	"	"	"	
Bromoform	ND	0.0074	"	"	"	"	"	"	
Bromomethane	ND	0.0074	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0074	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0074	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0074	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0074	"	"	"	"	"	"	
Chlorobenzene	ND	0.0074	"	"	"	"	"	"	
Chloroethane	ND	0.0074	"	"	"	"	"	"	
Chloroform	ND	0.0074	"	"	"	"	"	"	
Chloromethane	ND	0.0074	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0074	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0074	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0074	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.015	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0074	"	"	"	"	"	"	
Dibromomethane	ND	0.0074	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0074	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0074	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0074	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0074	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0074	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0074	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0074	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B6-2

T192044-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0074	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0074	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0074	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0074	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0074	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0074	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0074	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0074	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0074	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0074	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0074	"	"	"	"	"	"	
Methylene chloride	ND	0.0074	"	"	"	"	"	"	
Naphthalene	ND	0.0074	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0074	"	"	"	"	"	"	
Styrene	ND	0.0074	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0074	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0074	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0045	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0074	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0074	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0074	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0074	"	"	"	"	"	"	
Trichloroethene	ND	0.0045	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0074	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0074	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0074	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0074	"	"	"	"	"	"	
Vinyl chloride	ND	0.0074	"	"	"	"	"	"	
Benzene	ND	0.0074	"	"	"	"	"	"	
Toluene	ND	0.0074	"	"	"	"	"	"	
Ethylbenzene	ND	0.0074	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B6-2
T192044-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.015	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0074	"	"	"	"	"	"	"
Surrogate: Toluene-d8		101 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		100 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		114 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B5-4
T192044-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		65.4 %		65-135	"	"	"	"	

Polychlorinated Biphenyls by EPA Method 8082

PCB-1016	ND	0.010	mg/kg	1	9062027	06/20/19	06/24/19	EPA 8082	
PCB-1221	ND	0.010	"	"	"	"	"	"	
PCB-1232	ND	0.010	"	"	"	"	"	"	
PCB-1242	ND	0.010	"	"	"	"	"	"	
PCB-1248	ND	0.010	"	"	"	"	"	"	
PCB-1254	ND	0.010	"	"	"	"	"	"	
PCB-1260	ND	0.010	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>		68.4 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		42.2 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B8-10
T192044-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		82.4 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0049	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0049	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0049	"	"	"	"	"	"	
Bromoform	ND	0.0049	"	"	"	"	"	"	
Bromomethane	ND	0.0049	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0049	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0049	"	"	"	"	"	"	
Chlorobenzene	ND	0.0049	"	"	"	"	"	"	
Chloroethane	ND	0.0049	"	"	"	"	"	"	
Chloroform	ND	0.0049	"	"	"	"	"	"	
Chloromethane	ND	0.0049	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0049	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0049	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0099	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0049	"	"	"	"	"	"	
Dibromomethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0049	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0049	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0049	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B8-10
T192044-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0049	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0049	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0049	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0049	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0049	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0049	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0049	"	"	"	"	"	"	
Methylene chloride	ND	0.0049	"	"	"	"	"	"	
Naphthalene	ND	0.0049	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0049	"	"	"	"	"	"	
Styrene	ND	0.0049	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0049	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0049	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0030	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0049	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0049	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0049	"	"	"	"	"	"	
Trichloroethene	ND	0.0030	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0049	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0049	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0049	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0049	"	"	"	"	"	"	
Vinyl chloride	ND	0.0049	"	"	"	"	"	"	
Benzene	ND	0.0049	"	"	"	"	"	"	
Toluene	ND	0.0049	"	"	"	"	"	"	
Ethylbenzene	ND	0.0049	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B8-10
T192044-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.0099	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0049	"	"	"	"	"	"	"
Surrogate: Toluene-d8		104 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		102 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		113 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B8-GW
T192044-29 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	500	ug/l	1	9062037	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	500	"	"	"	"	"	"	
C29-C40 (MORO)	ND	500	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		133 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

HDSP

Bromobenzene	ND	1.0	ug/l	1	9061922	06/19/19	06/20/19	EPA 8260B	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B8-GW
T192044-29 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

HDSP

cis-1,2-Dichloroethene	ND	1.0	ug/l	1	9061922	06/19/19	06/20/19	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	2.7	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
m,p-Xylene	ND	1.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B8-GW
T192044-29 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

HDSP

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
o-Xylene	ND	0.50	ug/l	1	9061922	06/19/19	06/20/19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	98.0 %	84.2-108			"	"	"	"	
Surrogate: Dibromofluoromethane	97.6 %	71.5-128			"	"	"	"	
Surrogate: Toluene-d8	97.4 %	92.6-108			"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B9-2
T192044-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		80.4 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0041	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0041	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0041	"	"	"	"	"	"	
Bromoform	ND	0.0041	"	"	"	"	"	"	
Bromomethane	ND	0.0041	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0041	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0041	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0041	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0041	"	"	"	"	"	"	
Chlorobenzene	ND	0.0041	"	"	"	"	"	"	
Chloroethane	ND	0.0041	"	"	"	"	"	"	
Chloroform	ND	0.0041	"	"	"	"	"	"	
Chloromethane	ND	0.0041	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0041	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0041	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0041	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0082	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0041	"	"	"	"	"	"	
Dibromomethane	ND	0.0041	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0041	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0041	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0041	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0041	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0041	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B9-2

T192044-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0041	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0041	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.0041	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.0041	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.0041	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.0041	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.0041	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.0041	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.0041	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.0041	"	"	"	"	"	"	"
p-Isopropyltoluene	ND	0.0041	"	"	"	"	"	"	"
Methylene chloride	ND	0.0041	"	"	"	"	"	"	"
Naphthalene	ND	0.0041	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.0041	"	"	"	"	"	"	"
Styrene	ND	0.0041	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.0041	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.0041	"	"	"	"	"	"	"
Tetrachloroethene	ND	0.0025	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.0041	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.0041	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.0041	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.0041	"	"	"	"	"	"	"
Trichloroethene	ND	0.0025	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.0041	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.0041	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.0041	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.0041	"	"	"	"	"	"	"
Vinyl chloride	ND	0.0041	"	"	"	"	"	"	"
Benzene	ND	0.0041	"	"	"	"	"	"	"
Toluene	ND	0.0041	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0041	"	"	"	"	"	"	"

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B9-2
T192044-30 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.0082	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0041	"	"	"	"	"	"	"
Surrogate: Toluene-d8		101 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		101 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		114 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B10-2
T192044-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015B

C6-C12 (GRO)	ND	10	mg/kg	1	9062036	06/20/19	06/24/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		78.6 %	65-135		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	0.0052	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
Bromochloromethane	ND	0.0052	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0052	"	"	"	"	"	"	
Bromoform	ND	0.0052	"	"	"	"	"	"	
Bromomethane	ND	0.0052	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0052	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0052	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0052	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0052	"	"	"	"	"	"	
Chlorobenzene	ND	0.0052	"	"	"	"	"	"	
Chloroethane	ND	0.0052	"	"	"	"	"	"	
Chloroform	ND	0.0052	"	"	"	"	"	"	
Chloromethane	ND	0.0052	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0052	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0052	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0052	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.010	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0052	"	"	"	"	"	"	
Dibromomethane	ND	0.0052	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0052	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0052	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0052	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0052	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0052	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0052	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0052	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

B10-2
T192044-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,2-Dichloroethene	ND	0.0052	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
trans-1,2-Dichloroethene	ND	0.0052	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0052	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0052	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0052	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0052	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0052	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0052	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0052	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0052	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0052	"	"	"	"	"	"	
Methylene chloride	ND	0.0052	"	"	"	"	"	"	
Naphthalene	ND	0.0052	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0052	"	"	"	"	"	"	
Styrene	ND	0.0052	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0052	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0052	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0031	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0052	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0052	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0052	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0052	"	"	"	"	"	"	
Trichloroethene	ND	0.0031	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0052	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0052	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0052	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0052	"	"	"	"	"	"	
Vinyl chloride	ND	0.0052	"	"	"	"	"	"	
Benzene	ND	0.0052	"	"	"	"	"	"	
Toluene	ND	0.0052	"	"	"	"	"	"	
Ethylbenzene	ND	0.0052	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor 2154 Torrance Blvd., Suite 200 Torrance CA, 90501	Project: Long Beach Project Number: 18-232543.2 Project Manager: Mark Bullivant	Reported: 06/26/19 16:03
--	---	-----------------------------

B10-2
T192044-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

m,p-Xylene	ND	0.010	mg/kg	1	9062426	06/24/19	06/24/19	EPA 8260B/5035	
o-Xylene	ND	0.0052	"	"	"	"	"	"	"
Surrogate: Toluene-d8		107 %	76.1-127		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		100 %	85.9-114		"	"	"	"	"
Surrogate: Dibromofluoromethane		113 %	77.8-142		"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

Extractable Petroleum Hydrocarbons by 8015B - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062036 - EPA 3550B GC

Blank (9062036-BLK1) Prepared: 06/20/19 Analyzed: 06/24/19										
C6-C12 (GRO)	ND	10	mg/kg							
C13-C28 (DRO)	ND	10	"							
C29-C40 (MORO)	ND	10	"							
Surrogate: p-Terphenyl	77.6		"	98.0		79.1	65-135			

LCS (9062036-BS1) Prepared: 06/20/19 Analyzed: 06/24/19										
C13-C28 (DRO)	430	10	mg/kg	490		88.6	75-125			
Surrogate: p-Terphenyl	77.8		"	98.0		79.3	65-135			

Matrix Spike (9062036-MS1) Source: T192044-01 Prepared: 06/20/19 Analyzed: 06/24/19										
C13-C28 (DRO)	470	10	mg/kg	495	ND	95.6	75-125			
Surrogate: p-Terphenyl	82.9		"	99.0		83.7	65-135			

Matrix Spike Dup (9062036-MSD1) Source: T192044-01 Prepared: 06/20/19 Analyzed: 06/24/19										
C13-C28 (DRO)	420	10	mg/kg	490	ND	86.7	75-125	10.8	20	
Surrogate: p-Terphenyl	66.5		"	98.0		67.8	65-135			

Batch 9062037 - EPA 3510C GC

Blank (9062037-BLK1) Prepared: 06/20/19 Analyzed: 06/24/19										
C6-C12 (GRO)	ND	500	ug/l							
C13-C28 (DRO)	ND	500	"							
C29-C40 (MORO)	ND	500	"							
Surrogate: p-Terphenyl	4400		"	4000		110	65-135			

LCS (9062037-BS1) Prepared: 06/20/19 Analyzed: 06/24/19										
C13-C28 (DRO)	17500	500	ug/l	20000		87.3	75-125			
Surrogate: p-Terphenyl	4220		"	4000		106	65-135			

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

Extractable Petroleum Hydrocarbons by 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062037 - EPA 3510C GC

LCS Dup (9062037-BSD1)

Prepared: 06/20/19 Analyzed: 06/24/19

C13-C28 (DRO)	16400	500	ug/l	20000		81.9	75-125	6.35	20	
Surrogate: <i>p</i> -Terphenyl	3770		"	4000		94.3	65-135			

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062027 - EPA 3550 ECD/GCMS

Blank (9062027-BLK1)

Prepared: 06/20/19 Analyzed: 06/21/19

PCB-1016	ND	0.010	mg/kg							
PCB-1221	ND	0.010	"							
PCB-1232	ND	0.010	"							
PCB-1242	ND	0.010	"							
PCB-1248	ND	0.010	"							
PCB-1254	ND	0.010	"							
PCB-1260	ND	0.010	"							
Surrogate: Tetrachloro-meta-xylene	0.0103		"	0.00980		105	35-140			
Surrogate: Decachlorobiphenyl	0.00825		"	0.00980		84.1	35-140			

LCS (9062027-BS1)

Prepared: 06/20/19 Analyzed: 06/21/19

PCB-1016	0.0797	0.010	mg/kg	0.0980		81.3	40-130			
PCB-1260	0.0728	0.010	"	0.0980		74.2	40-130			
Surrogate: Tetrachloro-meta-xylene	0.00981		"	0.00980		100	35-140			
Surrogate: Decachlorobiphenyl	0.00821		"	0.00980		83.7	35-140			

LCS Dup (9062027-BSD1)

Prepared: 06/20/19 Analyzed: 06/21/19

PCB-1016	0.0597	0.010	mg/kg	0.0980		60.9	40-130	28.7	30	
PCB-1260	0.0577	0.010	"	0.0980		58.9	40-130	23.1	30	
Surrogate: Tetrachloro-meta-xylene	0.00764		"	0.00980		77.9	35-140			
Surrogate: Decachlorobiphenyl	0.00668		"	0.00980		68.2	35-140			

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9061922 - EPA 5030 GCMS

Blank (9061922-BLK1)

Prepared: 06/19/19 Analyzed: 06/20/19

Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	2.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	0.50	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Hexachlorobutadiene	ND	1.0	"							
Isopropylbenzene	ND	1.0	"							

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9061922 - EPA 5030 GCMS

Blank (9061922-BLK1)

Prepared: 06/19/19 Analyzed: 06/20/19

p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	0.50	"							
Tert-amyl methyl ether	ND	2.0	"							
Tert-butyl alcohol	ND	10	"							
Di-isopropyl ether	ND	2.0	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Surrogate: 4-Bromofluorobenzene	18.4		"	20.0		92.2	84.2-108			
Surrogate: Dibromofluoromethane	19.7		"	20.0		98.4	71.5-128			
Surrogate: Toluene-d8	19.6		"	20.0		98.2	92.6-108			

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9061922 - EPA 5030 GCMS

LCS (9061922-BS1)

Prepared: 06/19/19 Analyzed: 06/20/19

Chlorobenzene	19.8	1.0	ug/l	20.0		99.0	79.3-117			
1,1-Dichloroethene	19.4	1.0	"	20.0		97.0	68.3-130			
Trichloroethene	19.5	1.0	"	20.0		97.3	73.1-108			
Benzene	19.8	0.50	"	20.0		99.0	79.9-118			
Toluene	19.4	0.50	"	20.0		97.2	78.7-116			
Surrogate: 4-Bromofluorobenzene	19.6		"	20.0		98.2	84.2-108			
Surrogate: Dibromofluoromethane	18.6		"	20.0		93.2	71.5-128			
Surrogate: Toluene-d8	19.7		"	20.0		98.4	92.6-108			

LCS Dup (9061922-BS1)

Prepared: 06/19/19 Analyzed: 06/20/19

Chlorobenzene	20.8	1.0	ug/l	20.0		104	79.3-117	4.78	20	
1,1-Dichloroethene	19.9	1.0	"	20.0		99.7	68.3-130	2.80	20	
Trichloroethene	20.4	1.0	"	20.0		102	73.1-108	4.52	20	
Benzene	20.6	0.50	"	20.0		103	79.9-118	3.72	20	
Toluene	20.0	0.50	"	20.0		99.8	78.7-116	2.69	20	
Surrogate: 4-Bromofluorobenzene	19.8		"	20.0		98.9	84.2-108			
Surrogate: Dibromofluoromethane	18.4		"	20.0		92.2	71.5-128			
Surrogate: Toluene-d8	19.5		"	20.0		97.6	92.6-108			

Batch 9062426 - EPA 5035 GCMS

Blank (9062426-BLK1)

Prepared & Analyzed: 06/24/19

Bromobenzene	ND	0.0050	mg/kg							
Bromochloromethane	ND	0.0050	"							
Bromodichloromethane	ND	0.0050	"							
Bromoform	ND	0.0050	"							
Bromomethane	ND	0.0050	"							
n-Butylbenzene	ND	0.0050	"							
sec-Butylbenzene	ND	0.0050	"							
tert-Butylbenzene	ND	0.0050	"							
Carbon tetrachloride	ND	0.0050	"							
Chlorobenzene	ND	0.0050	"							
Chloroethane	ND	0.0050	"							
Chloroform	ND	0.0050	"							
Chloromethane	ND	0.0050	"							
2-Chlorotoluene	ND	0.0050	"							

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
 2154 Torrance Blvd., Suite 200
 Torrance CA, 90501

Project: Long Beach
 Project Number: 18-232543.2
 Project Manager: Mark Bullivant

Reported:
 06/26/19 16:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062426 - EPA 5035 GCMS

Blank (9062426-BLK1)

Prepared & Analyzed: 06/24/19

4-Chlorotoluene	ND	0.0050	mg/kg							
Dibromochloromethane	ND	0.0050	"							
1,2-Dibromo-3-chloropropane	ND	0.010	"							
1,2-Dibromoethane (EDB)	ND	0.0050	"							
Dibromomethane	ND	0.0050	"							
1,2-Dichlorobenzene	ND	0.0050	"							
1,3-Dichlorobenzene	ND	0.0050	"							
1,4-Dichlorobenzene	ND	0.0050	"							
Dichlorodifluoromethane	ND	0.0050	"							
1,1-Dichloroethane	ND	0.0050	"							
1,2-Dichloroethane	ND	0.0050	"							
1,1-Dichloroethene	ND	0.0050	"							
cis-1,2-Dichloroethene	ND	0.0050	"							
trans-1,2-Dichloroethene	ND	0.0050	"							
1,2-Dichloropropane	ND	0.0050	"							
1,3-Dichloropropane	ND	0.0050	"							
2,2-Dichloropropane	ND	0.0050	"							
1,1-Dichloropropene	ND	0.0050	"							
cis-1,3-Dichloropropene	ND	0.0050	"							
trans-1,3-Dichloropropene	ND	0.0050	"							
Hexachlorobutadiene	ND	0.0050	"							
Isopropylbenzene	ND	0.0050	"							
p-Isopropyltoluene	ND	0.0050	"							
Methylene chloride	ND	0.0050	"							
Naphthalene	ND	0.0050	"							
n-Propylbenzene	ND	0.0050	"							
Styrene	ND	0.0050	"							
1,1,2,2-Tetrachloroethane	ND	0.0050	"							
1,1,1,2-Tetrachloroethane	ND	0.0050	"							
Tetrachloroethene	ND	0.0030	"							
1,2,3-Trichlorobenzene	ND	0.0050	"							
1,2,4-Trichlorobenzene	ND	0.0050	"							
1,1,2-Trichloroethane	ND	0.0050	"							
1,1,1-Trichloroethane	ND	0.0050	"							
Trichloroethene	ND	0.0030	"							
Trichlorofluoromethane	ND	0.0050	"							

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062426 - EPA 5035 GCMS

Blank (9062426-BLK1)

Prepared & Analyzed: 06/24/19

1,2,3-Trichloropropane	ND	0.0050	mg/kg							
1,3,5-Trimethylbenzene	ND	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
Vinyl chloride	ND	0.0050	"							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
m,p-Xylene	ND	0.010	"							
o-Xylene	ND	0.0050	"							
<i>Surrogate: Toluene-d8</i>	<i>0.0393</i>		"	<i>0.0398</i>		<i>98.6</i>	<i>76.1-127</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0396</i>		"	<i>0.0398</i>		<i>99.3</i>	<i>85.9-114</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0454</i>		"	<i>0.0398</i>		<i>114</i>	<i>77.8-142</i>			

LCS (9062426-BS1)

Prepared & Analyzed: 06/24/19

Chlorobenzene	0.0836	0.0050	mg/kg	0.0990		84.5	75-125			
1,1-Dichloroethene	0.0937	0.0050	"	0.0990		94.7	75-125			
Trichloroethene	0.0885	0.0030	"	0.0990		89.4	75-125			
Benzene	0.0903	0.0050	"	0.0990		91.2	75-125			
Toluene	0.0889	0.0050	"	0.0990		89.8	75-125			
<i>Surrogate: Toluene-d8</i>	<i>0.0407</i>		"	<i>0.0396</i>		<i>103</i>	<i>76.1-127</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0410</i>		"	<i>0.0396</i>		<i>104</i>	<i>85.9-114</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0436</i>		"	<i>0.0396</i>		<i>110</i>	<i>77.8-142</i>			

LCS Dup (9062426-BSD1)

Prepared & Analyzed: 06/24/19

Chlorobenzene	0.0931	0.0050	mg/kg	0.0998		93.3	75-125	10.8	20	
1,1-Dichloroethene	0.111	0.0050	"	0.0998		111	75-125	16.9	20	
Trichloroethene	0.100	0.0030	"	0.0998		100	75-125	12.3	20	
Benzene	0.101	0.0050	"	0.0998		101	75-125	11.0	20	
Toluene	0.0988	0.0050	"	0.0998		99.0	75-125	10.5	20	
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		"	<i>0.0399</i>		<i>99.3</i>	<i>76.1-127</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0427</i>		"	<i>0.0399</i>		<i>107</i>	<i>85.9-114</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0449</i>		"	<i>0.0399</i>		<i>112</i>	<i>77.8-142</i>			

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/26/19 16:03

Notes and Definitions

HDSP Sample aliquot taken from VOA vial with headspace (air bubble >6 mm diameter). Results should be considered minimum estimates.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



Chain of Custody Record

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Client: Partner Engineering
Address: 2154 Torrance Blvd. Torrance CA
Phone: 310-977-4625 Fax: _____
Project Manager: Mark Bullivant

Date: 6/19/19 Page: 1 Of 3
Project Name: Logg Beach
Collector: Mark Bullivant Client Project #: 18-232543.2
Batch #: T192044 EDF #: _____

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	TMLcc 8015	Hold	Comments/Preservative	Total # of containers
01	B1-2	6-18-19	9:40	SOIL	SEEV/ubs	X										X			
02	B1-5		9:41																
03	B1-10		9:45																
04	B2-5		9:48																
05	B2-10		9:55				X									X			
06	B2-15		10:07																
07	B2-20		10:14																
08	B3-2		10:40				X									X			
09	B3-5		10:45																
10	B3-10		11:00																
11	B4-2		11:22				X									X			
12	B4-5		11:26																
13	B4-10		11:30																
14	B7-2		11:35				X									X			
15	B7-5		11:40																

Relinquished by: (signature) <i>[Signature]</i>	Date / Time 6/19/19 16:05	Received by: (signature) <i>Paul Danner</i>	Date / Time 6-19-19 16:05
Relinquished by: (signature) <i>Paul Danner</i>	Date / Time 6-19-19 18:09	Received by: (signature) <i>[Signature]</i>	Date / Time 6-19-19 18:09
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers _____
Chain of Custody seals Y/N/A _____
Seals intact? Y/N/NA _____
Received good condition/cold 3.7
Turn around time: Standard

Notes

Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

COC 181554



Chain of Custody Record

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Client: Pandora Engineering
Address: 2154 Terrace Blvd.
Phone: 310-977-4625 Fax: _____
Project Manager: Mark Bullivant

Date: 6/19/19 Page: 2 Of 3
Project Name: Long Beach
Collector: Mark B. Client Project #: 18-232543-2
Batch #: T192044 EDF #: _____

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	8015 TPM-CC	8082 PCBs	Comments/Preservative	Total # of containers	
16	B7-10	6-18-19	11:45	SOIL	SLEEV/VOAS															
17	B6-2		12:00			X										X				
18	B6-5		12:02																	
19	B6-10		12:05																	
20	B5-4		12:27													X	X			
21	B5-8		12:36																	
22	B5-12		13:06																	
23	B8-5		13:08																	
24	B8-10		13:10			X														
25	B8-15		13:15																	
26	B8-20		13:20																	
27	B8-25		13:27																	
28	B8-30		13:42																	
29	B8-GW		14:00	GW	3 VOAS	X										X	X			
30	B9-2		14:34	SOIL	SLEEV/VOAS	X										X	X			

Relinquished by: (signature) 	Date / Time 6/19/19 16:05	Received by: (signature) 	Date / Time 6-19-19 16:05
Relinquished by: (signature) Paul Durrum	Date / Time 6-19-19 18:09	Received by: (signature) 	Date / Time 6-19-19 18:09
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	Notes
Chain of Custody seals Y/N/NA	
Seals intact? Y/N/NA	
Received good condition/cold	3.7
Turn around time: <u>Standard</u>	

Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

COC 181558



Chain of Custody Record

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Client: Pantrea Engineering
Address: 2154 Torrance Blvd. Torr. CA.
Phone: 310-977-4625 Fax: _____
Project Manager: Mark Bullivant

Date: 6/19/19 Page: 3 Of 3
Project Name: Long Beach
Collector: Mark Bullivant Client Project #: 18-232543.2
Batch #: T192044 EDF #: _____

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	8015 TPH-cc	8015 HOLD	Comments/Preservative	Total # of containers
31	B9-5	6/18/19	14:37	SOIL	SLURRY/A														
32	B9-10	↓	14:40	↓	↓														
33	B10-2	↓	14:42	↓	↓	X									X				
34	B10-5	↓	14:45	↓	↓														
35	B10-10	↓	14:50	↓	↓														

Relinquished by: (signature) <u>[Signature]</u>	Date / Time <u>6/19/19 16:05</u>	Received by: (signature) <u>Paul Brown</u>	Date / Time <u>6-19-19 16:05</u>	Total # of containers	Notes
Relinquished by: (signature) <u>Paul Brown</u>	Date / Time <u>6-19-19 18:09</u>	Received by: (signature) <u>[Signature]</u>	Date / Time <u>6-19-19 18:09</u>	Chain of Custody seals Y/N/NA <u>Y</u>	
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Seals intact? Y/N/NA <u>Y</u>	
				Received good condition/cold <u>3.7</u>	
				Turn around time: <u>Standard</u>	

Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

COC 180235



SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192044
 Client Name: Partner ESI - Torrance Project: Long Beach
 Delivered by: Client SunStar Courier GSO FedEx Other
 If Courier, Received by: Paul Date/Time Courier Received: 6-19-19 16:05
 Lab Received by: Sunny Date/Time Lab Received: 6-19-19 18:09
 Total number of coolers received: -

Temperature: Cooler #1	2.5 °C +/- the CF (1.2°C) = 3.7 °C corrected temperature
Temperature: Cooler #2	°C +/- the CF (1.2°C) = °C corrected temperature
Temperature: Cooler #3	°C +/- the CF (1.2°C) = °C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

If NO:
 Samples received on ice? Yes No → Complete Non-Conformance Sheet
 If on ice, samples received same day collected? Yes → Acceptable No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample Yes No* N/A
 Sample containers intact Yes No*
 Sample labels match Chain of Custody IDs Yes No*
 Total number of containers received match COC Yes No*
 Proper containers received for analyses requested on COC Yes No*
 Proper preservative indicated on COC/containers for analyses requested Yes No* N/A
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times Yes No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: TB 6-20-19

Comments:

WORK ORDER

T192044

Client: Partner Engineering & Science, Inc.--Tor
Project: Long Beach

Project Manager: Mike Jaroudi
Project Number: 18-232543.2

Report To:

Partner Engineering & Science, Inc.--Tor
 Mark Bullivant
 2154 Torrance Blvd., Suite 200
 Torrance, CA 90501

Date Due: 06/25/19 17:00 (3 day TAT)

Received By: Sunny Lounethone

Date Received: 06/19/19 18:09

Logged In By: Travis Berner

Date Logged In: 06/20/19 09:46

Samples Received at: 3.7°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir Yes

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

T192044-01 B1-2 [Soil] Sampled 06/18/19 09:40 (GMT-08:00) Pacific Time (US &

8015 Carbon Chain	06/25/19 15:00	3	07/02/19 09:40	
-------------------	----------------	---	----------------	--

8260 5035	06/25/19 15:00	3	07/02/19 09:40	
-----------	----------------	---	----------------	--

T192044-02 B1-5 [Soil] Sampled 06/18/19 09:41 (GMT-08:00) Pacific Time (US HOLD &

[NO ANALYSES]

T192044-03 B1-10 [Soil] Sampled 06/18/19 09:45 (GMT-08:00) Pacific Time (US HOLD &

[NO ANALYSES]

T192044-04 B2-5 [Soil] Sampled 06/18/19 09:48 (GMT-08:00) Pacific Time (US HOLD &

[NO ANALYSES]

T192044-05 B2-10 [Soil] Sampled 06/18/19 09:55 (GMT-08:00) Pacific Time (US &

8015 Carbon Chain	06/25/19 15:00	3	07/02/19 09:55	
-------------------	----------------	---	----------------	--

8260 5035	06/25/19 15:00	3	07/02/19 09:55	
-----------	----------------	---	----------------	--

T192044-06 B2-15 [Soil] Sampled 06/18/19 10:07 (GMT-08:00) Pacific Time (US HOLD &

[NO ANALYSES]

WORK ORDER

T192044

Client: Partner Engineering & Science, Inc.--Tor
Project: Long Beach

Project Manager: Mike Jaroudi
Project Number: 18-232543.2

Analysis	Due	TAT	Expires	Comments
T192044-07 B2-20 [Soil] Sampled 06/18/19 10:14 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T192044-08 B3-2 [Soil] Sampled 06/18/19 10:40 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 10:40	
8260 5035	06/25/19 15:00	3	07/02/19 10:40	
T192044-09 B3-5 [Soil] Sampled 06/18/19 10:45 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-10 B3-10 [Soil] Sampled 06/18/19 11:00 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-11 B4-2 [Soil] Sampled 06/18/19 11:22 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 11:22	
8260 5035	06/25/19 15:00	3	07/02/19 11:22	
T192044-12 B4-5 [Soil] Sampled 06/18/19 11:26 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-13 B4-10 [Soil] Sampled 06/18/19 11:30 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-14 B7-2 [Soil] Sampled 06/18/19 11:35 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 11:35	
8260 5035	06/25/19 15:00	3	07/02/19 11:35	
T192044-15 B7-5 [Soil] Sampled 06/18/19 11:40 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-16 B7-10 [Soil] Sampled 06/18/19 11:45 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				

WORK ORDER

T192044

Client: Partner Engineering & Science, Inc.--Tor
Project: Long Beach

Project Manager: Mike Jaroudi
Project Number: 18-232543.2

Analysis	Due	TAT	Expires	Comments
T192044-17 B6-2 [Soil] Sampled 06/18/19 12:00 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 12:00	
8260 5035	06/25/19 15:00	3	07/02/19 12:00	
T192044-18 B6-5 [Soil] Sampled 06/18/19 12:02 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-19 B6-10 [Soil] Sampled 06/18/19 12:05 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-20 B5-4 [Soil] Sampled 06/18/19 12:27 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 12:27	
8082 PCB	06/25/19 15:00	3	07/02/19 12:27	
T192044-21 B5-8 [Soil] Sampled 06/18/19 12:36 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-22 B5-12 [Soil] Sampled 06/18/19 13:00 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-23 B8-5 [Soil] Sampled 06/18/19 13:08 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-24 B8-10 [Soil] Sampled 06/18/19 13:10 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 13:10	
8260 5035	06/25/19 15:00	3	07/02/19 13:10	
T192044-25 B8-15 [Soil] Sampled 06/18/19 13:15 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				
T192044-26 B8-20 [Soil] Sampled 06/18/19 13:20 (GMT-08:00) Pacific Time (US & HOLD				
[NO ANALYSES]				

WORK ORDER

T192044

Client: Partner Engineering & Science, Inc.--Tor	Project Manager: Mike Jaroudi
Project: Long Beach	Project Number: 18-232543.2

Analysis	Due	TAT	Expires	Comments
T192044-27 B8-25 [Soil] Sampled 06/18/19 13:27 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-28 B8-30 [Soil] Sampled 06/18/19 13:42 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-29 B8-GW [Water] Sampled 06/18/19 14:00 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 14:00	
8260	06/25/19 15:00	3	07/02/19 14:00	
T192044-30 B9-2 [Soil] Sampled 06/18/19 14:34 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 14:34	
8260 5035	06/25/19 15:00	3	07/02/19 14:34	
T192044-31 B9-5 [Soil] Sampled 06/18/19 14:37 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-32 B9-10 [Soil] Sampled 06/18/19 14:40 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-33 B10-2 [Soil] Sampled 06/18/19 14:42 (GMT-08:00) Pacific Time (US &				
8015 Carbon Chain	06/25/19 15:00	3	07/02/19 14:42	
8260 5035	06/25/19 15:00	3	07/02/19 14:42	
T192044-34 B10-5 [Soil] Sampled 06/18/19 14:45 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				
T192044-35 B10-10 [Soil] Sampled 06/18/19 14:50 (GMT-08:00) Pacific Time (US HOLD & [NO ANALYSES]				



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

29 June 2019

Mark Bullivant
Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance, CA 90501
RE: Long Beach

Enclosed are the results of analyses for samples received by the laboratory on 06/19/19 18:09. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-SG	T192042-01	Air	06/18/19 15:10	06/19/19 18:09
B2-SG	T192042-02	Air	06/18/19 15:15	06/19/19 18:09
B3-SG	T192042-03	Air	06/18/19 15:20	06/19/19 18:09
B4-SG	T192042-04	Air	06/18/19 15:25	06/19/19 18:09
B6-SG	T192042-05	Air	06/18/19 15:30	06/19/19 18:09
B7-SG	T192042-06	Air	06/18/19 15:35	06/19/19 18:09
B8-SG	T192042-07	Air	06/18/19 15:40	06/19/19 18:09
B9-SG	T192042-08	Air	06/18/19 15:45	06/19/19 18:09
B10-SG	T192042-09	Air	06/18/19 16:00	06/19/19 18:09



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

DETECTIONS SUMMARY

Sample ID: B1-SG **Laboratory ID:** T192042-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Toluene	940	190	ug/m ³ Air	TO-15	TO-14

Sample ID: B2-SG **Laboratory ID:** T192042-02

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Acetone	66	12	ug/m ³ Air	TO-15	
Chloroform	8.4	5.0	ug/m ³ Air	TO-15	
Cyclohexane	4.5	3.5	ug/m ³ Air	TO-15	
Heptane	7.8	4.2	ug/m ³ Air	TO-15	
Tetrachloroethene	280	6.9	ug/m ³ Air	TO-15	
Trichloroethene	4.1	5.5	ug/m ³ Air	TO-15	J
1,3,5-Trimethylbenzene	86	5.0	ug/m ³ Air	TO-15	
1,2,4-Trimethylbenzene	410	5.0	ug/m ³ Air	TO-15	
2-Butanone (MEK)	19	15	ug/m ³ Air	TO-15	
Methyl isobutyl ketone	4.1	42	ug/m ³ Air	TO-15	J
Benzene	4.8	3.3	ug/m ³ Air	TO-15	
Toluene	16	3.8	ug/m ³ Air	TO-15	
Ethylbenzene	61	4.4	ug/m ³ Air	TO-15	
m,p-Xylene	290	8.8	ug/m ³ Air	TO-15	
o-Xylene	140	4.4	ug/m ³ Air	TO-15	

Sample ID: B3-SG **Laboratory ID:** T192042-03

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Isopropyl alcohol	980	130	ug/m ³ Air	TO-15	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

Sample ID: B4-SG **Laboratory ID:** T192042-04

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Acetone	360	120	ug/m ³ Air	TO-15	TO-14
Ethylbenzene	220	220	ug/m ³ Air	TO-15	TO-14
m,p-Xylene	790	220	ug/m ³ Air	TO-15	TO-14
o-Xylene	220	220	ug/m ³ Air	TO-15	TO-14

Sample ID: B6-SG **Laboratory ID:** T192042-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Acetone	84	120	ug/m ³ Air	TO-15	TO-14, J
Ethylbenzene	160	220	ug/m ³ Air	TO-15	TO-14, J
m,p-Xylene	620	220	ug/m ³ Air	TO-15	TO-14
o-Xylene	180	220	ug/m ³ Air	TO-15	TO-14, J

Sample ID: B7-SG **Laboratory ID:** T192042-06

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Acetone	62	12	ug/m ³ Air	TO-15	
1,3-Butadiene	7.6	4.5	ug/m ³ Air	TO-15	
Isopropyl alcohol	67	13	ug/m ³ Air	TO-15	
Heptane	4.6	4.2	ug/m ³ Air	TO-15	
Tetrachloroethene	14	6.9	ug/m ³ Air	TO-15	
Trichloroethene	3.7	5.5	ug/m ³ Air	TO-15	J
1,3,5-Trimethylbenzene	6.7	5.0	ug/m ³ Air	TO-15	
1,2,4-Trimethylbenzene	23	5.0	ug/m ³ Air	TO-15	
Benzene	5.9	3.3	ug/m ³ Air	TO-15	
Toluene	14	3.8	ug/m ³ Air	TO-15	
Ethylbenzene	10	4.4	ug/m ³ Air	TO-15	
m,p-Xylene	40	8.8	ug/m ³ Air	TO-15	
o-Xylene	16	4.4	ug/m ³ Air	TO-15	

Sample ID: B8-SG **Laboratory ID:** T192042-07

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Isopropyl alcohol	1600	130	ug/m ³ Air	TO-15	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

Sample ID: B8-SG

Laboratory ID: T192042-07

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Ethylbenzene	160	220	ug/m ³ Air	TO-15	TO-14, J
m,p-Xylene	670	220	ug/m ³ Air	TO-15	TO-14
o-Xylene	150	220	ug/m ³ Air	TO-15	TO-14, J

Sample ID: B9-SG

Laboratory ID: T192042-08

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Acetone	360	120	ug/m ³ Air	TO-15	TO-14
Ethylbenzene	130	220	ug/m ³ Air	TO-15	TO-14, J
m,p-Xylene	440	220	ug/m ³ Air	TO-15	TO-14
o-Xylene	92	220	ug/m ³ Air	TO-15	TO-14, J

Sample ID: B10-SG

Laboratory ID: T192042-09

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Ethylbenzene	310	220	ug/m ³ Air	TO-15	TO-14
m,p-Xylene	1100	220	ug/m ³ Air	TO-15	TO-14
o-Xylene	260	220	ug/m ³ Air	TO-15	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B1-SG
T192042-01(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.6	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	ND	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	ND	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B1-SG
T192042-01(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.6	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	940	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	ND	10	220	"	"	"	"	"	"	TO-14
m,p-Xylene	ND	15	220	"	"	"	"	"	"	TO-14
o-Xylene	ND	9.3	220	"	"	"	"	"	"	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B2-SG
T192042-02(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	3.3	27	ug/m ³ Air	1.38	9062025	06/20/19	06/29/19	TO-15	
Acetone	66	0.49	12	"	"	"	"	"	"	"
1,3-Butadiene	ND	0.29	4.5	"	"	"	"	"	"	"
Carbon Disulfide	ND	0.22	3.2	"	"	"	"	"	"	"
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	0.26	7.7	"	"	"	"	"	"	"
Isopropyl alcohol	ND	0.55	13	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.16	6.8	"	"	"	"	"	"	"
Bromoform	ND	0.23	11	"	"	"	"	"	"	"
Bromomethane	ND	0.55	4.0	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.055	6.4	"	"	"	"	"	"	"
Chlorobenzene	ND	0.098	4.7	"	"	"	"	"	"	"
Chloroethane	ND	0.35	2.7	"	"	"	"	"	"	"
Chloroform	8.4	0.15	5.0	"	"	"	"	"	"	"
Chloromethane	ND	0.46	11	"	"	"	"	"	"	"
Cyclohexane	4.5	0.16	3.5	"	"	"	"	"	"	"
Heptane	7.8	0.15	4.2	"	"	"	"	"	"	"
Hexane	ND	0.43	3.6	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.26	8.7	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.18	7.8	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.36	6.1	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.43	6.1	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.44	6.1	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.18	5.0	"	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.23	4.1	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.16	4.1	"	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.28	4.0	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	4.0	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.22	4.0	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.13	4.7	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.21	4.6	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.21	4.6	"	"	"	"	"	"	"
4-Ethyltoluene	ND	0.25	5.0	"	"	"	"	"	"	"



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B2-SG
T192042-02(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	0.079	3.5	ug/m ³ Air	1.38	9062025	06/20/19	06/29/19	TO-15	
Styrene	ND	0.19	4.3	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.54	7.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.25	3.0	"	"	"	"	"	"	
Tetrachloroethene	280	0.21	6.9	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.19	5.6	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.24	5.6	"	"	"	"	"	"	
Trichloroethene	4.1	0.21	5.5	"	"	"	"	"	"	J
Trichlorofluoromethane	ND	0.24	5.7	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	86	0.49	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	410	0.33	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	0.18	3.6	"	"	"	"	"	"	
Vinyl chloride	ND	0.052	2.6	"	"	"	"	"	"	
1,4-Dioxane	ND	0.97	18	"	"	"	"	"	"	
2-Butanone (MEK)	19	0.45	15	"	"	"	"	"	"	
Methyl isobutyl ketone	4.1	0.14	42	"	"	"	"	"	"	J
Benzene	4.8	0.14	3.3	"	"	"	"	"	"	
Toluene	16	0.14	3.8	"	"	"	"	"	"	
Ethylbenzene	61	0.14	4.4	"	"	"	"	"	"	
m,p-Xylene	290	0.20	8.8	"	"	"	"	"	"	
o-Xylene	140	0.085	4.4	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene			99.5 %	40-160		"	"	"	"	



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B3-SG
T192042-03(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.42	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	ND	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	980	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B3-SG
T192042-03(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.42	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	ND	10	220	"	"	"	"	"	"	TO-14
m,p-Xylene	ND	15	220	"	"	"	"	"	"	TO-14
o-Xylene	ND	9.3	220	"	"	"	"	"	"	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B4-SG
T192042-04(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.49	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	360	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	ND	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B4-SG
T192042-04(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.49	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	220	10	220	"	"	"	"	"	"	TO-14
m,p-Xylene	790	15	220	"	"	"	"	"	"	TO-14
o-Xylene	220	9.3	220	"	"	"	"	"	"	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B6-SG
T192042-05(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.51	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	84	17	120	"	"	"	"	"	"	TO-14, J
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	ND	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B6-SG
T192042-05(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.51	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	160	10	220	"	"	"	"	"	"	TO-14, J
m,p-Xylene	620	15	220	"	"	"	"	"	"	TO-14
o-Xylene	180	9.3	220	"	"	"	"	"	"	TO-14, J



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B7-SG
T192042-06(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	3.3	27	ug/m ³ Air	1.67	9062025	06/20/19	06/29/19	TO-15	
Acetone	62	0.49	12	"	"	"	"	"	"	"
1,3-Butadiene	7.6	0.29	4.5	"	"	"	"	"	"	"
Carbon Disulfide	ND	0.22	3.2	"	"	"	"	"	"	"
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	0.26	7.7	"	"	"	"	"	"	"
Isopropyl alcohol	67	0.55	13	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.16	6.8	"	"	"	"	"	"	"
Bromoform	ND	0.23	11	"	"	"	"	"	"	"
Bromomethane	ND	0.55	4.0	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.055	6.4	"	"	"	"	"	"	"
Chlorobenzene	ND	0.098	4.7	"	"	"	"	"	"	"
Chloroethane	ND	0.35	2.7	"	"	"	"	"	"	"
Chloroform	ND	0.15	5.0	"	"	"	"	"	"	"
Chloromethane	ND	0.46	11	"	"	"	"	"	"	"
Cyclohexane	ND	0.16	3.5	"	"	"	"	"	"	"
Heptane	4.6	0.15	4.2	"	"	"	"	"	"	"
Hexane	ND	0.43	3.6	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.26	8.7	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.18	7.8	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.36	6.1	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.43	6.1	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.44	6.1	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.18	5.0	"	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.23	4.1	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.16	4.1	"	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.28	4.0	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.25	4.0	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.22	4.0	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.13	4.7	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.21	4.6	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.21	4.6	"	"	"	"	"	"	"
4-Ethyltoluene	ND	0.25	5.0	"	"	"	"	"	"	"

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B7-SG
T192042-06(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	0.079	3.5	ug/m ³ Air	1.67	9062025	06/20/19	06/29/19	TO-15	
Styrene	ND	0.19	4.3	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.54	7.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	0.25	3.0	"	"	"	"	"	"	
Tetrachloroethene	14	0.21	6.9	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.19	5.6	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.24	5.6	"	"	"	"	"	"	
Trichloroethene	3.7	0.21	5.5	"	"	"	"	"	"	J
Trichlorofluoromethane	ND	0.24	5.7	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	6.7	0.49	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	23	0.33	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	0.18	3.6	"	"	"	"	"	"	
Vinyl chloride	ND	0.052	2.6	"	"	"	"	"	"	
1,4-Dioxane	ND	0.97	18	"	"	"	"	"	"	
2-Butanone (MEK)	ND	0.45	15	"	"	"	"	"	"	
Methyl isobutyl ketone	ND	0.14	42	"	"	"	"	"	"	
Benzene	5.9	0.14	3.3	"	"	"	"	"	"	
Toluene	14	0.14	3.8	"	"	"	"	"	"	
Ethylbenzene	10	0.14	4.4	"	"	"	"	"	"	
m,p-Xylene	40	0.20	8.8	"	"	"	"	"	"	
o-Xylene	16	0.085	4.4	"	"	"	"	"	"	

Surrogate: 4-Bromofluorobenzene 90.2% 40-160 " " " "



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B8-SG
T192042-07(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.41	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	ND	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	1600	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B8-SG
T192042-07(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.41	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	160	10	220	"	"	"	"	"	"	TO-14, J
m,p-Xylene	670	15	220	"	"	"	"	"	"	TO-14
o-Xylene	150	9.3	220	"	"	"	"	"	"	TO-14, J



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B9-SG
T192042-08(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.69	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	360	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	ND	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B9-SG
T192042-08(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.69	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	130	10	220	"	"	"	"	"	"	TO-14, J
m,p-Xylene	440	15	220	"	"	"	"	"	"	TO-14
o-Xylene	92	9.3	220	"	"	"	"	"	"	TO-14, J

Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B10-SG
T192042-09(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	1.67	9062025	06/20/19	06/20/19	TO-15	TO-14
Acetone	ND	17	120	"	"	"	"	"	"	TO-14
1,3-Butadiene	ND	8.3	110	"	"	"	"	"	"	TO-14
Carbon Disulfide	ND	11	160	"	"	"	"	"	"	TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	"	"	"	"	"	TO-14
Isopropyl alcohol	ND	22	130	"	"	"	"	"	"	TO-14
Bromodichloromethane	ND	15	340	"	"	"	"	"	"	TO-14
Bromoform	ND	26	530	"	"	"	"	"	"	TO-14
Bromomethane	ND	15	200	"	"	"	"	"	"	TO-14
Carbon tetrachloride	ND	12	320	"	"	"	"	"	"	TO-14
Chlorobenzene	ND	5.6	230	"	"	"	"	"	"	TO-14
Chloroethane	ND	11	130	"	"	"	"	"	"	TO-14
Chloroform	ND	9.4	250	"	"	"	"	"	"	TO-14
Chloromethane	ND	7.4	110	"	"	"	"	"	"	TO-14
Cyclohexane	ND	12	170	"	"	"	"	"	"	TO-14
Heptane	ND	21	210	"	"	"	"	"	"	TO-14
Hexane	ND	10	180	"	"	"	"	"	"	TO-14
Dibromochloromethane	ND	24	430	"	"	"	"	"	"	TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	"	"	"	"	"	TO-14
1,2-Dichlorobenzene	ND	18	310	"	"	"	"	"	"	TO-14
1,3-Dichlorobenzene	ND	24	310	"	"	"	"	"	"	TO-14
1,4-Dichlorobenzene	ND	22	310	"	"	"	"	"	"	TO-14
Dichlorodifluoromethane	ND	15	250	"	"	"	"	"	"	TO-14
1,1-Dichloroethane	ND	10	210	"	"	"	"	"	"	TO-14
1,2-Dichloroethane	ND	14	210	"	"	"	"	"	"	TO-14
1,1-Dichloroethene	ND	6.5	200	"	"	"	"	"	"	TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	"	"	"	"	"	TO-14
trans-1,2-Dichloroethene	ND	13	200	"	"	"	"	"	"	TO-14
1,2-Dichloropropane	ND	24	240	"	"	"	"	"	"	TO-14
cis-1,3-Dichloropropene	ND	13	230	"	"	"	"	"	"	TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	"	"	"	"	"	TO-14
4-Ethyltoluene	ND	15	250	"	"	"	"	"	"	TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

B10-SG
T192042-09(Air)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

TO-15

Methylene chloride	ND	17	180	ug/m ³ Air	1.67	9062025	06/20/19	06/20/19	TO-15	TO-14
Styrene	ND	13	220	"	"	"	"	"	"	TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	"	"	"	"	"	TO-14
Tetrahydrofuran	ND	15	150	"	"	"	"	"	"	TO-14
Tetrachloroethene	ND	19	350	"	"	"	"	"	"	TO-14
1,1,2-Trichloroethane	ND	12	280	"	"	"	"	"	"	TO-14
1,1,1-Trichloroethane	ND	11	280	"	"	"	"	"	"	TO-14
Trichloroethene	ND	8.7	270	"	"	"	"	"	"	TO-14
Trichlorofluoromethane	ND	13	290	"	"	"	"	"	"	TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	"	"	"	"	"	TO-14
Vinyl acetate	ND	9.7	180	"	"	"	"	"	"	TO-14
Vinyl chloride	ND	9.6	130	"	"	"	"	"	"	TO-14
1,4-Dioxane	ND	59	180	"	"	"	"	"	"	TO-14
2-Butanone (MEK)	ND	11	150	"	"	"	"	"	"	TO-14
Methyl isobutyl ketone	ND	50	210	"	"	"	"	"	"	TO-14
Benzene	ND	4.9	160	"	"	"	"	"	"	TO-14
Toluene	ND	11	190	"	"	"	"	"	"	TO-14
Ethylbenzene	310	10	220	"	"	"	"	"	"	TO-14
m,p-Xylene	1100	15	220	"	"	"	"	"	"	TO-14
o-Xylene	260	9.3	220	"	"	"	"	"	"	TO-14



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

TO-15 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 9062025 - Canister Analysis

Blank (9062025-BLK1)

Prepared: 06/20/19 Analyzed: 06/29/19

<i>Surrogate: 4-Bromofluorobenzene</i>	281			ug/m ³ Air	362		77.6	40-160			
1,1-Difluoroethane (Freon 152)	ND	3.3	27	"							
Acetone	ND	0.49	12	"							
1,3-Butadiene	ND	0.29	4.5	"							
Carbon Disulfide	ND	0.22	3.2	"							
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	0.26	7.7	"							
Isopropyl alcohol	ND	0.55	13	"							
Bromodichloromethane	ND	0.16	6.8	"							
Bromoform	ND	0.23	11	"							
Bromomethane	ND	0.55	4.0	"							
Carbon tetrachloride	ND	0.055	6.4	"							
Chlorobenzene	ND	0.098	4.7	"							
Chloroethane	ND	0.35	2.7	"							
Chloroform	ND	0.15	5.0	"							
Chloromethane	ND	0.46	11	"							
Cyclohexane	ND	0.16	3.5	"							
Heptane	ND	0.15	4.2	"							
Hexane	ND	0.43	3.6	"							
Dibromochloromethane	ND	0.26	8.7	"							
1,2-Dibromoethane (EDB)	ND	0.18	7.8	"							
1,2-Dichlorobenzene	ND	0.36	6.1	"							
1,3-Dichlorobenzene	ND	0.43	6.1	"							
1,4-Dichlorobenzene	ND	0.44	6.1	"							
Dichlorodifluoromethane	ND	0.18	5.0	"							
1,1-Dichloroethane	ND	0.23	4.1	"							
1,2-Dichloroethane	ND	0.16	4.1	"							

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

TO-15 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch 9062025 - Canister Analysis

Blank (9062025-BLK1)

Prepared: 06/20/19 Analyzed: 06/29/19

1,1-Dichloroethene	ND	0.28	4.0	ug/m ³ Air						
cis-1,2-Dichloroethene	ND	0.25	4.0	"						
trans-1,2-Dichloroethene	ND	0.22	4.0	"						
1,2-Dichloropropane	ND	0.13	4.7	"						
cis-1,3-Dichloropropene	ND	0.21	4.6	"						
trans-1,3-Dichloropropene	ND	0.21	4.6	"						
4-Ethyltoluene	ND	0.25	5.0	"						
Methylene chloride	ND	0.079	3.5	"						
Styrene	ND	0.19	4.3	"						
1,1,2,2-Tetrachloroethane	ND	0.54	7.0	"						
Tetrahydrofuran	ND	0.25	3.0	"						
Tetrachloroethene	ND	0.21	6.9	"						
1,1,2-Trichloroethane	ND	0.19	5.6	"						
1,1,1-Trichloroethane	ND	0.24	5.6	"						
Trichloroethene	ND	0.21	5.5	"						
Trichlorofluoromethane	ND	0.24	5.7	"						
1,3,5-Trimethylbenzene	ND	0.49	5.0	"						
1,2,4-Trimethylbenzene	ND	0.33	5.0	"						
Vinyl acetate	ND	0.18	3.6	"						
Vinyl chloride	ND	0.052	2.6	"						
1,4-Dioxane	ND	0.97	18	"						
2-Butanone (MEK)	ND	0.45	15	"						
Methyl isobutyl ketone	ND	0.14	42	"						
Benzene	ND	0.14	3.3	"						
Toluene	ND	0.14	3.8	"						
Ethylbenzene	ND	0.14	4.4	"						
m,p-Xylene	ND	0.20	8.8	"						

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

TO-15 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 9062025 - Canister Analysis

Blank (9062025-BLK1)

Prepared: 06/20/19 Analyzed: 06/29/19

o-Xylene ND 0.085 4.4 ug/m³ Air

Duplicate (9062025-DUP1)

Source: T192042-01

Prepared & Analyzed: 06/20/19

1,1-Difluoroethane (Freon 152)	ND	91	270	ug/m ³ Air	ND						TO-14
Acetone	ND	17	120	"	ND				30		TO-14
1,3-Butadiene	ND	8.3	110	"	ND				30		TO-14
Carbon Disulfide	ND	11	160	"	ND				30		TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	20	390	"	ND				30		TO-14
Isopropyl alcohol	ND	22	130	"	ND				30		TO-14
Bromodichloromethane	ND	15	340	"	ND				30		TO-14
Bromoform	ND	26	530	"	ND				30		TO-14
Bromomethane	ND	15	200	"	ND				30		TO-14
Carbon tetrachloride	ND	12	320	"	ND				30		TO-14
Chlorobenzene	ND	5.6	230	"	ND				30		TO-14
Chloroethane	ND	11	130	"	ND				30		TO-14
Chloroform	ND	9.4	250	"	ND				30		TO-14
Chloromethane	ND	7.4	110	"	ND				30		TO-14
Cyclohexane	ND	12	170	"	ND				30		TO-14
Heptane	ND	21	210	"	ND				30		TO-14
Hexane	ND	10	180	"	ND				30		TO-14
Dibromochloromethane	ND	24	430	"	ND				30		TO-14
1,2-Dibromoethane (EDB)	ND	13	390	"	ND				30		TO-14
1,2-Dichlorobenzene	ND	18	310	"	ND				30		TO-14
1,3-Dichlorobenzene	ND	24	310	"	ND				30		TO-14
1,4-Dichlorobenzene	ND	22	310	"	ND				30		TO-14
Dichlorodifluoromethane	ND	15	250	"	ND				30		TO-14
1,1-Dichloroethane	ND	10	210	"	ND				30		TO-14
1,2-Dichloroethane	ND	14	210	"	ND				30		TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

TO-15 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 9062025 - Canister Analysis

Duplicate (9062025-DUP1)	Source: T192042-01				Prepared & Analyzed: 06/20/19						
1,1-Dichloroethene	ND	6.5	200	ug/m ³ Air	ND				30		TO-14
cis-1,2-Dichloroethene	ND	9.7	200	"	ND				30		TO-14
trans-1,2-Dichloroethene	ND	13	200	"	ND				30		TO-14
1,2-Dichloropropane	ND	24	240	"	ND				30		TO-14
cis-1,3-Dichloropropene	ND	13	230	"	ND				30		TO-14
trans-1,3-Dichloropropene	ND	8.3	230	"	ND				30		TO-14
4-Ethyltoluene	ND	15	250	"	ND				30		TO-14
Methylene chloride	ND	17	180	"	ND				30		TO-14
Styrene	ND	13	220	"	ND				30		TO-14
1,1,2,2-Tetrachloroethane	ND	19	350	"	ND				30		TO-14
Tetrahydrofuran	ND	15	150	"	ND				30		TO-14
Tetrachloroethene	ND	19	350	"	ND				30		TO-14
1,1,2-Trichloroethane	ND	12	280	"	ND				30		TO-14
1,1,1-Trichloroethane	ND	11	280	"	ND				30		TO-14
Trichloroethene	ND	8.7	270	"	ND				30		TO-14
Trichlorofluoromethane	ND	13	290	"	ND				30		TO-14
1,3,5-Trimethylbenzene	ND	15	250	"	ND				30		TO-14
1,2,4-Trimethylbenzene	ND	15	250	"	ND				30		TO-14
Vinyl acetate	ND	9.7	180	"	ND				30		TO-14
Vinyl chloride	ND	9.6	130	"	ND				30		TO-14
1,4-Dioxane	ND	59	180	"	ND				30		TO-14
2-Butanone (MEK)	ND	11	150	"	ND				30		TO-14
Methyl isobutyl ketone	ND	50	210	"	ND				30		TO-14
Benzene	ND	4.9	160	"	ND				30		TO-14
Toluene	937	11	190	"	938			0.170	30		TO-14
Ethylbenzene	ND	10	220	"	ND				30		TO-14
m,p-Xylene	ND	15	220	"	ND				30		TO-14

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

TO-15 - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 9062025 - Canister Analysis

Duplicate (9062025-DUP1)

Source: T192042-01

Prepared & Analyzed: 06/20/19

o-Xylene	ND	9.3	220	ug/m ³ Air	ND				30		TO-14
----------	----	-----	-----	-----------------------	----	--	--	--	----	--	-------



Partner Engineering & Science, Inc.--Tor
2154 Torrance Blvd., Suite 200
Torrance CA, 90501

Project: Long Beach
Project Number: 18-232543.2
Project Manager: Mark Bullivant

Reported:
06/29/19 12:49

Notes and Definitions

- TO-14 TO-15 analysis of sample was not performed due to high concentration of analyte(s). Sample was analyzed utilizing method TO-14 and reporting limit has been adjusted accordingly.
- J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



AIR LABORATORY

Chain of Custody Record



25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Client: Parsons Engineering
Address: 2154 Torrance Blvd. Torrance
Phone: 310-977-4625 Fax: _____
Project Manager: 310-977-4625

Date: 6-19-19 Page: 1 Of 1
Project Name: Long Beach
Collector: Mark Brilliant Client Project #: 18-232543-2
Batch #: 7192042 EDF #: _____

Laboratory ID #	Sample ID	Date Sampled	Start Time	Finish Time	Sample Type: Soil Gas / Indoor Air	Container Type: Summa Can / Tedlar	Initial Pressure	Final Pressure	TO-3	TO-14	TO-15	8015m Methane	8015m Gasoline	Fixed Gases by TCD	Summa Can # / Comments	
01	B1-SG	6-18-19	15:10	15:18	SG	SUMMA	-30	-4			X				683	
02	B2-SG		15:15	15:22			-30	-4			X				703	
03	B3-SG		15:20	15:27			-30	-5			X				686	
04	B4-SG		15:27	15:33			-30	-5			X				0854	
05	B6-SG		15:30	15:40			-30	-4			X				0865	
06	B7-SG		15:35	15:44			-30	-3			X				0271	
07	B8-SG		15:40	15:48			-30	-4			X				0364	
08	B9-SG		15:45	15:53			-30	-4			X				0727	
09	B10-SG		16:20	16:08			-30	-4			X				0766	
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>6/19/19 16:05</u>							Received by: (signature) <u>Paul Danner</u> Date / Time <u>6-19-19 16:05</u>							Total # of containers <u>8</u>		Notes
Relinquished by: (signature) <u>Paul Danner</u> Date / Time <u>6-19-19 18:09</u>							Received by: (signature) <u>[Signature]</u> Date / Time <u>6/19/19 18:09</u>							Chain of Custody seals Y/N/NA <u>(N)</u>		
Relinquished by: (signature) _____ Date / Time _____							Received by: (signature) _____ Date / Time _____							Seals intact? Y/N/NA <u>(N)</u>		
Received good condition/cold <input checked="" type="checkbox"/>																
Turn around time: <u>Standard</u>																

* TO-15 SIM analysis available upon prior notification. (Precertified Summa cans needed)

COCAL 181053



SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192042

Client Name: PARTNER - TOR Project: LONG BEACH

Delivered by: Client SunStar Courier GSO FedEx Other

If Courier, Received by: Paul Date/Time Courier Received: 6-19-19 / 10:05

Lab Received by: Sunny Date/Time Lab Received: 6-19-19 / 18:09

Total number of coolers received: 0

Temperature: Cooler #1	= °C +/- the CF (1.2°C) =	= °C corrected temperature
Temperature: Cooler #2	= °C +/- the CF (1.2°C) =	= °C corrected temperature
Temperature: Cooler #3	= °C +/- the CF (1.2°C) =	= °C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)		
Within criteria?		<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>IF NO:</p> <p>Samples received on ice? <input type="checkbox"/> Yes <input type="checkbox"/> No → Complete Non-Conformance Sheet</p> <p>If on ice, samples received same day collected? <input type="checkbox"/> Yes → Acceptable <input type="checkbox"/> No → Complete Non-Conformance Sheet</p>		

Custody seals intact on cooler/sample Yes No* N/A

Sample containers intact Yes No*

Sample labels match Chain of Custody IDs Yes No*

Total number of containers received match COC Yes No*

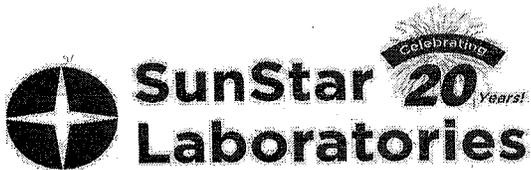
Proper containers received for analyses requested on COC Yes No*

Proper preservative indicated on COC/containers for analyses requested Yes No* N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times Yes No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL - 6-19-19 6-20-19

Comments: _____



Project Name: LB 18232543.2			Rebecca		
Company: PARTNER ESI			SL		
Name: MARK BULLIVANT					
Item	Quantity	Unit			
2 oz Jars 24/CS					
4 oz Jars 24/CS					
8 oz Jars 12/CS					
40 ml unpreserved VOAs 100/box					
40 ml HCL-preserved VOAs 72/box					
250 ml Poly 120/CS					
1 Liter Poly 36/CS					
500 ml Poly 60/CS					
500 ml Amber Bottle Wide 12/CS					
1 Liter Amber Bottle 12/CS					
1 Gallon Poly 4/box					
5035 kits:(2)Sodium Bisulfate VOAs 72/box	80	EA			
(1) Methanol VOA 72/box	40	EA			
(1)Syringe 50/pack	40	EA			
Lock-N-Load Handle 1/ea					
Tedlar Bags 10/pack					
Sub Slab Insert w/ washer & N/F					
Soil Gas SS 16" Drop Tubes					
Gas Extraction Fittings					
Soil Gas Filters					
	Volume of Summa	# Sent	Used	Unused	Unreturned
Batch Certified Summa Canisters	400cc				0
	1L	10	CHARGE - 9	1	
	3L				
	6L				
Purge cans		10	CHARGE - 5	0	0
Nitrogen cans					
Ind. Certified Summa Cannisters	1L				
	3L				
	6L				
63/153 Manifolds, Var. Sampler, etc. Calibrated Correctly - Gauge Reads at 0					SL
Manifolds: Inst. Sampler, Variable Sampler		10-MANIFOLDS (150)		CHARGE - 9	
Swagelok Fittings: Nuts/Ferrules, Ts		10-NUTS/FERRULES		CHARGE - 10	
Cooler (Sm, Med, Lrg) Number & Quantity		1-LRG			
Other: Poly Tube, Valves, Silicon Tape, etc.					
Prepared By: SL		Date: 6-17-19			
Reviewed By:		Date:			
Comments:					

Asset Check-In Receipt

SunStar Laboratories Inc.

Check-In Date: 6/20/2019

User Name: Lounethone, Sunny

Asset Tag	Asset Type	Serial No	Location	Customer No.	Customer Name
0121	1000cc: 1000cc Summa	0121	Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
0271	1000cc: 1000cc Summa	0271	Sunstar Labs, Lake Forest Air Lab	Partner-Mark B.	Mark Bullivan
0290	1000cc: 1000cc Summa	0290	Sunstar Labs, Lake Forest Air Lab	Partner-Mark B.	Mark Bullivan
0309	1000cc: 1000cc Summa	0309	Sunstar Labs, Lake Forest Air Lab	Partner-Mark B.	Mark Bullivan
0342	1000cc: 1000cc Summa	0342	Sunstar Labs, Lake Forest Air Lab	Partner-Mark B.	Mark Bullivan
0364	1000cc: 1000cc Summa	0364	Sunstar Labs, Lake Forest Air Lab	Partner-Mark B.	Mark Bullivan
0407	1000cc: 1000cc Summa	0407	Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
0413	1000cc: 1000cc Summa	0413	Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
0447	1000cc: 1000cc Summa	0447	Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
0727	1000cc: 1000cc Summa	0727	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0766	1000cc: 1000cc Summa	0766	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0835	1000cc: 1000cc Summa	0835	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0841	1000cc: 1000cc Summa	0841	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0854	1000cc: 1000cc Summa	0854	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0860	1000cc: 1000cc Summa	0860	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0864	1000cc: 1000cc Summa	0864	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
0865	1000cc: 1000cc Summa	0865	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2097	Chameleon-150: Chameleon 150 Manifold	2097	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2099	Chameleon-150: Chameleon 150 Manifold	2099	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan

Asset Check-In Receipt

SunStar Laboratories Inc.

Check-In Date: 6/20/2019

User Name: Lounethone, Sunny

Asset Tag	Asset Type	Serial No	Location	Customer No.	Customer Name
2105	Chameleon-150: Chameleon 150 Manifold	2105	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2107	Chameleon-150: Chameleon 150 Manifold	2107	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2108	Chameleon-150: Chameleon 150 Manifold	2108	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2110	Chameleon-150: Chameleon 150 Manifold	2110	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2117	Chameleon-150: Chameleon 150 Manifold	2117	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2124	Chameleon-150: Chameleon 150 Manifold	2124	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2130	Chameleon-150: Chameleon 150 Manifold	2130	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
2149	Chameleon-150: Chameleon 150 Manifold	2149	Sunstar Labs, SunStar Labs - South	Partner-Mark B.	Mark Bullivan
683	1000cc: 1000cc Summa		Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
686	1000cc: 1000cc Summa		Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan
703	1000cc: 1000cc Summa		Sunstar Labs, Tustin Air Lab	Partner-Mark B.	Mark Bullivan

WORK ORDER

T192042

Client: Partner Engineering & Science, Inc.--Tor
Project: Long Beach

Project Manager: Mike Jaroudi
Project Number: 18-232543.2

Report To:

Partner Engineering & Science, Inc.--Tor
 Mark Bullivant
 2154 Torrance Blvd., Suite 200
 Torrance, CA 90501

Date Due: 06/27/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 06/19/19 18:09

Logged In By: Sunny Lounethone

Date Logged In: 06/20/19 09:29

Samples Received at:

Custody Seals	No	Received On Ice	No
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confir	No		

Analysis	Due	TAT	Expires	Comments
T192042-01 B1-SG [Air] Sampled 06/18/19 15:10 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:10	MDL, +1,1 DFA
T192042-02 B2-SG [Air] Sampled 06/18/19 15:15 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:15	MDL, +1,1 DFA
T192042-03 B3-SG [Air] Sampled 06/18/19 15:20 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:20	MDL, +1,1 DFA
T192042-04 B4-SG [Air] Sampled 06/18/19 15:25 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:25	MDL, +1,1 DFA
T192042-05 B6-SG [Air] Sampled 06/18/19 15:30 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:30	MDL, +1,1 DFA
T192042-06 B7-SG [Air] Sampled 06/18/19 15:35 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:35	MDL, +1,1 DFA
T192042-07 B8-SG [Air] Sampled 06/18/19 15:40 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:40	MDL, +1,1 DFA

WORK ORDER

T192042

Client: Partner Engineering & Science, Inc.--Tor
Project: Long Beach

Project Manager: Mike Jaroudi
Project Number: 18-232543.2

Analysis	Due	TAT	Expires	Comments
T192042-08 B9-SG [Air] Sampled 06/18/19 15:45 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 15:45	MDL, +1,1 DFA
T192042-09 B10-SG [Air] Sampled 06/18/19 16:00 (GMT-08:00) Pacific Time (US &				
TO-15	06/27/19 15:00	5	07/18/19 16:00	MDL, +1,1 DFA