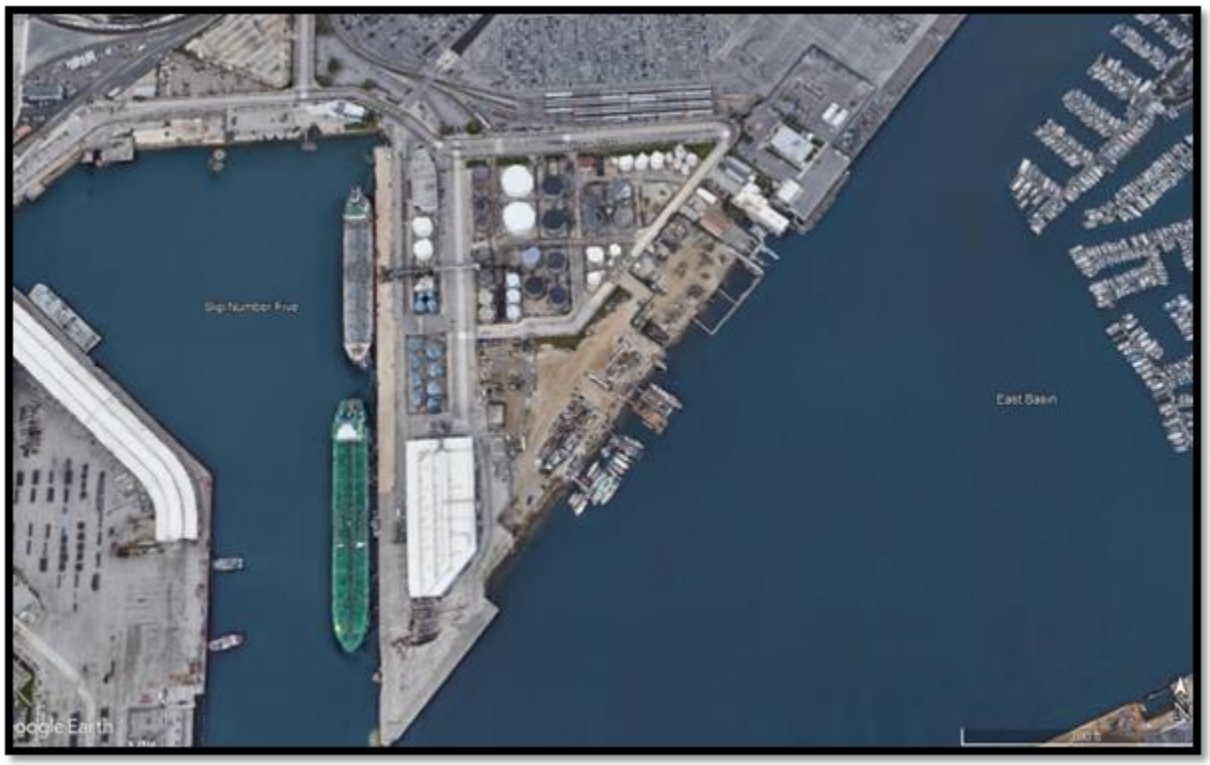
Final Environmental Impact Report (FEIR)

Berths 191-194 [Ecocem] Low-Carbon Cement Processing Facility Project

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TRANSMITTAL 1

Contents

		Page
Chapter 1	**Introduction**	**1-1**
1.1	Organization of the Final Environmental Impact Report	1-1
1.2	Existing Conditions	1-1
1.3	Project Overview	1-2
1.4	Project Purpose and Objectives	1-3
1.5	Proposed Project	1-6
1.6	Changes to the Draft EIR	1-6
1.7	References	1-7
Chapter 2	**Response to Comments**	**2-1**
2.1	Distribution of the Draft EIR	2-1
2.2	Responses to Comments	2-3
	2.2.1 State, Regional, and Local Governments	2-4
	2.2.2 Organizations	2-13
	2.2.3 Individuals	2-68
	2.2.4 Public Hearing	2-75
2.3	Comment Letters	2-79
Chapter 3	**Modifications to the Draft EIR**	**3-1**
3.1	Introduction	3-1
3.2	Changes to the Draft EIR	3-2
3.2.1	Changes Made to the Executive Summary	3-2
3.2.2	Changes Made to Chapter 2 Project Description	3-29
3.2.3	Changes Made to Section 3.1 Air Quality	3-29
3.2.4	Changes Made to Section 3.2 Biological Resources	3-49
3.2.5	Changes Made to Section 3.5 Greenhouse Gases	3-49
3.2.6	Changes Made to Section 3.7 Noise	3-67
3.2.7	Changes Made to Section 3.8 Ground Transportation	3-68
3.2.8	Changes Made to Chapter 4 Cumulative Analysis	3-69
3.2.9	Changes Made to Chapter 5 Comparison of Alternatives	3-78
3.2.10	Changes Made to Chapter 11 References	3-79
3.2.11	Changes Made to Appendix B-1 Air Quality	3-80
3.2.12	Changes Made to Appendix B-3 Health Risk	3-83

Appendices

Appendix D-2 Illingworth & Rodkin Ambient Sound Survey
Appendix E Soil Management Plan

Figures

Page

Figure 1-1. Proposed Project Site Location 1-5
Figure 1-2. Proposed Project Site Plan 1-7

Tables

Page

Table 1-1. Operational Activity of the Proposed Project 1-13
Table 2-1. Public Comments Received on the Draft EIR 2-2

Chapter 1
Introduction

1.1 Organization of the Final Environmental Impact Report

This chapter presents background and introductory information for the Proposed Project, the Berths 191-194 (Ecocem) Low-Carbon Cement Processing Facility, located in the Port of Los Angeles (Port). This chapter includes descriptions of the environmental setting of the Proposed Project, the purpose of the Proposed Project, and a description of the Proposed Project. Chapter 2 presents information regarding the distribution of the Draft Environmental Impact Report (Draft EIR) and the comments of agencies and the public on the Draft EIR, and also presents the responses of the lead agency to those comments. Chapter 3 presents the changes made to the Draft EIR in response to the comments.

This Final EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 et seq.) and the State CEQA Guidelines (Cal. Code of Regs. Tit. 14, §15000 et seq.). The Los Angeles Harbor Department (LAHD) is the CEQA lead agency.

1.2 Existing Conditions

1.2.1 Regional Setting

LAHD operates the Port under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Section 601) and the California Coastal Act (PRC Division 20, Section 30700 et seq.), which identify the Port and its facilities as a primary economic and coastal resource of the State of California and an essential element of the national maritime industry for the promotion of commerce, navigation, fisheries, and harbor operations. LAHD is chartered to develop and operate the Port to benefit maritime uses. It functions as a landlord by leasing Port properties to more than 300 tenants.

The Port encompasses approximately 7,500 acres of land and 43 miles of waterfront and provides a major gateway for international goods and services. The Port comprises approximately 25 major cargo terminals, including dry and liquid bulk, container, breakbulk, automobile, and passenger facilities. In calendar year 2020, the Port handled approximately 207 million metric revenue tons of cargo, including 9.2 million TEUs of containerized cargo, and saw 1,654 vessel arrivals. In addition to cargo business

operations, the Port is home to commercial fishing vessels, shipyards, and boat repair facilities, as well as recreational, community, and educational facilities.

Land access to and from the Port is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate [I]-110), the Long Beach Freeway (I-710), the San Diego Freeway (I-405), and the Terminal Island Freeway (State Route [SR]-103/SR-47)

1.2.2 Project Site and Surrounding Uses

The Project site (Figure 1-1) is located within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is adjacent to the City of Los Angeles communities of San Pedro and Wilmington. The site is a 6.1-acre parcel of land on Yacht Street in an industrial area in the vicinity of the East Basin in the Los Angeles Harbor. The site is generally bounded by the Vopak liquid bulk terminal to the north and west; and the University of Southern California (USC) Boathouse and the East Basin to the south and east. Formerly occupied by a liquid bulk facility and recreational boating uses, the site is now largely vacant, although, a portion of the site is occupied by a boat restoration operation. Berth 191, which is part of the Vopak leasehold, is southwest of, and immediately adjacent to, the site. Local access is provided by Harry Bridges Boulevard, Avalon Boulevard, Canal Street, and Yacht Street.

Land uses in the vicinity of the Project site support a variety of cargo handling operations, including container, liquid bulk, automobile import, and dry bulk; a power plant (Harbor Generating Station); Port administration and maintenance facilities; maritime support uses; and recreational, light commercial, and residential uses.

The site is part of Assessor Parcel Number 7440010910. The site has a General Plan land use designation of General Bulk Cargo (Non-Hazardous Industrial and Commercial) and is zoned [Q] M3-1 (“Qualified Heavy Industrial”) by the City of Los Angeles’ Zoning Ordinance. The site is in Planning Area 2 of the Port Master Plan with a designated use of liquid bulk.

1.3 Project Overview

1.3.1 Background

Cement is a vital component of the construction industry in Southern California, being used in all concrete and in a variety of other construction applications. In 2021, approximately 6.3 million metric tons of cement were shipped for consumption in Southern California. Because of the large amounts of energy required, the production of cement is carbon-intensive: one estimate is that cement production is responsible for approximately 8% of worldwide carbon dioxide (CO_2) emissions and nearly 2% of California’s emissions (Ellis et al. 2020).

In September 2021, California passed Senate Bill (SB) 596 “Greenhouse gases: cement sector: net-zero emissions strategy” which requires the California Air Resources Board (CARB) to develop a comprehensive strategy for the State’s cement sector to achieve net-zero emissions of greenhouse gases associated with cement used in the state as soon as possible, but no later than December 31, 2045. Ecocem (the parent company of Orcem, the entity that would operate the proposed facility) has a process for making a binder (ground granulated blast furnace slag [GGBFS])) that requires smaller amounts of

carbon-based fuels than traditional Portland cement and that serves as a partial substitute to traditional Portland cement and Portland limestone cement in concrete. Ecocem estimates the energy (thermal and electric) consumption of their process to be approximately 14 percent that of the typical cement making process.

1.3.2 Project Summary

Ecocem is proposing to build a facility that would produce the GGBFS binder for the Southern California building industry, helping the region avoid shortages of a vital material and California to reach its carbon reduction and net-zero emissions goals. The Proposed Project includes construction of process buildings and conveyors, an administration and maintenance building, material storage silos and piles, and truck loading facilities on the backlands behind Berths 192-194, repairs to the wharf at Berth 191, and operation of the facility. Additional elements of the Proposed Project include amendment of the Port Master Plan to change the designated use of the Berths 192-194 site from liquid bulk to dry bulk and issuance by the LAHD of a 32-year entitlement for the site that would include 30 years of operation and two years of construction, as well as access to Berth 191.

The proposed facility (Figure 1-2) would produce GGBFS by grinding granulated blast furnace slag (GBFS) imported from overseas and combining it with natural gypsum minerals in the proportions of approximately 95-97% GBFS and 3-5% gypsum. A portable belt conveyor system would convey GBFS from oceangoing vessels at Berth 191 to open storage piles in the processing facility. Mobile equipment such as front-end loaders would feed the GBFS and natural gypsum into hoppers that would feed the processing mill, where it would be ground, dried, and mixed to produce GGBFS. That product would be stored in silos from which third-party trucks would be loaded with the GGBFS product for transport to concrete production facilities throughout the region.

1.4 Project Purpose and Objectives

The Proposed Project would help Southern California avoid further shortages of a construction material that is vital to provide the safe and durable infrastructure required for sustained economic growth, while at the same time meeting California's goals for reducing future greenhouse gas emissions.

The purpose of the Proposed Project is to provide Southern California's construction industry with a robust supply chain for GGBFS, and to use GGBFS in combination with Ecocem's proprietary technologies to help the State of California:

1. Meet its net-zero emission targets for all cement used in the state; and
2. Construct durable, resilient, and eco-efficient infrastructure required for a sustainable economy.

To achieve this purpose, the Proposed Project has the following objectives:

- Provide necessary raw material import capacity for an environmentally sustainable product;
- Establish a processing facility to produce the binder at a deep-water berth in Southern California, with permanent local manufacturing jobs, that is:

  - Capable of adapting to changes in raw material sources in order to maintain a steady supply of product;
  - Capable of providing storage capacity for the rapid unloading of bulk ships delivering raw materials and for loading product on bulk tanker trucks; and
  - Located near the center of the Southern California market to reduce the traffic burden, road wear, and energy requirements associated with truck transport of product.
- Facilitate the future development of improved low-carbon, high-performance binders.

Figure 1-1. Proposed Project Site Location



1.5 Proposed Project

The Proposed Project consists of the construction and operation of a facility that would import GBFS by oceangoing vessels from overseas sources, grind the GBFS together with gypsum to produce GGBFS, and load the GGBFS onto third-party trucks for delivery to regional cement and ready-mix plants. The majority of Project construction would be land-based, including construction of the storage facilities, mill, and loading facilities in the backlands behind Berths 192-194, and repairs to the wharf deck at Berth 191. In-water work would be required at Berth 191 to remove damaged timber pilings and replace them with new pilings to bring the wharf into serviceable condition. This description of the Proposed Project is summarized from the full description provided in Section 2.5 of the Draft EIR.

1.6 Construction

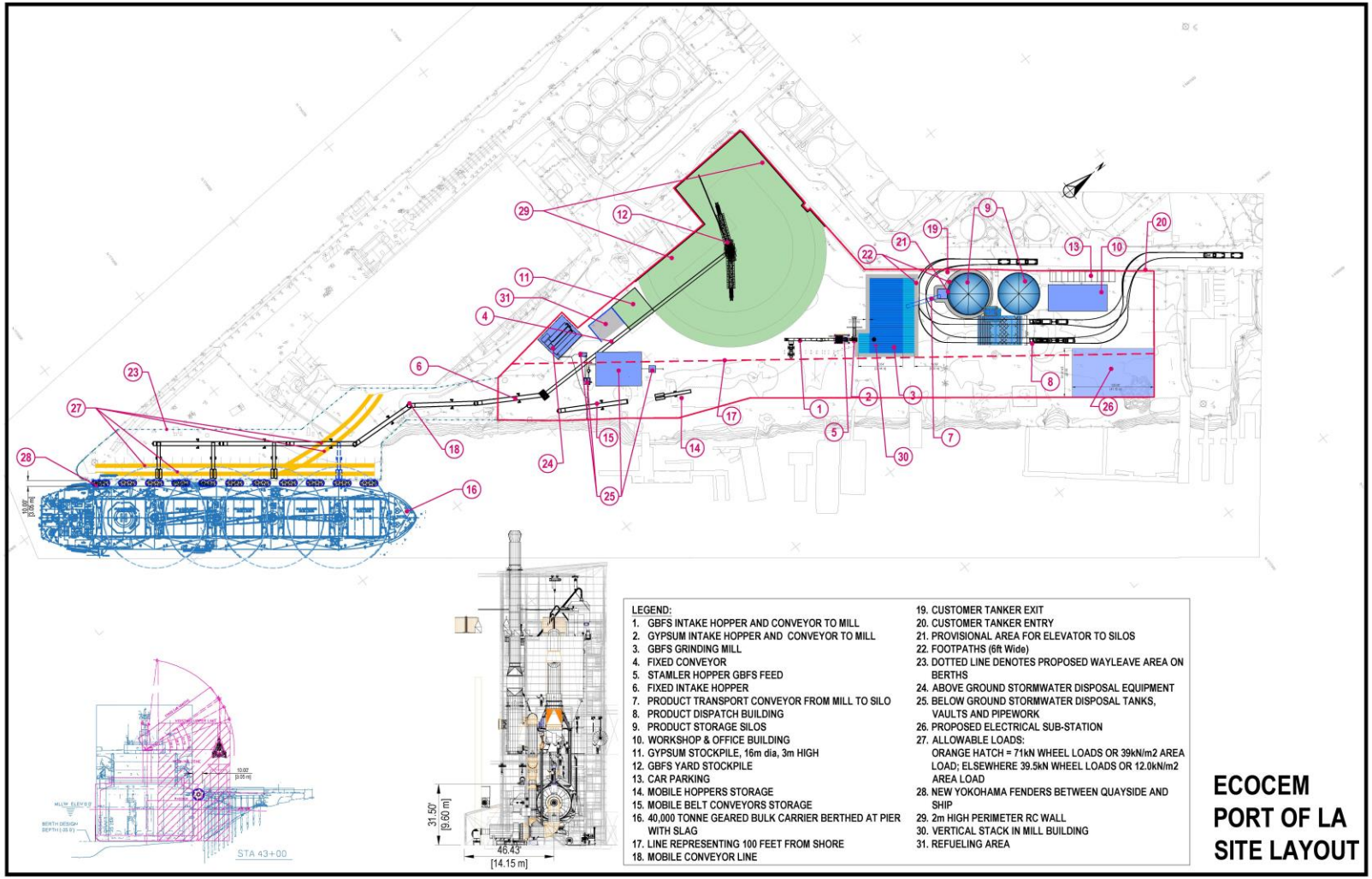
Construction at Berths 192-194

Construction of the Proposed Project at the backlands of Berths 192-194 would consist of the following primary elements:

- Site preparation, including minor site clearance;
- Ground improvements such as soil stabilization and paving;
- Development of the enclosed milling plant, storage facilities, open-storage yard, conveyance systems, and processing equipment;
- Construction of ancillary buildings (workshop and plant office); and
- Improvement of site infrastructure and supporting facilities.

Following site clearance and preparation, ground improvements would be done to enhance the load-bearing capability of the soil mass, particularly liquefiable soils, and provide sufficient capacity for intended uses to meet building code requirements. Structures representing significant loads would be supported on piled foundations or concrete mat foundations supported by stone columns (a technique in which deep holes are drilled and backfilled with aggregate). Non-settlement-sensitive structures would be supported on concrete mat foundations. Stone columns would be installed by drill rigs using a technique that does not bring soil to the surface.

Figure 1-2. Proposed Project Site Plan



Soil and groundwater at the site are known to be contaminated by petroleum hydrocarbons, heavy metals, and volatile organic compounds. Accordingly, a soil management plan has been prepared in accordance with applicable regulatory requirements and the recommendations of a site-specific health risk assessment in order to minimize risks of contaminant release during construction and exposure of workers and the public.

Buildings would generally be constructed of structural steel and concrete with suitable cladding to the exterior. The largest building, the mill, would be approximately 150 feet high, and the adjacent stack would be 165 feet-high. The product storage silos would be approximately 135 feet high and the truck loading building would be 120 feet high. There would also be a low-rise workshop/office building.

In addition to buildings, a permanent stormwater control system compliant with the National Pollutant Discharge Elimination System (NPDES) Industrial General Permit (IGP) and the Los Angeles County MS4 Permit, as applicable, would be constructed. The majority of the site, including stockpiles, material handling areas, and the mill, silo, and truck loading areas, would be covered by the IGP. To ensure compliance with the IGP, a comprehensive stormwater management approach would be implemented that would include berms, grading, and trench drains to capture stormwater. The captured stormwater would be conveyed to a treatment system that would meet the specific discharge requirements of the IGP. Consistent with the requirements of the City's Low Impact Development (LID), the stormwater system(s) for all non-industrial areas would incorporate water quality management Best Management Practices (BMPs), site-design BMPs, and drainage infrastructure to manage surface runoff.

Infrastructure development would include electrical and instrumentation installations, lighting, a new electrical substation, paving, a bermed area for refueling the front-end loader, landscaping, and fencing.

Construction would last approximately 18 months and require up to 75 construction workers on a peak construction day. Construction-phase traffic would include worker vehicles and a variety of medium- and heavy-duty vehicles hauling debris and excavated material and bringing in imported soil, supplies, equipment, and construction materials. Construction is assumed to take place between 7 a.m. and 5 p.m. five days per week (Monday through Friday) except national holidays.

Berth 191 Repairs

The Proposed Project would include repairs and modifications to the wharf at Berth 191 that would be used by oceangoing vessels serving the Ecocem facility. The existing footprint of the wharf at Berths 191 would not change as a result of the proposed repairs and modifications. Construction would include repairs to deteriorated and/or damaged existing structures caused by past cement unloading operations and modifications to accommodate the Proposed Project's vessels.

Repairs would include strengthening the wharf deck and supporting structures, replacing 52 deteriorated timber structural and fender piles, repairing the wharf deck by removing and replacing the existing asphalt overlay and timber deck in the KOVAKO® travel path, installing reinforcing jackets on 28 concrete piles, and performing general concrete patching. Modifications would include installing 47 new fender piles at the wharf's edge and installing a new Yokohama fender system.

Although the work at Berth 191 could be entirely land-based, this EIR conservatively assumes that some pile removal and driving would be accomplished using water-borne equipment, and that some maintenance dredging of up to 1,500 cubic yards of sediment and construction debris to clean-up the slope after construction activities may be necessary; the dredge material would likely be disposed of in the Port's nearby Berths 243-245 Confined Disposal Facility but could be disposed of at the LA-2 ocean disposal site if found suitable.

Up to six workers would be on-site to conduct construction at Berth 191. Repairs would last 12 months and occur 5 days per week (Monday through Friday) except for holidays, for 8 hours per day starting from 8 a.m. through 5 p.m.

1.7 Project Operation

1.7.1 Entitlement Conditions

The Proposed Project includes an entitlement allowing use of the premises and access to Berth 191 for up to 30 years. The entitlement would require that the premises be used for activities related to operation of a GGBFS processing facility and would require compliance with all applicable laws, regulations, and policies. The latter would include, for example, measures adopted as mitigation based on the Final EIR, Clean Air Action Plan (CAAP) measures, Port Environmental Policy measures, and Port Real Estate Leasing Policy measures (POLA 2013), as applicable.

In addition, the U.S. Army Corps of Engineers (USACE) has authority to place special conditions in any USACE permit that may be required for the wharf repairs, which would constitute mitigation measures specific to USACE jurisdiction (i.e., waters of the United States).

1.7.2 Facility Overview

The analyses in this EIR assume that the facility would begin operation in 2025 and reach full operation by 2027 (Table 1-2). Any postponement of operational activities beyond that time frame would not likely result in greater impacts as increasingly stringent regulatory requirements and cleaner engines from turnover are implemented compared to those assumed in the analyzed years.

At full operation, projected to be at 97% capacity, the facility would produce approximately 775,000 metric tons of GGBFS per year, requiring approximately 800,000 metric tons of GBFS and 39,500 metric tons of gypsum (the difference between the quantities of raw materials and the quantity of product is due to moisture loss during processing). The facility would operate up to 24 hours per day, 7 days per week, but trucks carrying product would arrive and depart 5-6 days per week. No rail operations would be conducted because the facility would not have rail access.

1.7.3 Vessel Operations

GBFS from Asia or Mexico would be delivered by moderate-size oceangoing bulk carrier vessels with a capacity of up to 45,000-56,000 deadweight tons and a length of 500 to 625 feet, powered by marine diesel engines and equipped with onboard cargo unloading cranes. Within the harbor, each vessel would be escorted by one or two tugboats,

depending on conditions, that would help the ship maneuver. Vessels would dock at Berth 191, the use of which would be shared between the Ecocem facility and the neighboring Vopak terminal's proposed cement import terminal. Once at-berth, each vessel would typically spend approximately five days (120 hours) at-berth, and on average approximately 60% of that time would be spent actively unloading cargo. Once unloaded, the vessels would transit back out of the Port with tug assistance. Each pair of one-way transits and the time at-berth is a vessel call.

While at-berth, the vessels would turn off the main engines and run auxiliary diesel engines to provide power for the unloading gear and general vessel needs. Although CARB does not require control of vessel emissions at berth for the type of vessels that would service the Proposed Project, Ecocem plans to use a control technology based on a barge-mounted scrubber system that captures and treats auxiliary engine exhaust emissions from vessels while at-berth. The technology has been employed to control at-berth emissions from containerships in the Port and is estimated to result in emissions reductions from the uncontrolled case. However, the technology is not yet certified by CARB for controlling emissions from dry bulk cargo ships. Accordingly, although capture of at-berth emissions would be required by a lease measure once the technology is certified and deemed feasible, the air quality analysis in this Draft EIR does not take credit for reductions achieved by those controls.

Table 1-1. Operational Activity of the Proposed Project

Activity	2025	2026	2027 and thereafter
GBFS Import, metric tons/yr	400,000	600,000	800,000
Gypsum Import, metric tons/yr	19,750	29,600	39,500
GGBFS production, metric tons/yr	387,500	581,000	775,000
Vessel calls per year	12	18	24
Gypsum truck trips, one-way trips/yr	1,975	2,960	3,950
GGBFS truck trips, one-way trips/yr	31,000	46,480	62,000
Total trucks one-way trips/yr	32,975	49,440	65,950
Employees on site	20	20	26

Notes:
1. Vessel call = vessel visits, which are comprised of arrival transit, time at berth, departure transit, and possible anchorage time (only a fraction of the calls would experience anchorage)
2. Truck or vehicle trip = one-way, individual trips
3. Differences in mass balance between raw materials (GBFS and gypsum) and product (GGBFS) is related to moisture content in raw materials.

1.7.4 Facility Operations

A portable, covered, electric-powered conveyor belt system stored on the facility site would be deployed into position along the waterfront for each vessel call to transport the GBFS from Berth 191 to the stockpiles in the facility. The vessel's deck cranes would discharge into portable hoppers positioned to discharge onto the portable conveyor on the wharf. The portable system would feed the GBFS into a fixed, covered electric conveyor

that would transport the GBFS onto a radial stacker conveyor, which would discharge the material onto the paved, open yard stockpile. Gypsum would be offloaded from delivery trucks and stacked into the paved gypsum open-storage stockpile.

The conveyor system would transport the GBFS and gypsum to an electric-powered mill for processing. The electric-powered mill would grind the GBFS and gypsum into the powdered product (GGBFS) in a continuous process. The wet GBFS would enter the mill and be dried to less than 0.2% moisture by incoming air preheated by a natural-gas-fueled air heater. The moist mill exhaust air would be filtered through a fabric filter bag house and then be vented out the exhaust stack.

The GGBFS product would be conveyed from the mill discharge to a particle separator. Particles fine enough to meet product specifications would be conveyed by air to a fabric filter bag house, while coarser material would be returned to the mill for further grinding. Material collected on the bag filter would be transported by an enclosed, electric-powered air slide to a bucket elevator that would lift it to the top of the final product storage silos, where the bulk of the GGBFS product would be stored. Air injection systems at the bottom of the product storage silos would fluidize the GGBFS powder that would be transported via air slide and bucket elevator to truck loading silos.

The loading silos would be located above scales to weigh trucks during the loading process to control load weights. Truck loading would be carried out within a building located below the product dispatch silos.

To control entrainment of raw materials, stockpile management would include watering the hopper areas and other areas used by heavy equipment several times a day. In addition, areas near the stockpiles would be graded to collect and convey industrial and stormwater runoff into the storm drainage system. If recycling treated stormwater is consistent with regulatory requirements, the collected water would be treated and recycled for use in dust control, but to be conservative, that is not assumed in the analyses of impacts. The conveyors would be covered to minimize the escape of fugitive particulates that could enter stormwater or the air. The finished product, a fine powder, would be controlled by multiple filters and enclosed conveyors that would ensure efficient, safe, and largely dust-free milling, storage, and loading processes.

1.7.6 Truck Operations

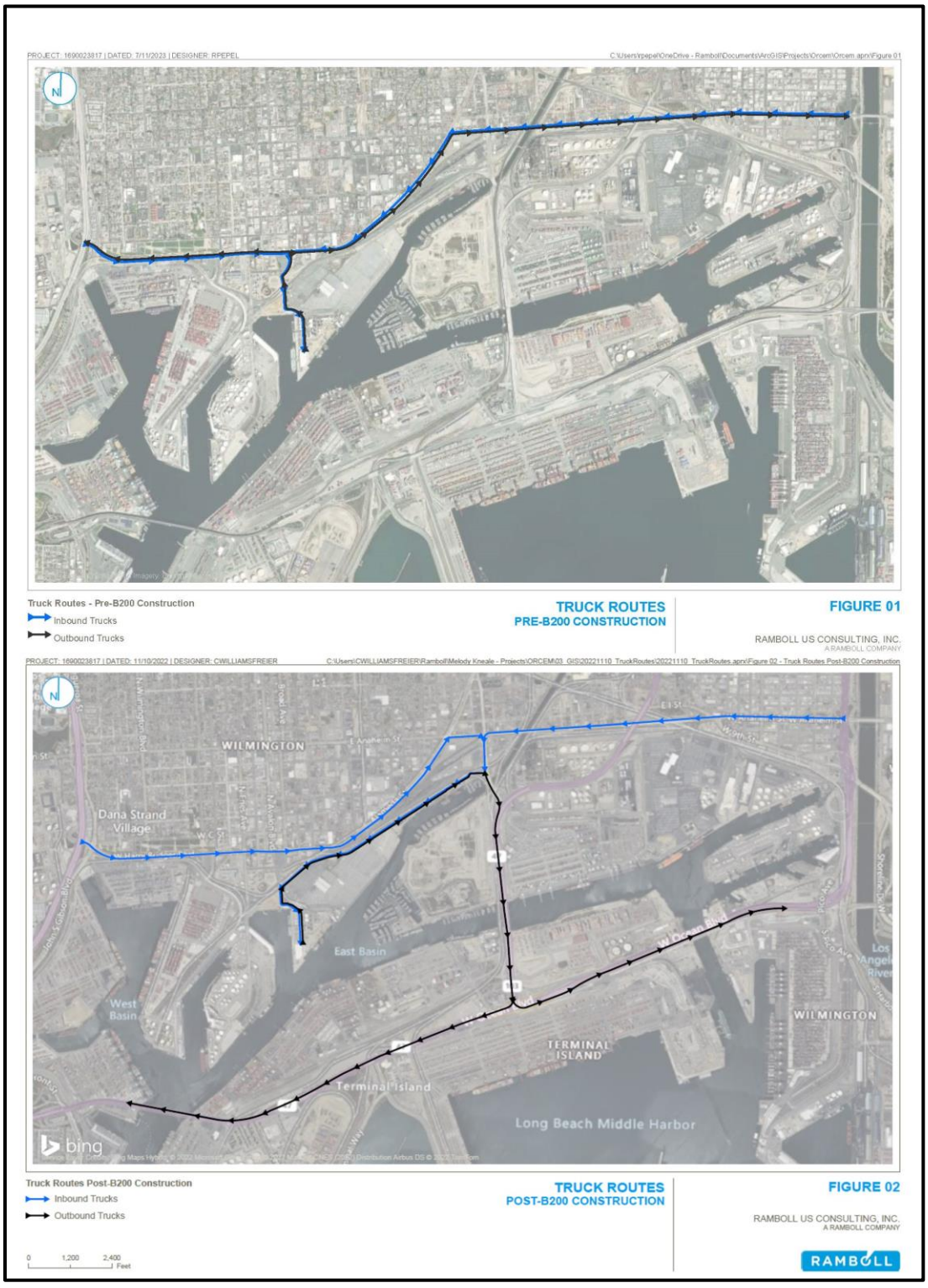
The GGBFS would be shipped in contracted, third-party, sealed dry-bulk pneumatic tanker trailer trucks. Ecocem would not have ownership or control of the truck fleet used by their customer base. The heavy-duty trailer/tractors would be diesel or alternative fuel-powered, 18-wheel semi-trailer rigs, compliant with California's truck regulations and each capable of carrying up to approximately 25 metric tons of GGBFS. Gypsum would be delivered to the facility by medium-duty box trucks.

Inbound and outbound trucks would use California Department of Transportation (Caltrans)-designated truck routes in the Port area (Figure 1-3). Prior to completion of the Berth 200 Roadway Extension, empty trucks would arrive at the facility from the west via I-110 and Harry Bridges Boulevard to Broad Avenue; from the east via I-710, Anaheim Street, Alameda Street (SR-47) and Harry Bridges Boulevard to Broad Avenue. Trucks would then continue southbound on Broad Avenue to Avalon Avenue, and finally onto Water Street and Yacht Street to the facility (the loaded departures would follow the reverse route). After the Berth 200 Roadway Extension is built, which is estimated to be completed in March 2028, trucks arriving via I-110 or I-710 would go south on Henry

Ford Avenue from eastbound or westbound Anaheim Street and make a right unto the B200 Roadway Extension, connecting to Avalon Road and Water Street. All departing vehicles would use the Berth 200 Roadway Extension to leave the peninsula and would turn south on Henry Ford Avenue to merge on the Terminal Island Freeway towards their final destinations.

Once in the facility, the empty trucks would enter an enclosed loading area and be positioned on weighbridges, where a snorkel loading tube would descend into the open hatches on the tank trailers to be precisely loaded with GGBFS, thereby reducing the risk of dust release during loading. When loading is complete, the hatches would be sealed, and the trucks would depart to customer locations throughout Southern California.

Figure 1-3. Project Truck Routes. Pre- and Post- Construction of Berth 200 Roadway Extension



1.8 Changes to the Draft EIR

The Final EIR discusses changes and modifications that have been made to the Draft EIR. Actual changes to the text, organized by chapters, sections, and appendices, are presented in Chapter 3, "Modifications to the Draft EIR," of this Final EIR.

Changes noted in Chapter 3 are identified by text strikeout and underline. These changes are referenced in Chapter 2, "Response to Comments," of this Final EIR, where applicable. The changes and clarifications presented in Chapter 3 were reviewed to determine whether or not they warranted recirculation of the EIR prior to certification according to CEQA Guidelines and Statutes. The changes would not result in any new significant environmental impacts or a substantial increase in the severity of an existing environmental effect. There would be no new or increased significant effects on the environment due to changes in the Proposed Project, and no new alternatives have been identified that would reduce significant effects of the Proposed Project. Therefore, recirculation is not required consistent with Public Resources Code Section 21092.1 and CEQA Guidelines Section 15088.5.

1.9 References

Ellis, L.D., A.F. Badel, M.L. Chiang, R. J-Y Park, and Y-M. Chiang. 2020. Toward electrochemical synthesis of cement – An electrolyzer-based process for decarbonizing CaCO3 while producing useful gas streams. PNAS 117(23): 12584-12591.

POLA (Port of Los Angeles). 2013. Leasing Policy. https://kentico.portoflosangeles.org/getmedia/aa9f4c08-7d5e-47bf-8858-2b2c3523f91d/072513_item_11_transmittal_1

Chapter 2

Responses to Comments

2.1 Distribution of the Draft EIR

The Draft Environmental Impact Report (EIR) prepared for the Los Angeles Harbor Department (LAHD) was distributed to the public and regulatory agencies on October 12, 2023, for a 45-day review period; the review period was subsequently extended to 60 days, ending on December 11, 2023. Printed copies of the Draft EIR were available for review at the Los Angeles Harbor Department, Environmental Management Division, 425 S. Palos Verdes Street, San Pedro, CA 90731. In addition to printed copies of the Draft EIR, digital copies were made available. Due to the size of the document, the digital copies were prepared as a series of PDF files to facilitate downloading and printing and were available on the Port web site at https://www.portoflosangeles.org/environment/environmental-documents. Interested parties were required to provide written comments on the Draft EIR, which must have been postmarked by December 11, 2023.

The LAHD conducted a public hearing regarding the Draft EIR on November 1, 2023, to provide an overview of the Proposed Project and alternatives and to accept public comments on the Proposed Project, alternatives, and environmental document.

The public comment and response component of the California Environmental Quality Act (CEQA) process serves an essential role. It allows the respective lead agencies to assess the impacts of a project based on the analysis of other responsible, concerned, or adjacent agencies and interested parties, and it provides an opportunity to amplify and better explain the analyses that the lead agencies have undertaken to determine the potential environmental impacts of a project. To that extent, responses to comments are intended to provide complete and thorough explanations to commenting agencies and individuals, and to improve the overall understanding of the Project for the decision-making bodies.

Eight commenters provided verbal comments at the public hearing. The LAHD received 35 comment letters on the Draft EIR during the public review period. Table 2-1 presents a list of those agencies, organizations, and individuals who commented on the Draft EIR.

Table 2-1. Public Comments Received on the Draft EIR

Letter Code	Date	Individual/Organization	Page(s)
State, Regional, and Local Government			
CDFW	12/11	California Department of Fish & Wildlife	
DTSC	12/8	Department of Toxic Substances Control	
LABOS	10/30	City of Los Angeles Bureau of Sanitation	
SCAQMD	12/8	South Coast Air Quality Management District	
Organizations			
ASM	12/7	Action Sales & Metal	
ALLIED	12/11	Allied Cement Co.	
CESPNC	12/11	Central San Pedro Neighborhood Council	
COSPNC	11/27	Coastal San Pedro Neighborhood Council	
CFASE	12/11	Coalition for a Safe Environment et al.	
E4SS	12/11	E4 Strategic Solutions (Berman)	
FUTPORT	12/12	FuturePorts	
HAIC	10/23	Harbor Association of Industry and Commerce	
IBEW	11/1	International Brotherhood of Electrical Workers Local Union No. 11	
KONVEIO	11/7	Konveio	
LAMI	12/8	Los Angeles Maritime Institute/Children's Maritime Institute	
LAUSD	12/11	Los Angeles Unified School District	
NWSPNC	12/11	Northwest San Pedro Neighborhood Council	
ROTARY	11/2	Rotary Club of Wilmington	
SBACC	12/12	South Bay Association of Chambers of Commerce	
SPCC	11/30	San Pedro Chamber of Commerce	
WCC	11/8	Wilmington Chamber of Commerce	
WNC	12/5	Wilmington Neighborhood Council	
WYMCA	11/1	Wilmington YMCA	
Individuals			
CASEY	11/8	Dennis Casey	
COLE	12/10	Paul Cole	
ETTEL	12/10	Wayne Ettel	
HERNANDEZ	12/8	Samuel Hernandez	
LENNARD	11/5	Jonathan Lennard	
MORRIS	11/3	Mallissa Morris	
MURRAY	11/5	Tim Murray	
O'BRIEN	12/5	Timothy O'Brien	
RADE	10/24	Sam Rade	

Letter Code	Date	Individual/Organization	Page(s)
SAXTON	12/8	Ryan Saxton	
SANCHEZ	12/8	Enrique Sanchez	
SMITH	11/6	Jazmes C Smith	
WIDNER	10/13	Wayne Widner	
Public Hearing			
PH1	11/1	Pat Nave (none)	
PH2	11/1	Ryan Saxton (Petworth Consulting Group)	
PH3	11/1	Bruce Hayman (LAMI)	
PH4	11/1	Monica Garcia (WCC)	
PH5	11/1	Tommy Faave (IBEW)	
PH6	11/1	Henry Rogers (HAIC)	
PH7	11/1	Yolanda de la Torre (Wilmington YMCA)	
PH8	11/1	Carlos Rodarte (IBEW)	

2.2 Responses to Comments

In accordance with CEQA (CEQA Guidelines § 15088), the LAHD has evaluated the comments on environmental issues received from agencies and other interested parties and has prepared written responses to each comment pertinent to the adequacy of the environmental analyses contained in the Draft EIR. Comment letters are presented in Section 2.3 of this chapter. The responses to comments are presented in this section.

In compliance with CEQA Guidelines Section 15088(b), the written responses address the environmental issues raised. In addition, where appropriate, the basis for incorporating or not incorporating specific suggestions into the Proposed Project is provided. In each case, the LAHD has expended a good faith effort, supported by reasoned analysis, to respond to comments. This section includes responses not only to the written comments received during the 60- day public review period of the Draft EIR, but also the verbal comments made at the public hearing for the Draft EIR. Some comments have prompted revisions to the text of the Draft EIR, which are referenced and shown in Chapter 3, "Modifications to the Draft EIR." A copy of each comment letter/comment is provided, and responses to each comment letter immediately follow. All of the comments received and the responses to those comments will be considered by the decision-makers prior to taking any action on the Proposed Project.

Some comments requested that the LAHD recirculate the DRAFT EIR. A lead agency is required to recirculate a Draft EIR when the agency adds "significant new information" to the EIR after the close of the public comment period but prior to certification of the Final EIR (Public Resources Code, § 21092.1; CEQA Guidelines, § 15088.5). "New information added to an EIR is not 'significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement." (CEQA Guidelines, § 15088.5(a).) "Significant" new information includes information showing that "(1) [a] new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented [;] or (2)

[a] substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance" (State CEQA Guidelines § 15088.5 (a)(1), (a)(2).)

The responses to comments provide the following information:

- First and foremost, the responses address the environmental concerns raised by the comments, and describe how they are addressed in the document;
- They provide corrections to the text, where such corrections are warranted; and,
- They expand on or provide minor clarifications to information already included in the Draft EIR in those instances where comments question this information.

However, none of the conditions warranting recirculation of the EIR, as specified in CEQA Guidelines § 15088.5 and described above, has occurred. Neither LAHD's responses to comments nor any of the information clarified or modified in the Final EIR would cause new significant impacts or increase the severity of an existing significant impact identified in the Draft EIR, even after mitigation. No feasible alternatives have been recommended that would avoid a significant impact, wherein the Applicant has refused to adopt such an alternative; and as to the adequacy of the Draft EIR, LAHD believes, based on its consideration of all substantial evidence presented to and before it, the EIR is complete and fully compliant with CEQA.

2.2.1 State, Regional, and Local Governments

California Department of Fish and Wildlife (CDFW)

Comment Letter

See Section 2.3.

Responses

Response to Comment CDFW-1:

The comment describes the Department's role, provides an overview of the Proposed Project, and summarizes biological role and significance of Los Angeles Harbor and the species therein, including sensitive species and habitats.

Thank you for your review and comments on the Draft EIR. The LAHD appreciates the Department's summary. The candidate, sensitive, or special-status species and associated habitat that are known to occur on or near the Project site are discussed in sections 3.2.4 through 3.2.10 of the DRAFT EIR. No further response to this comment is required.

Response to Comment CDFW-2:

The comment recommends that piles be installed using a vibratory hammer, to the extent feasible; recommends specific techniques for pile driving; and recommends measures, including the use of silt curtains, to control turbidity during pile driving.

Potential effects to biological species resulting from pile pulling and driving, including underwater noise and turbidity, are addressed in Sections 3.2.24 and 4.2.2 of the Draft EIR (pp. 3.2-28–3.2-30, 4-21–25). The Draft EIR (p. 3.2-29) considers potential impacts to fish based on underwater noise levels that may result from piles being driven (DEIR, p. 3.2-29). The Draft EIR concludes that while noise from impact pile-driving during pile installation could cause seals and sea lions to avoid the immediate construction area (i.e., within 20 meters), those activities would likely not result in significant harassment or the

loss of individuals or habitat because the noise levels would not exceed the thresholds cited in CDFW's comment or in other applicable technical guidance (e.g., Caltrans [2020] and NOAA Fisheries [2018]). Similarly, in-water construction activities would not generate peak noise levels that would result in injury or loss of individuals of managed fish species. Furthermore, the small size of the construction area that would be affected in relation to the total Harbor habitat that is utilized by managed species, particularly fish in the Coastal Pelagics Fisheries Management Plan (FMP), means that the number of potentially affected individuals that could be affected would be relatively small (DEIR, pp. 3.2-29–3.2.30, 4-24–25). Accordingly, the Draft EIR concludes that the impact to these biological resources would be less than significant and, therefore, further mitigation, such as the bubble curtain the comment suggests, is not required. The comment does not suggest that the sound levels cited in the Draft EIR are incorrect or inapplicable; accordingly, the LAHD stands by the analysis in the Draft EIR and no revision of the FEIR is required.

The LAHD appreciates the Department's recommendation that vibratory methods be used to install piles in order to reduce underwater sound levels. In the case of Berth 191, vibratory methods are not feasible. LAHD anticipates, given the age of the wharf at Berth 191 (timber piles were first installed at the site in 1922 and have been replaced since then) and the presence of dense soils at the site, that driven piles would encounter obstructions at some depth. A vibratory hammer cannot produce sufficient energy to drive a timber fender pile through such obstructions, whereas an impact hammer can. Furthermore, continued use of a vibratory hammer once an obstruction is encountered would likely result in damage to the pile, preventing it from performing as designed. Accordingly, CDFW's recommendation cannot be incorporated into the Proposed Project at this time.

Effects from turbidity associated with pile removal are also addressed in Section 3.2.24 of the Draft EIR (DEIR, pp. 3.2-28 to 3.2-39). The Draft EIR explains that turbidity would be limited in severity and extent due to the small scale of the Project construction area, relative to the Harbor as a whole, and limited extent of pile driving and dredging activity. As a result, any sediment resuspension from in-water work would be brief and localized. The Draft EIR explains that pile installation and any maintenance dredging to clean-up the slope after construction activities that may be necessary would be unlikely to affect foraging by terns given the limited extent of construction and the fact that least terns do not utilize the East Basin to any great extent.

Furthermore, the Project would be required to abide by all applicable water quality regulations and permitting. In particular, prior to construction, the Project would need to prepare for review and approval a Stormwater Pollution Prevention Plan (SWPPP) in accordance with a Construction General Permit (CGP) and a water quality management plan as part of its Clean Water Act (CWA) Section 401 certification from the Los Angeles Regional Water Quality Control Board (LARWQCB). The SWPPP would specify best management practices (BMPs) for construction activities, as well as efficient responses to spill events to minimize the magnitude of a potential spill and any resulting impacts during Project construction (DEIR, Appendix A [NOP/IS], pp. 47–48). The Section 401 Water Quality Certification plan would also impose BMPs and water quality monitoring measures during clean-up dredging, which could include testing and monitoring to ensure that turbidity does not extend beyond permitted limits (*Ibid.*; see also DEIR, § 3.2.22, p. 3.2-26, describing list of pre-construction permits that must be obtained and how their associated requirements address in-water activities).

In summary, the combination of the temporary and localized nature of construction effects, the small number of individuals of sensitive species that would be affected, and the implementation of standard construction controls would ensure that impacts related to turbidity would be less than significant. For these reasons, LAHD can conclude that substantial evidence supports the Draft EIR's conclusion that the Proposed Project, as mitigated, would have less than significant impacts to biological resources; therefore, no further revisions to the FEIR or additional mitigation measures are required.

Response to Comment CDFW-3:

CDFW's comment notes that incomplete removal of old creosote-treated timber piles may result in broken piles and pile stub at or above the mudline, which may potentially leach contaminants into the Harbor waters and benthic sediments. The comment points to Fish and Game Code section 5650(6) to reiterate that it is unlawful to deposit or place into waters any substance or material deleterious to fish, plant, or bird life, including any wood treated with ammoniacal copper zinc arsenate (ACZA), chromated copper arsenate (CCA), and alkaline copper quaternary (ACQ). CDFW therefore recommends that any existing piles that cannot be fully removed be cut off at least two feet below the mudline to avoid potential continued leaching of contaminants into the environment.

During its review of the Proposed Project, LAHD neither found nor was presented with any substantial evidence suggesting that leaching of contaminants from century-old pilings would create substantial water or sediment pollution in the future that would result in significant impacts. In addition, the excavation of sediments necessary to cut piles two feet below the mud line would inevitably create additional turbidity beyond that created by the proposed construction. Although the adverse effects of that turbidity would be limited in extent and duration, as described in Response to Comment CDFW-2, they would add to the impacts of construction. Accordingly, LAHD concludes that substantial evidence supports the determination that it would be inadvisable to remove piles deeper than originally proposed.

As to the composition of the new piles, LAHD appreciates CDFW's recommendations that treated wood piles not be used or, if they must be used, that they be wrapped. The Draft EIR (p. 2-15) explains that some of the existing timber piles would be replaced with new timber piles and that additional timber fender piles would be installed, but the Draft EIR did not provide any further information about the composition of those piles. In accordance with LAHD standard practice, as set forth in the Marine Improvements Specification included in permits and construction contract documents, the new timber piles would be wrapped with a 6-millimeter polyethylene inner wrap and a 30-mil outer PVC wrap. Accordingly, CDFW's recommendation has been incorporated as a feature of the Proposed Project and the FEIR has been revised to reflect this updated information. Because incorporating this feature would further ensure that impacts would be less than significant, no new impacts requiring further analysis would occur and no additional mitigation is required.

Response to Comment CDFW-4:

CDFW notes that certain marine mammals, including harbor seals, California sea lions, and sea turtles, may be present within the Project area, and thus may be affected by potential noise impacts from pile driving if those species are present during those activities. CDFW therefore recommends that LAHD prepare and implement a marine mammal and sea turtle monitoring plan to reduce the potential for noise impacts. The recommended plan would include establishment of an underwater exclusion zone, monitoring of marine mammal and sea turtle use of the construction area by an

experienced observer, and cessation of pile driving if marine mammals or sea turtles are present in the exclusion zone.

LAHD recognizes and appreciates this comment. LAHD notes that MM BIO-1: Protect Marine Mammals (DEIR, p. 3.2-38) contains the provisions of CDFW's recommended monitoring plan. Therefore, given that MM BIO-1 incorporates the measures recommended by CDFW, substantial evidence supports the Draft EIR's conclusion that implementation of MM BIO-1 would mitigate any potential impacts to marine mammal species to less-than-significant levels.

While the monitoring efforts required by MM BIO-1 would protect marine mammals, it is true that the measure does not explicitly mention sea turtles. The Draft EIR (p. 3.2-14) explains that sea turtles have very rarely been seen in the Los Angeles Harbor and would be extremely unlikely to occur in the Inner Harbor where the Project site is located. For that reason, the potential for sea turtles to be disturbed by the small-scale, short-duration construction activities of the Proposed Project would be remote. Furthermore, sea turtles, like marine mammals and fish, would be expected to avoid pile-driving areas. In any case, it is standard practice for the marine mammal observers to note and report on other marine wildlife, including sea turtles. Therefore, with implementation of MM BIO-1 and because noise levels would not exceed established thresholds, any potential impacts to sea turtles from construction and operation activities would be less than significant, such that no further mitigation is necessary. However, because the Draft EIR does not explicitly make these specific findings, the FEIR has been revised accordingly.

Response to Comment CDFW-5:

CDFW expresses concern about widespread adverse impacts to eelgrass and marine ecology associated with redistributing non-native invasive alga, including *Caulerpa taxifolia* and *C. prolifera*, during pile construction and anchoring.

LAHD recognizes the importance of identifying *Caulerpa* and preventing the redistribution of the species within Southern California. As CDFW recognizes and the Draft EIR explains, the Proposed Project would, in accordance with NOAA Fisheries and CDFW's *Caulerpa* Control Protocol, be required to complete a pre-construction *Caulerpa* survey 30 to 90 days prior to any planned in-water activities, including pile-driving and construction (DEIR, p. 3.2-17; NOAA Fisheries and CDFW 2021). If any *Caulerpa* species are found, LAHD would comply with the reporting requirements of the *Caulerpa* Control Protocol by promptly notifying CDFW and NMFS, stopping any work, and working with those agencies to develop a control and eradication framework to ensure the infestation is isolated, treated, and the risk of spread is eliminated (NOAA Fisheries and CDFW 2021; DEIR, pp. 3.2-17, 3.2-26, 3.2-31, 3.2-42).

Response to Comment CDFW-6:

CDFW asks that any special status species and natural communities detected during Project surveys be uploaded to the California Natural Diversity Database (CNDDB).

The LAHD acknowledges and understands this requirement and will comply with the reporting requirements of the CNDDB as appropriate.

Response to Comment CDFW-7:

CDFW summarizes the potential filing fees associated with filing the Notice of Determination and any other applicable environmental documents. The LAHD acknowledges and understands this requirement and will comply with the filing fee

requirements of Cal. Code Regs, Title 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.

Department of Toxic Substances Control (DTSC)

Comment Letter

See Section 2.3.

Responses

Response to Comment DTSC-1:

Thank you for your review and comments on the Draft EIR. The DTSC's comment suggests that the Proposed Project could affect and be affected by the "Gibson Environmental and Wilmington Liquid Bulk Terminal" site, which was operated as a waste recycling facility from 1990 to 1994. Potential contaminants of concern at the site include total petroleum hydrocarbons (TPH), such as jet fuel, motor oil, Stoddard solvent, diesel, and gas. DTSC explains that the former recycling facility which has a consent agreement with DTSC and is currently undergoing closure under Resource Conservation and Recovery Act (RCRA) requirements, while the closure certification review process remains underway. The site is also subject to a Corrective Action Consent Agreement that is enforced by DTSC.

LAHD appreciates DTSC providing this information regarding the ongoing closure of the Gibson Environmental site. Although it is adjacent to Berth 191, the Gibson site underlies the adjacent Vopak leasehold. Accordingly, site-specific restrictions that are set forth in the Gibson Corrective Action Consent Agreement would not directly apply to the Project site or activities conducted thereon. Moreover, and as explained in the Initial Study/Notice of Preparation (IS/NOP), the Project would not undertake activities that would directly disturb contamination on the Gibson site (DEIR, Appendix. A, pp. 43-44).

In addition, knowing that there is contamination at the Project site, LAHD has prepared a Soil Management Plan (SMP) to ensure that any contaminated soils that the construction work may encounter is managed properly and accordance with all applicable laws and regulations. The provisions and requirements of the SMP were summarized in the Draft EIR (pp. 2-13 to 2-14), and the SMP is included in the FEIR as Appendix E. Furthermore, as described in the Initial Study (DEIR, Appendix A p. 44), the Proposed Project would install all appropriate structural vapor control measures, such as impermeable membrane, passive venting, and paving, to reduce any risks to operational on-site workers. With these measures, prior site-specific health risk analyses (Envirotox 2018, Leighton 2019) concluded that concentrations of these contaminants did not pose significant risks or hazards to off-site receptors. Accordingly, no revisions of the FEIR are necessary.

Response to Comment DTSC-2:

DTSC's comment recommends that the Proposed Project and future CEQA documents acknowledge the potential for historic or future activities on or near the Project site that could result in the release of hazardous waste/substances. DTSC notes that, in instances where releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of contamination and any potential threat to public health and the environment.

Section 6.9 of the IS/NOP analyzes whether the Proposed Project may have significant impacts related to hazards and hazardous materials (DEIR, Appendix A, pp. 43–46). The Draft EIR's Project Description incorporates this analysis (DEIR, pp. 2-13–2-14).

As to future activities on or near the Project site, IS/NOP Section 6.9(a) acknowledges and describes the presence of soil and groundwater contamination at the Project site, and analyzes whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (IS/NOP, pp. 43-44). The Proposed Project's construction activities would likely not involve the use of substantial quantities of hazardous materials, while any hazardous materials that are stored or used during Project operations would be required to comply with all corresponding Federal and State regulations, the State General Permit for Storm Water Discharges Associated with Construction Activity, and the Project-specific Storm Water Pollution Prevention Plan (SWPPP; DEIR, p. 2-13; Appendix A, p. 43). The SWPPP would impose requirements and Best Management Practices (BMPs) that would ensure all materials delivered, stored, and used adhere to spill prevention and control measures, along with hazardous waste management requirements (DEIR, p. 2-13; Appendix A, p. 43). Implementing these standards and BMPs would also minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion that could create a significant hazard during Project construction activities (DEIR, p. 2-13; Appendix A, pp. 43–44).

The IS/NOP (DEIR, Appendix A, p. 44) and the Draft EIR also reference the site assessments and risk evaluation carried out in support of the Proposed Project and describes the control measures to be employed to minimize the potential for offsite transport or dispersion of contamination and risks to worker and public health and safety ([Leighton 2018]; DEIR, pp. 2-13 to 2-14.). Several areas at the Project site have been identified as having soil concentrations above regulatory health risk screening level. Any contaminated soils that may be encountered during construction would be managed in accordance with the Soil Management Plan referenced in the Draft EIR (pp. 2-13 and 2-14) and added to the FEIR as Appendix E that has been prepared for the Proposed Project (see Response to Comment DTSC-1). In addition, the site-specific Human Health Risk Analysis concluded that potential risks to on-site workers could be addressed by structural vapor control measures, such as an impermeable membrane, passive venting, and paving, all of which would be installed prior to Project construction and operation (DEIR, Appendix A, p. 44). Contaminated groundwater beneath the Project site is also not expected to pose a risk to the public or workers due to the minimal potential for exposure. The Project's proposed installation of stone columns would not require open excavation to groundwater, thus avoiding the potential for groundwater to be drawn or extracted to the surface (DEIR, Appendix A p. 44; DEIR p. 2-13).

The site assessment determined that existing contamination at the Project site largely does not exceed regulatory limits. In areas susceptible to concentrations above those limits, the site-specific analysis concluded that they pose no significant risk or hazard to off-site receptors, while any potential risks to on-site workers would be localized and could be addressed by structural vapor control measures, such as an impermeable membrane, passive venting, and paving, all of which would be installed prior to Project operation (DEIR, Appendix A, p. 44). Contaminated groundwater beneath the Project site is also not expected to pose a risk to the public or workers due to the minimal potential for exposure. Nevertheless, any contaminated soils that may be encountered during construction would be tested and managed in accordance with standard removal and treatment/disposal protocols (DEIR, Appendix A, p. 44; DEIR, pp. 2-13 to 2-14).

Finally, the only hazardous materials that may be used or transported as part of the Proposed Project's operations would include small amounts of refined petroleum products and chemicals that are used in on-site equipment and facility maintenance activities, and only nominal quantities of corrosive or oxidizing materials (DEIR, Appendix A, p. 44; DEIR, pp. 2-13 to 2-14). The facility would not handle radioactive, explosive, flammable, unstable, or toxic materials. As to potential accidental releases, spills of non-product materials could occur, but any quantities would be small and kept on site. The imposition of construction and operation BMPs would address any potential future spills, thereby limiting the frequency, extent, and consequences of those spills (DEIR, Appendix. A, p. 44; DEIR, pp. 2-13 to 2-14).

For these reasons, given the controls that would be in place and imposed as required permit conditions and BMPs (described above), construction and operation of the Proposed Project would not, as determined in the IS/NOP (DEIR, Appendix A, pp. 43 – 44) create a significant hazard to the public through routine use, transport, or disposal of hazardous substances, or through reasonably foreseeable accidental or upset conditions, and impacts would be less than significant.

Response to Comment DTSC-3:

DTSC's comment recommends that all imported soil and fill material be tested to ensure that any contaminants of concern are within approved screening levels for the intended land use. DTSC advises minimizing the possibility of introducing contaminated soil and fill material by documenting the origins of those materials, and sampling them, if applicable.

LAHD notes that screening imported soil is a standard practice for construction projects carried out in the Port of Los Angeles. Soil import is undertaken in accordance with written guidance (LAHD 2021) that specifies soil testing procedures and methodologies, and incorporates relevant regulatory guidance regarding allowable concentrations of metals and organic compounds. Accordingly, the Proposed Project includes DTSC's recommendation with regard to imported soils and fill material, such that impacts would remain less than significant and no revisions of the FEIR are required.

City of Los Angeles Bureau of Sanitation (LASAN)

Comment Letter

See Section 2.3.

Responses

Response to Comment LASAN-1:

LASAN's comment explains that the Project is unrelated to sewers and does not require any hydraulic analysis.

Thank you for your review and comment on the Draft EIR. LASAN's determination that the Proposed Project is unrelated to sewers and does not require a hydraulic analysis is noted. The comment is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. No further revisions to the FEIR are necessary.

South Coast Air Quality Management District (SCAQMD)

Comment Letter

See Section 2.3.

Responses

Response to Comment SCAQMD-1:

SCAQMD's comment states that the number of truck trips generated from the Proposed Project, as reflected in certain tables from the Air Quality, Ground Transportation, and GHG Chapters and Appendices, is inconsistent. SCAQMD asks that LAHD explain this discrepancy and correct the number of anticipated truck trips in the Final EIR.

Thank you for your review and comments on the Draft EIR. The apparent discrepancies in truck numbers that the comment raises are due to different reporting units that vary based on the underlying analysis, and due to rounding in one case. Depending on the analysis, trips are reported as round trips and/or one-way trips on an annual and/or daily basis. The actual number of truck trips, however, remains consistent among the various tables. The difference between the 65,950 one-way trips specified in Table 3.1-3 and the 66,000 one-way trips specified in Table 3.8-4 is due to conservative rounding, which was done for clarity. However, in the interests of consistency, Table 3.8-4 has been revised in the FEIR to correct this discrepancy. This minor numerical correction does not constitute significant new information because it does not materially change the EIR's analyses or conclusions.

Response to Comment SCAQMD-2:

SCAQMD notes that the United States Environmental Protection Agency (USEPA) granted the California Air Resources Board (CARB) an authorization for CARB's 2020 At-Berth Regulation. SCAQMD explains that this regulation aims to reduce nitrogen oxides (NO_X) and diesel particulate matter (DPM), and that CARB issued an Enforcement Notice on October 24, 2023, to confirm that, beginning November 20, 2023, all regulated entities must follow and comply with the requirements set forth in the 2020 Regulation. SCAQMD therefore recommends that the LAHD "review the 2020 At-Berth Regulation and ensure it follows the regulation's requirements."

LAHD acknowledges the USEPA's authorization of the 2020 At-Berth Regulation and CARB's October 2023 Enforcement Notice. The Draft EIR explains that CARB's 2020 At-Berth Regulation does not apply to dry bulk vessels, such as those that would service the Proposed Project (DEIR, p. 3.1-32). As such, bulk vessels are not currently certified to use available capture technologies, nor are they required to control their emissions under CARB's Ocean-Going Vessels At-Berth Regulation. Instead, the 2020 Regulation currently applies only to container, reefer, cruise, ro-ro, and tanker vessels, whereas the vessels servicing the Proposed Project would be small bulk carriers.

However, as the Draft EIR explains, the Project proponent, Ecocem, plans to implement capture technology if one is proven to be feasible and is actually available in the future. To account for this present uncertainty but future commitment, the EIR includes a lease measure (LM AQ-3) requiring Ecocem to complete a pilot study of an at-berth capture and control system within three years of entitlement execution (DEIR, p. 3.1-33). Doing so would help control the hoteling emissions of oceangoing vessels as part of the Proposed Project's SCAQMD air quality permit approach. If proven feasible, and upon CARB's certification, Ecocem would be required to implement the technology when operationally feasible. Such implementation would exceed the requirements of the At-

Berth Regulation until and unless the regulation is modified in the future to include bulk vessels. However, as the Draft EIR notes (p. 3.1-32), although hoteling emissions may be reduced as part of Ecocem's future air permit approach, the Draft EIR's analysis does not take credit for those potential reductions.

In the meantime, because the Proposed Project's vessels are not certified by CARB to use existing capture and control technologies, at-berth control is not feasible or capable of being accomplished in a successful manner within a reasonable period of time (Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364). Accordingly, the EIR cannot currently impose such a technology as mitigation, nor can it take credit for any emissions reductions resulting from such technology.

Response to Comment SCAQMD-3:

The comment suggests additional air quality mitigation measures to incorporate into the FEIR, including: maximizing calls from IMO Tier 3 vessels; retrofitting ocean-going vessels (OGVs); limiting truck idling; and requiring zero-emissions (ZE) or near-zero-emissions (NZE) haul trucks. SCAQMD also recommends that, where appropriate, LAHD include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the EIR's Energy and Utilities and Service Systems Sections, and include the aforementioned requirements in applicable bid documents, purchase orders, and contracts. Finally, SCAQMD advises that LAHD should conduct regular inspections to the maximum extent feasible to ensure operators are maintaining records of all trucks associated with Project construction that document how each truck meets permitted emissions standards.

With respect to the recommendation that the Proposed Project maximize calls from IMO Tier 3 vessels and retrofit OGVs, the Draft EIR explains (p. 3.1-32) that the Project proponent, Ecocem, has no control over the types of third-party vessels that would call at Berth 191, and thus cannot control the tier level of those vessels. The Draft EIR notes that the current fleet is comprised of an approximately 50/50 split of Tier 2 and Tier 3 vessels, which can be expected to turn over to mostly Tier 3 as vessels age out of the fleet (DEIR, p. 3.1-32). However, the Proposed Project cannot require an accelerated turnover schedule. Likewise, Ecocem cannot implement any sort of vessel retrofits because it has no control over those vessels. Therefore, while these features are incorporated as lease measures, there is no current feasible and enforceable CEQA mitigation that the Proposed Project could feasibly and successfully accomplish in a reasonable period of time to claim additional reduction credits (Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364).

LAHD notes that since the release of the Draft EIR, LAHD has revised LM AQ-5 (Vessel Speed Reduction Program) to include 100% of vessels. That change, while it would be beneficial to air quality, does not change the impact determinations of the Draft EIR. In addition, the measure has been re-designated as Mitigation Measure MM AQ-1. The FEIR has been revised to reflect those changes.

With respect to trucks, the Draft EIR (Table 3.1-11) shows that trucks would be a minor source of the Proposed Project's peak daily nitrogen oxides (NO_x) emissions, amounting to less than 4% of the total emissions. Nevertheless, the SCAQMD correctly notes that reducing those emissions would further reduce the Proposed Project's potential air quality impacts, even though those impacts would remain significant and unavoidable.

As to SCAQMD's recommendation that all trucks be either ZE or NZE, the Class 8 heavy-duty cement trucks that would service the Ecocem facility would all be third-party

trucks, owned by third-party cement companies or trucking firms. Accordingly, it would be infeasible to require that those trucks be ZE or NZE. Nevertheless, trucks meeting the Port's Clean Truck Program definition of drayage trucks would be required to comply with the Port's Clean Truck Program.

The Draft EIR does account for the construction-related trucks' anticipated compliance with the LAHD Sustainable Construction Guidelines for Reducing Air Emissions, which impose requirements of meeting stringent emission standards or model year requirements on construction equipment and heavy-duty vehicles. The Guidelines also describe BMPs for all construction projects on Port Property, which the Proposed Project would be expected to comply with (DEIR, pp. 3.1-26 to 3.1-27; see DEIR, Appendix B, Table B1-2, p. B1-21). In addition, the FEIR includes two new lease measures that would reduce emissions from construction trucks: LM AQ-5 (Fleet Modernization for On-Road Trucks During Construction) and LM AQ-7 (Renewable Diesel Fuel for Construction Equipment and On-Road Trucks). These measures would reduce truck idling on site and, to the extent possible, ensure that trucks meet 2012 or newer emissions standards and use renewable diesel fuel during Proposed Project construction (see FEIR Section 3.2.1).

As with OGVs, Ecocem would have no ability to control third-party trucks, and therefore could not ensure that only zero-emissions trucks or trucks with particular engine profiles would call at the facility. However, CARB has promulgated regulations (DEIR, Section 3.1.3) that cover all trucks operated in California which will eventually have the effect of transitioning the state's truck fleet to zero emissions. For further discussion on how Orcem's fleet would comply with these programs and efforts, please refer to pages 3.1-43 to 3.1-44 of the Draft EIR.

Response to Comment SCAQMD-4:

The comment points out that the SCAQMD will be a Responsible Agency under CEQA and suggests that the Draft EIR include information about the Proposed Project's stationary sources to support the permitting process.

The LAHD acknowledges that the Project proponent will need to acquire stationary source permits from the SCAQMD and that SCAQMD may be a responsible agency under CEQA, given its role in the permitting process. In support of that role, the Draft EIR presents the Proposed Project's stationary sources that will require air quality permits, the relevant calculations and analyses for construction and operational emissions, and the relevant methodology (DEIR, Table 3.1-11; DEIR, Appendix B-1, Section 5.5; and Tables in Appendix B-1 on pp. B1-107 through B1-110).

2.2.2 Organizations

Action Sales & Metals Co.

Comment Letter

See Section 2.3.

Responses

Response to Comment ASM-1:

The comment states that the Port of Los Angeles will experience a great loss without Wayne Ettel's business location.

Thank you for your comment on the Draft EIR. Rolland Wayne Ettel, doing business as (dba) Boatswayne Ettel, is the tenant of the Harbor Department premises at Berth 193 under Revocable Permit 14-10. Revocable permits are temporary entitlements which can be terminated with 30 days' notice. The Proposed Project would occupy Mr. Rolland Wayne Ettel's premises. Mr. Rolland Wayne Ettel was served a notice to vacate on November 30th, 2023, with the deadline to vacate by January 4th, 2024. Furthermore, more than six months prior to the notice to vacate, Mr. Rolland Wayne Ettel was verbally informed by the POLA staff that he needed to vacate

the premises.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Allied Cement Company

Comment Letter

See Section 2.3.

Responses

Response to Comment ALLIED-1:

The comment contends that the Draft EIR fails to properly analyze the Project's cumulative impacts with the reasonably foreseeable impacts associated with the commenter's (Allied Cement Company) continued operations at Berth 191. The comment states that the Draft EIR should state the annual number of vessel calls at Berth 191 that will result from the Vopak Project, the proposed total bulk cement import, and other data that should be analyzed as part of the Project's cumulative impacts, particularly being co-located with the Vopak Project.

Thank you for your comments on the Draft EIR. The Draft EIR's analysis is consistent with the CEQA requirements that the commenter cites, including CEQA Guidelines section 15130, subdivision (b). In particular, the Draft EIR's Cumulative Impacts Analysis (Chapter 4) presents a summary of the reasonably foreseeable cumulative impacts of the Proposed Project and 48 recent, current, or reasonably foreseeable future projects within the general vicinity that the Proposed Project could contribute to cumulative impacts, including the Vopak Project at Berths 187-191 that the commenter specifically references (DEIR, pp. 4-3–4-11). The analysis further notes that "[o]ne project of particular note in this cumulative analysis is Project #31, the Berths 187-191 (Vopak) Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project, as it is located immediately adjacent to the Proposed Project. Furthermore, that project would, if approved, be constructed at approximately the same time as the Proposed Project and its vessels would use the same berth (Berth 191) as the Proposed Project during operations" (DEIR, p. 4-3).

The commenter focuses on vessel traffic to Berth 191 but does not further specify which specific cumulative impacts that traffic would have that were not disclosed in the Draft EIR. Nevertheless, the Draft EIR considers the potential cumulative impacts associated with cumulative vessel traffic effects. For example, with respect to biological resources, the Draft EIR explains (p. 3.2-30) that the total number of vessels to Berth 191, whether

they are from Orcem only or from combined Orcem/Vopak vessel traffic, would be insignificant in the context of overall port vessel traffic, and would therefore have less than significant cumulative impacts. The Draft EIR's Cumulative Impacts chapter reiterates this, noting that certain marine species such as sea turtles are not expected to occur in the Harbor and their presence in the near-shore areas where vessel traffic could affect them is unlikely and unpredictable (DEIR, p. 4-22). For similar reasons, although vessel traffic can increase ambient underwater noise, that increase is not expected to result in a measurable increase in dBA and therefore not expected to result in a significant cumulative impact (DEIR, pp. 4-23–4-24).

The cumulative truck traffic impacts of the co-located projects have also been adequately analyzed, and substantial evidence indicates that cumulative transportation impacts associated with truck traffic would be less than significant. First, although, per Senate Bill 743, CEQA no longer requires an analysis of the effects of project traffic on intersections and freeway segments (the analysis is instead based on vehicle miles traveled [VMT]), Appendix E2 – *Ground Transportation and Level of Service Analysis* still provides an informational analysis on the effects of the Proposed Project's truck traffic on levels of service (LOS), as well as a cumulative analysis by considering the Proposed Project's impact on future-year regional traffic conditions (i.e., incorporating the related projects and overall regional growth; DEIR, pp. 4-35, 4-39). Second, although the Vopak Project would result in additional truck traffic from the current baseline with the resumption of cement activities at that facility, that traffic would not, in combination with the Proposed Project's traffic, make a substantial contribution to a cumulative impact under CEQA. This is because neither project would result in a significant VMT impact, since the Vopak project, like the Proposed Project, does not trigger a VMT impact analysis based on the Los Angeles Department of Transportation (LADOT) screening criteria for short- and long-term (cumulative) project effects on VMT. Accordingly, the Draft EIR's analysis of cumulative impacts complies with CEQA, and no revision of the FEIR is required.

Response to Comment ALLIED-2:

The comment contends that the Draft EIR's description of vessel operations is internally inconsistent and does not justify the anticipated time that each vessel will unload at Berth 191. For these reasons, the commenter expresses concern over the potential for Orcem's and Vopak's vessel operations at Berth 191 to conflict, including equitable use of the Berth.

The anticipated time that each vessel would unload, including any perceived conflicts regarding equitable use of Berth 191, is largely a logistical/technical issue, rather than a CEQA concern or environmental impact. More specifically, in determining the significance of the Proposed Project's potential environmental effects, CEQA directs that "economic and social changes resulting from a project shall not be treated as significant effects on the environment" (CEQA Guidelines, § 15064, subd. (e)). For these reasons, Orcem's and Vopak's "equitable use" of Berth 191 would constitute an economic or social change that would not result in a physical change that should be regarded as a potentially significant effect on the environment (CEQA Guidelines, § 15064(f)(6) ["Evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment"]).

Nevertheless, the Draft EIR (p. 3.1-17 [Table 3.1-3]) analyzed the potential impacts associated with 24 vessel calls per year, each at berth for five days. The Draft EIR

concluded that those vessel calls could potentially yield significant air quality impacts, but otherwise found no other significant environmental effects. As a result, and absent substantial evidence of a potentially significant impact that the Draft EIR did not analyze, the FEIR need not be revised.

Nevertheless, with regard to any potential logistical issues at Berth 191, the Draft EIR described how much raw material (granulated blast furnace slag [GBFS]) would be conveyed to the Orcem facility by vessels, which is based on the design capacity of the processing plant (800,000 metric tons per year; DEIR, p. 2-16). Accordingly, the 24 Supramax vessels described in the Draft EIR would import up to that amount, rather than the 1.08 to 1.34 million tons of GBFS the commenter contends.

Accordingly, Orcem's vessel operations would be very similar to Vopak's operations: 24 vessels conveying 800,000 tons of GBFS (the facility's maximum capacity) means each vessel would carry approximately 33,000 tons, which is nearly identical to the tons-per-vessel ratio of Vopak's 15 vessels conveying 500,000 tons, or approximately 35,000 tons of material (as the commenter indicates). Since the comment acknowledges that the two projects would have similar unloading rates, the vessels delivering GBFS to Orcem could unload in approximately the same amount of time as those delivering cement to Vopak. Furthermore, together, the two operations would have vessels at berth for 39 combined weeks of the year, leaving plenty of time (13 weeks) for contingencies, delays, emergencies, etc., without conflicts. Given that substantial vessel delays due to scheduling conflicts are unlikely, the potential for any substantial impacts arising from such delays is too speculative and remote to evaluate, and therefore not reasonably foreseeable for purposes of this CEQA analysis. Accordingly, the project description in the EIR is accurate and adequate. Because the comment provides no additional substantial new information, no revision of the FEIR is required.

Central San Pedro Neighborhood Council

Comment Letter

See Section 2.3.

Responses

Response to Comment CESPNC-1:

Thank you for your comments on the Draft EIR. This comment introduces the commenter and summarizes the purpose of the comment letter. The commenter contends that the "No Project" Alternative (Alternative 1) "is the only feasible alternative due to air quality, health risks, and traffic impacts." The commenter proposes modifications to the Reduced Project Alternative (Alternative 2) and the Product Import Terminal Alternative (Alternative 3) that would provide for movement of the GBFS raw material via rail car to an inland processing facility.

The Draft EIR acknowledges that the Proposed Project would have a significant impact on air quality after mitigation (but does not find significant human health or traffic impacts). However, the Draft EIR ultimately considered but rejected the No Project Alternative (Alternative 1) as superior to the Proposed Project because the No Project Alternative would not meet or fulfill any of the Proposed Project's objectives (DEIR, p. 5-2). Moreover, CEQA does not require that a lead agency adopt the No Project Alternative simply because the Proposed Project may have significant impacts that cannot be mitigated to less than significant levels. Instead, CEQA provides that if the lead agency determines that a project's benefits outweigh its impacts it may adopt the project

on the basis of a statement of overriding considerations (CEQA Guidelines §15093, Public Resources Code, sections 21083 and 21083.5). That decision will be made by the Board of Harbor Commissioners (Board) in its consideration of the Final EIR prepared for the Proposed Project.

Furthermore, the comment's characterization of the No Project Alternative (Alternative 1) as the only "feasible" alternative is inaccurate. All four of the alternatives considered and analyzed in the Draft EIR (i.e., the Proposed Project, the No Project Alternative [Alternative 1], the Reduced Project Alternative [Alternative 2], and the Import Terminal [Alternative 3]) are feasible to build and operate. The decision as to which one should actually be approved will be made by the Board based on its consideration of all evidence in the record.

Response to Comment CESPNC-2:

The comment contends that the GBFS import, processing, and transport activities that the Proposed Project will produce PM_{10} and $PM_{2.5}$ particles in levels that exceed SCAQMD thresholds. Because these emissions exceed the threshold standards, the commenter contends that these exceedances are sufficient to require a finding that the "No Project" alternative is the only feasible alternative.

As explained in Response to Comment CESPNC-1, exceedances of significance thresholds do not, under CEQA, require a finding that the No Project Alternative (Alternative 1) is the only feasible alternative.

The Draft EIR acknowledges that the Proposed Project's operations would produce PM_{10} and $PM_{2.5}$ off-site concentrations exceeding SCAQMD significance thresholds and finds significant and unavoidable impacts (DEIR, pp. 3.1-29–3.1-31). As presented in Draft EIR Table 3.1-13 and Appendix B2 Figure B2-8, the highest modeled concentrations (i.e., the maximum impact) of PM_{10} and $PM_{2.5}$ are located at the property line of the Project site. That analysis does include trucks and road dust along the designated truck routes (DEIR, Appendix B2, Section 3.1.2 and Figure B2-2). The concentrations that the comment suggests be calculated (i.e., off-site concentrations) would be much lower at the actual residential and sensitive population receptors because of dispersion by air movement over the intervening distance (over 3,000 feet to the nearest residential receptors in Wilmington), and in fact the only exceedances at sensitive receptors are at the USC Boathouse, Banning's Landing, and the Waterfront Promenade, none of which are residential receptors. Accordingly, the Draft EIR adequately disclosed the potential PM impacts of the Proposed Project, and in the absence of substantial new information that shows otherwise, no revision of the FEIR is required.

Response to Comment CESPNC-3:

The commenter expresses concern about health risks. The commenter states that the EIR should be clarified regarding its finding that the Project does not exceed the CEQA impact requirement/threshold for health and cancer risks to residences in Wilmington and the adjacent marinas.

As indicated in the comment, the significant CEQA threshold for cancer risk is 10 in 1 million. As shown in Figure 3.1-2 of the Draft EIR, the cancer risk for residents (including children) at the maximally exposed residential receptor location is 1.2 in 1 million, well below the threshold of significance. The cancer risk estimate of 8.8 in 1 million at the maximally exposed sensitive receptor location (recreational) is also below the 10-in-1-million threshold of significance (DEIR, p. 3.1-38 [Table 3.1-14]). Note that the cancer risk at the maximally exposed sensitive receptor (the Los Angeles World

Cruise Center) was calculated based on conservative default residential exposure assumptions (i.e., assuming a recreational receptor would be continuously exposed at that location for 24 hours/day, 350 days/year, for 30 years, as shown in DEIR Appendix B3 Table B3-5, p. B3-29). The actual cancer risk for the sensitive receptors (including children) at that location is expected to be much lower than the reported cancer risk result because the exposure time, frequency, and duration for recreational receptors at the Los Angeles World Cruise Center would be much lower than the default residential exposure assumptions of 30 years' continuous exposure, which is very conservative (i.e., over-predictive of impacts) for a recreational receptor. For these reasons, the Draft EIR appropriately concludes that the Proposed Project's cancer burden would be less than significant (DEIR, p. 3.1-42).

The 10-in-1-million risk contour (the orange contour in Figure 3.1-2), which shows the area where residential risk would be significant if anyone lived there, is close to the site and does not reach the nearby residential neighborhood, which is over 3,000 feet away. The 1-in-1-million risk contour (the yellow contour in Figure 3.1-2, which encompasses a very small portion of the residential neighborhood) is shown for informational purposes only and does not represent the CEQA significance threshold for cancer risk.

As part of the Draft EIR's air quality analysis, the health risk assessment (HRA) evaluated cancer risk (including lung cancer) and noncancer health effects on the respiratory system (e.g., asthma and chronic obstructive pulmonary disease [COPD]) due to exposure of offsite residents, workers, and other sensitive receptors to toxic air pollutant emissions from the Project site. The default agency-recommended toxicity criteria and exposure assumptions used in the HRA are all based on conservative high-end estimates to ensure the HRA methodology is protective of the health of the most sensitive populations. The results of the HRA (DEIR, Table 3.1-14; Appendix B-3) indicate that the cancer risk and noncancer chronic and acute hazards are all below their respective CEQA significance thresholds for all evaluated populations. Specifically, the maximum calculated cancer risk of 8.8 in 1 million (non-residential sensitive receptors) is below the threshold of 10 in 1 million, the maximum chronic hazard index of 0.10 (non-residential sensitive receptors) is less than the threshold of 1, the acute hazard index of 0.17 is less than the threshold of 1, and the population cancer burden of 0.0021 is less than the threshold of 0.5. Therefore, the Proposed Project's chronic and acute noncancer impacts would be less than significant (DEIR, p. 3.1-38 [Table 3.1-14], p. 3.1-42).

Although the comment states that the Draft EIR ignores "considerable data available that shows various important pulmonary impacts, especially on workers and children, such as COPD and asthma," the comment does not provide such data or any other substantial new information to require re-analysis or reconsideration of the conclusions described above. Therefore, no revision of the FEIR is required.

Response to Comment CESPNC-4:

The comment expresses concern about potential truck traffic impacts. The comment states that, although CEQA does not require an analysis of truck trips, the Project's anticipated truck trips should be analyzed according to VMT, as opposed to the LOS analysis that was provided for informational purposes only.

The Draft EIR analyzes the Proposed Project's truck traffic impacts on local intersections (DEIR, Section 3.8.6). Because CEQA does not require an analysis of intersection impacts, the LOS analysis is presented as informational, but it is, nevertheless, a consideration of the Proposed Project's effects on local roadways. The informational LOS analysis accounts for trucks by using the criteria set forth in the Transportation

Research Board Highway Capacity Manual, which include the adjustment factor for truck size indicated in the comment. The qualitative LOS analysis considered the effects of additional peak-hour Proposed Project truck traffic at five intersections that would be used by those trucks (DEIR, p. 3.8-15 [Table 3.8-3]). As explained in the Draft EIR, the impact analysis used employee commute trip VMT for the impact determination because CEQA does not require VMT analysis of commercial trucks in CEQA documents (DEIR, p. 3.8-5).

Additionally, Proposed Project truck traffic would be required to proceed via designated truck routes. One such designated route, Harry Bridges Boulevard/Alameda Street, is a federally designated National Highway Freight Network roadway (National Highway System Intermodal Connector Route), which was reconstructed by the LAHD approximately ten years ago to accommodate the weight of long-term truck volumes. Based upon a field assessment, the Proposed Project trucks alone will not degrade pavement conditions. This roadway is maintained by the COLA Department of Public Works. The Harbor Department works closely with the DPW on monitoring roadway conditions outside the Harbor District. Additionally, the COLA DPW will be reconstructing the section of Alameda Street from Anaheim Street to Lakme Avenue, which will also accommodate long-term truck volumes, including that of the Proposed Project. Finally, all of the Proposed Project's operational truck traffic would use the planned Berth 200 Roadway that is being designed for heavy trucks and, as described in revised Table 3.8-5 (FEIR Section 3.2.6), is expected to be available for use less than two years after construction of the Proposed Project is completed and operations begin (i.e., December 31, 2026)..

Response to Comment CESPNC-5:

The comment offers news articles concerning a proposed port development in the community of Vallejo, California, and asks that the articles be taken into consideration when considering the Proposed Project. That project was very different from the Proposed Project in that it included numerous elements unrelated to Ecocem's proposed processing facility, including other manufacturing and import/export facilities and substantial rail operations. In addition, the two projects have very different physical settings. Accordingly, any perceived concerns about the Vallejo Project are too attenuated to connect or relate to the underlying Proposed Project. See also Response to Comment CFASE-6. The articles offered by the comment are part of the administrative record of the Proposed Project, but as they do not raise any issues under CEQA, no further response is required.

Response to Comment CESPNC-6:

The comment maintains that Alternative 2 (Reduced Project) and Alternative 3 (Product Import Terminal) should be modified to include rail transport of either the raw material (Alternative 2) or product (Alternative 3). The commenter proposes modifying these alternatives such that raw product would be imported through the site, loaded onto rail cars, transported to a non-waterfront grinding mill, then distributed throughout Southern California.

The Draft EIR considered, but ultimately rejected as infeasible, a rail-based product distribution alternative (DEIR, Section 5.4.2). The rail alternative was dismissed as infeasible for the following reasons:

> (1) There is insufficient space on the Project site to accommodate a railcar loading facility;

(2) Orcem's potential customers do not have any rail access; and

(3) Even if it were technically feasible, adding a new rail line would unacceptably disrupt Vopak's operations.

These three reasons apply equally to rail-based movement of the raw material or of the product. In addition to these reasons, other factors make a rail-based operation infeasible. First, movement by rail would be inconsistent with the operating logistics of the Class I railroads (Union Pacific [UP] and Burlington Northern Santa Fe [BNSF]) serving the region. The average distance to Orcem's prospective customers is approximately 73 miles, and approximately 90% of the customers are located within 150 miles of the Port. The UP and the BNSF railroads do not move intra-regional cargo to/from the Ports of Los Angeles/Long Beach (with one exception: slab steel trains to Fontana, since trucks cannot move such cargo due to weight). In fact, UP and BNSF do not typically move any cargo for distances less than 500 miles. Second, such a rail service would necessitate interchange of railcars at a BNSF and/or UP inland railyard, with transfer of the GBFS raw material or the GGBFS product to trucks at those railyards. The facilities for such an operation do not exist, nor is such an operation allowed by UP or BNSF, at their existing railyards.

Even if these limiting factors did not exist, both alternatives would increase the number of transfers of material by adding transfers to and from railcars. Each additional transfer would result in additional emissions of air pollutants to the region above those that would be generated by the Proposed Project. Finally, both alternatives suggested by the comment would add locomotive emissions to the region's air pollution without eliminating truck emissions.

The comment does not provide substantial new information to require re-analysis or reconsideration of the conclusions described above. Therefore, no revision of the FEIR is required.

Coalition for a Safe Environment et al. (CFASE)

Comment Letter

See Section 2.3.

Responses

Response to Comment CFASE-1:

Thank you for your comments on the Draft EIR. This comment summarizes the main topics that the commenter will raise in its letter. This comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is otherwise general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-2:

The commenter quotes a portion of Section 65040.12 of the California Government Code. This citation is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is otherwise general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-3:

The commenter quotes a portion of Section 38711 of the California Health and Safety Code. This citation is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is otherwise general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-4:

The commenter requests that POLA grant another public comment extension for 30 additional days.

LAHD provided a 45-day review period that started on October 12, 2023, and ended on November 27, 2023. On November 1, 2023, LAHD announced that it would extend the comment period deadline to December 11, 2023. While the initial November 27 comment deadline did not coincide with other comment period deadlines for other Port projects under consideration, the December 11 deadline did unintentionally coincide with the John S. Gibson Truck and Chassis Parking Lot Project. However, CEQA does not prevent coinciding comment periods from occurring, nor does it require the Port to reschedule comment deadlines for different projects proposed by the same lead agency.

The comment also claims that the Port and the City of Los Angeles have violated Government Code § 65040.12, subdivisions (d)(4), (e)(1), and (e)(2). It is unclear on what basis the Port and City have violated the provisions of those subdivisions. Generally, section 65040.12 directs the Office of Planning and Research to serve as the coordinating agency in state government for environmental justice programs, and for producing guidelines for local agencies to create environmental justice elements as part of their general plans. Because the Proposed Project does not concern the drafting or review of an environmental justice general plan element, those provisions do not apply to the Proposed Project's construction and operation.

In summary, the comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Response to Comment CFASE-5:

This comment contends the Port of Los Angeles has not complied with NEPA, stating that the Proposed Project requires preparation of a Draft and Final Environmental Impact Statement (EIS). The comment states that the Project involves demolition and construction in coastal waters, and has significant impacts on air quality, greenhouse gas emissions, biological habitats, and public health.

Although the Proposed Project does have significant residual impacts in the areas of air quality and greenhouse gases (but not biological resources or public health), those impacts do not, in themselves, necessitate preparation of an EIS. The determination of whether to prepare an EIS belongs, in this case, to the U.S. Army Corps of Engineers (see DEIR, Table 1-1), not to the Port. While the Corps and the Applicant will engage in the federal permitting and review process separately, based on the information presented in the Draft EIR, the Corps has not indicated that it considers a separate or joint EIS necessary for the Proposed Project. Nevertheless, the Project Applicant will be

responsible for separately coordinating with the Corps and obtaining any requisite federal permits that may be required before Project construction and operations can commence.

Response to Comment CFASE-6:

This comment asserts the Port's executive, legal, and environmental management teams have failed to conduct "due diligence" in investigating Ecocem and its prior history. The comment provides citations to and quotations from newspaper articles that relate to a project that Ecocem, Orcem, and Vallejo Marine Terminal proposed in the City of Vallejo.

The commenter's claim that the Port failed to investigate Ecocem and its associated entities does not raise issues regarding the Proposed Project's potential environmental impacts as relevant to CEQA. The Vallejo project in which Ecocem was involved was a different project in a different environmental setting than the Proposed Project, and was reviewed by a different lead agency other than the Port of Los Angeles. Therefore, the concerns about the Vallejo project have no relationship to the potential environmental impacts of the Proposed Project, nor is consideration of the Vallejo project a CEQA issue. More specifically, in determining the significance of the Project's potential environmental effects, CEQA directs that "economic and social changes resulting from a project shall not be treated as significant effects on the environment" (CEQA Guidelines, § 15064, subd. (e)). For these reasons, public opposition to the Vallejo project constitutes a social impact that would not result in a physical change that should be regarded as a potentially significant effect on the environment (CEQA Guidelines, § 15064, subd. (f)(6) ["Evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment"]). Accordingly, the public opposition to that project documented in the material quoted in this comment is not relevant to the Proposed Project, nor does CEQA require such opposition to be considered in the case of the Proposed Project.

The letter from the Bay Area Air Quality Management District referenced by the comment cites a health risk assessment that found significant health risks from the Vallejo project. The health risk assessment conducted for the Proposed Project using agency-approved protocols considered the Project's emissions of air toxics and the mitigation measures imposed on the Proposed Project, and determined that the Proposed Project would not have significant health risks (DEIR, pp. 3.1-38 through 3.1-43). Accordingly, the concerns raised in that letter regarding the Vallejo project were adequately addressed in the Proposed Project, and no revision of the FEIR is necessary.

The letter from the California Attorney General's office referenced by the comment raises concerns about the Vallejo project's possible environmental justice impacts related to public health impacts. As explained below (see Response to Comment CFASE-8), CEQA does not require an analysis of environmental justice issues. To this end, and as more fully explained in a separate memorandum also prepared by the California Attorney General's Office, CEQA imposes indirect limits on agencies and their analyses of potential environmental justice impacts. A copy of this memo can be found at: https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf. Furthermore, the public health impacts of the Proposed Project, whether or not they would fall disproportionately on disadvantaged communities, were considered in the Draft EIR (DEIR, Section 3.1.5.1, Impact AQ-5) and found to be less than significant. Accordingly, the Attorney General's letter regarding the Vallejo project is not applicable to the Proposed Project and no revision of the FEIR is necessary.

The comment is otherwise noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. Because the comment is general and does not identify any specific deficiencies of the Draft EIR, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-7:

The comment states that "The DFEIR (sic) Violates CEQA" for several reasons, including that: (a) the Draft EIR fails to adequately consider the Project's environmental setting and cumulative impacts; (b) the revised air quality analysis is flawed and underestimates the Project's air quality impacts; (c) the Draft EIR's mitigation measures for other Project impacts are inadequate, unlawfully deferred, and unenforceable; and (d) the Draft EIR fails to analyze the potentially significant impacts of coal transport.

As to the Project's environmental setting and cumulative impacts, the Draft EIR sets forth the Proposed Project's setting in detail (DEIR, Section 2.4) and fully considers its cumulative impacts (DEIR, Chapter 4). Because the comment does not identify any specific deficiencies in the DEIR's consideration of those issues, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

The Draft EIR analyzed the Proposed Project's potential air quality impacts (DEIR, Section 3.1). The analysis considered all of the Proposed Project's emission sources and employed assumptions and methodologies that ensured that those emissions were not underestimated (DEIR, Section 3.1, Appendix B2). Because the comment does not identify any specific deficiencies in the Draft EIR's consideration of the air quality analysis, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

As to mitigation, the Draft EIR imposes feasible, enforceable mitigation measures, lease measures, and standard permit conditions for the identified significant air quality, biological, greenhouse gas, and noise impacts. Because the comment does not specify how those measures are "inadequate, unlawfully deferred, and unenforceable," the comment does not identify any specific deficiencies in the Draft EIR's mitigation, and no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)). LAHD notes that as part of the preparation of the FEIR, three additional lease measures, LM AQ-5 (Fleet Modernization for On-Road Trucks During Construction), LM AQ-6 (Fleet Modernization for Construction Equipment), and LM AQ-7 (Renewable Diesel Fuel for Construction Equipment and On-Road Trucks), have been included. These measures would further reduce emissions during construction, although, because their benefits cannot accurately be quantified, the FEIR does not take credit for those reductions. In any case, the reductions would likely not be sufficient to reduce the Proposed Project's significant air quality impacts to less than significant.

As to the issue of coal transport, LAHD notes that the Proposed Project does not contemplate or involve the transport of coal. Therefore, the Draft EIR was not required to analyze any potential impacts associated with coal transport and the Proposed Project would not have any significant impacts in this regard.

Response to Comment CFASE-8:

The comment states that "The Environmental Justice Analysis is Flawed and Misleading," because the environmental justice analysis: (a) has a misleading demographic analysis; and (b) fails to acknowledge the already-existing pollution burden.

CEQA does not require analysis of environmental justice issues. Instead, CEQA centers on whether a proposed project may have a significant effect on the physical environmental, and therefore requires preparation of an EIR to identify and analyze potentially significant impacts and indicate the manner in which those significant effects can be mitigated or avoided (Pub. Resources Code, § 21002.1(a); CEQA Guidelines § 15064(d)). As part of this analysis, an EIR must consider the significance of the underlying activity, which may vary with the environmental setting. Thus, for example, where a community already faces a high pollution burden, the operative CEQA question that the EIR must address is whether any additional amount of pollution from the proposed project should be considered significant in light of existing conditions. For these reasons, environmental justice is not considered or treated as an "area of impact" under CEQA, and CEQA does not require that a proposed project mitigate preexisting conditions or pollution burdens.

With respect to the comment that the demographic analysis is misleading, the LAHD notes that the Draft EIR did not contain a demographic analysis related to an environmental justice analysis. Demographic information is presented in Chapter 8 Socioeconomics, but that information does not include the data on racial composition and poverty level by census tract needed for an environmental justice analysis because it was not intended to support such an analysis.

With respect to existing air pollution, the Draft EIR acknowledges the region's existing air quality, including a description of the region's attainment status for criteria air pollutants, a survey of the health effects of those pollutants, a summary of local (i.e., port area) air quality, and a summary of recent regional air toxics studies including MATES II, MATES IV, and MATES V (DEIR, Section 3.1.2.2, pp 3.1-3 to 3.1-8). In addition, the FEIR includes, as Section 3.1.5.6, a new discussion of potential health effects related to significant air pollutant impacts, as suggested by guidance developed by the City of Los Angeles (2019). That discussion provides supplemental information on the potential links between the Proposed Project's emissions of criteria pollutants and human health effects related to the significant impacts identified in DEIR Section 3.1.5.1.

While the Draft EIR does not contain a separate environmental justice analysis, it does analyze the Project's potential to impact the environmental setting's preexisting pollution burden. For example, the Draft EIR's air quality analysis relies on guidance provided by SCAQMD and the Department of Toxic Substances Control's Office of Environmental Health Hazard Assessment (OEHHA), which include thresholds that seek to address cancer and other health risks to communities in the vicinity of the San Pedro Bay port area (DEIR, p. 4-13). Based on these criteria, the Draft EIR identifies sensitive receptors in the Port area (DEIR, Figure 3.1-1) and uses assumptions and procedures approved by OEHHA to determine the impact of the Proposed Project's air emissions on surrounding populations. The Draft EIR finds that operation of the Proposed Project and build alternatives (Alternatives 2 and 3) would result in exceedances of the SCAQMD regional significance thresholds for NOx and PM but that health impacts on all evaluated populations (i.e., occupational, residential, and non-residential sensitive receptors) would be less than significant.

Because the comment does not identify any specific deficiencies in the Draft EIR or these analyses, or present significant new information that would changes these conclusions, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-9:

The comment contends that the Draft EIR fails to consider the potential risks due to the Project site being situated in a sea-level rise inundation zone.

The DEIR's Greenhouse Gas Emissions chapter (Section 3.5) discusses potential impacts associated with sea-level rise (SLR) on the Proposed Project (DEIR, p. 3.5-36). In particular, Sections 3.5.8.1 and 3.5.8.2 (DEIR, pp. 3.5-36–3.5.37) explain the background and regulatory setting for analyzing sea level rise, which includes guidance from the State of California and the Port's Sea Level Rise Adaptation Study. Both studies recognize the uncertainty of SLR projections, and thus offer future scenarios of SLR under different assumptions of GHG emissions, ice cap melting, and other factors. The Port's study, for example, considers horizon years of 2030, 2050, and 2100, and three global warming scenarios (low, mid-range, and high) to predict impacts to Port infrastructure from inundation and flooding under various scenarios of SLR, high tides, and storm tides. Under the Port's scenarios, SLR is predicted to rise 24 inches by 2050. The State's study also analyzes projected scenarios, which predict SLR at the Los Angeles tide gauge will reach approximately 12 inches by 2050. Because the State's study recommends considering the life of the project when selecting horizon years and SLR, the Draft EIR relies on scenarios that predict SLR by 2050 because the Proposed Project would be expected to have a maximum service life of 50 years and thus operate at least until 2050 but not until 2100.

With this regulatory framework in mind, Section 3.5.8.3 analyzes potential impacts to the Proposed Project based on the 24-inch SLR estimate for 2050 (DEIR, pp. 3.5-.7–3.5-38). The analysis explains that SLR, alone, would not cause permanent inundation or shoreline overtopping at Berths 191-195, even at normal high tide. Therefore, SLR by itself would not threaten the Proposed Project's facilities during their projected service life. Although the Proposed Project is not anticipated to operate beyond approximately 2075, the Draft EIR nevertheless explains that potential temporary flooding may occur within the next 100 years. Under those circumstances, the Proposed Project's facilities, like all other Port facilities, would operate under contingency and emergency prevention and response plans, which would mandate shut down of any infrastructure (e.g., utilities such as gas and electric) in anticipation of flooding, thus avoiding serious risk of rupture or electrical hazard. Although traffic would be blocked by water depths of more than a few inches, vehicle movement should be able to resume quickly after waters have receded in a matter of a few hours. Accordingly, the Draft EIR concludes that SLR does not pose substantial structural risks to the Proposed Project or either of the build alternatives (DEIR, pp. 3.5-.7–3.5-38).

Because this comment presents no new significant or substantial evidence that would change the Draft EIR's conclusion about the less-than-significant sea level rise impacts, no further response or revision to the FEIR is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-10:

The comment provides a concluding statement, which asks that the Draft EIR be revised and, if necessary, recirculated to correct the claimed CEQA inadequacies and ensure the Project's environmental impacts are fully disclosed and mitigated.

This comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. As explained in Section 2.2 above, a lead agency is required to recirculate a Draft

EIR when the agency adds "significant new information" to the EIR after the close of the public comment period but prior to certification of the Final EIR (Public Resources Code Section 21092.1; Guidelines Section 15088.5). "New information added to an EIR is not 'significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement" (CEQA Guidelines, Section 15088.5(a). "Significant" new information includes information showing that "(1) [a] new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented [;] or (2) [a] substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance" (Guidelines Section 15088.5(a)(1), (a)(2)).

As indicated in LAHD's responses to comments CFASE-1 through CFASE-9 and CFASE-11 through CFASE-20, LAHD finds that significant new information that would be sufficient to require recirculation of the Draft EIR has not been identified. More specifically, these comments do not present information that shows a new significant environmental impact would result that was not otherwise analyzed, that a mitigation measure exists that was not otherwise considered, or that an environmental impact would substantially increase in severity unless mitigation measures are adopted. Nor has LAHD found that any other public comments submitted on the Draft EIR present significant new information that would require revisions to the document requiring recirculation. Instead, all edits made to the Final EIR merely clarify or expand on the information in the Draft EIR; therefore, recirculation is not required.

Response to Comment CFASE-11:

The commenter states that the Draft EIR's criteria pollutant and toxic pollutant emissions analysis is inadequate because air pollutant emissions, greenhouse gas emissions, cumulative impacts, and public health impacts would fall disproportionately on disadvantaged and environmental justice communities. The comment states that zero-emissions and emissions capture and treatment technologies exist to mitigate those impacts, and provides lists of such equipment that it represents as available for over 90% of the Proposed Project's vehicle and equipment needs. The commenter also proposes installing air purification systems in all sensitive receptor homes, child care centers, schools, and recreational centers, along with noise suppression technologies such as soundproof glass, doors, and windows.

As explained more fully in the Response to Comment CFASE-8 above, CEQA does not require a separate evaluation of impacts on disadvantaged and environmental justice communities. Nevertheless, the Draft EIR identifies and analyzes air pollutants and GHG emissions from the Proposed Project that exceed significance criteria, and applies mitigation measures that would reduce those emissions.

The comment letter's attachment provides a list of equipment represented as zero-emission technologies that the comment implies should be incorporated into the Proposed Project. LAHD notes that the mere existence of specific equipment does not mean it can be applied to the Proposed Project. Specifically, the majority of the listed equipment, such as yard tractors, transportation refrigeration units, jeeps, troop carriers, SUVs, cranes, reach stackers, straddle carriers, various pallet trucks, tow tractors, vans, refrigerated trucks, refuse trucks, agricultural tractors, passenger and freight trains, buses, and mining equipment would not be used by the Proposed Project and thus would not be

applicable to the Proposed Project. Some of the listed construction equipment, such as dozers, excavators, and loaders, could be appropriate during construction of the Proposed Project. The availability of such equipment in the local area from which the construction contractors would be drawn is unknown. However, LAHD notes that Ecocem would strive to contract with construction contractors who have this equipment available, such as by including this requirement in applicable bid documents and requests for proposals. Furthermore, Ecocem would be required to comply with the Port's LAHD Sustainable Construction Guidelines, which establish air emission criteria for inclusion in construction bid specifications.

The Proposed Project would use three pieces of mobile equipment on site for managing raw materials: a front-end loader, an excavator, and a small forklift (DEIR, p. 2-20). The forklift would be electric-powered, and would thus be zero-emissions. For the loader and excavator, zero-emissions models that would meet the facility's requirements are not currently available, meaning that they would be diesel-powered. However, the Project proponent would be required to replace the front-end loader every two years with technology equal to or cleaner than Tier 4 (DEIR, LM AQ-6, which has been revised in the FEIR [Section 3.2.1] to establish replacement criteria and has been re-designated as MM AQ-2); this could include a zero-emissions unit when a suitable model becomes available (the excavator would turn over at the end of its useful service life, assumed to be 14 years; DEIR, Appendix B1, Section 5.6). Furthermore, LAHD notes that because there would be only two units on site, one of which (the excavator) would only operate a few hours a week, the on-site mobile equipment is a negligible source of the calculated emissions (DEIR, Table 3.1-11 "Offroad Equipment").

Mitigation in the form of the zero-emissions technologies for third-party on-road trucks and oceangoing vessels (OGVs) of the classes listed in the comment's attachment is not applicable to the Proposed Project for the reasons described in Section 3.1.5.1 and Section 3.5.6.1 of the Draft EIR and in responses to comments SCAQMD-2 and SCAQMD-3, (i.e., that the Project proponent has no control over the third-party on-road trucks and OGVs that would be the principal sources of emissions).

Similarly, the Draft EIR finds that the Proposed Project's cumulative impacts related to operational air emissions and human health are significant but finds that no additional feasible mitigation beyond the measures imposed in Draft EIR Section 3.1, as revised in the FEIR (Section 3.2.1), is available. This is true because, as explained above, the zero-emissions equipment referred to in the commenter's attachment is not applicable to the Proposed Project.

The Draft EIR explains that the Proposed Project would not have significant project-level public health impacts (DEIR, Section 3.1.5.1). Accordingly, implementation of the mitigation measures the commenter suggests is not necessary. The Draft EIR, however, also explains that the Proposed Project may have significant cumulative air quality impacts, i.e., in combination with other projects in the area that would be significant (DEIR, Section 4.2.1.3). The Port has approved Port-wide air pollution control measures through the Clean Air Action Plan (CAAP) to reduce health risk impacts from the Proposed Project and future projects at the Port. Moreover, the Proposed Project's compliance with existing regulations proposed by CARB and the USEPA would also further reduce air emissions associated with cumulative health impacts from Port operations, although future rules have not yet been adopted and are therefore not accounted for in the HRA's emissions calculations. For these reasons, the Draft EIR cautions that it is unknown at this time how these future measures would reduce

cumulative health risks, which is why the DEIR conservatively assumes that airborne cancer and non-cancer impacts within the Proposed Project's region are considered to be cumulatively significant (DEIR, p. 4-19). This, in turn, means that the level of reduction is uncertain at this point, which renders additional mitigation infeasible.

The comment cites "significant Public Health Impacts and inadequate proposed mitigation" as the basis for recommending installation of air purification technologies in nearby sensitive receptors. However, the Draft EIR concludes that the public health impacts of the Proposed Project, including individual cancer risk, chronic and acute non-cancer hazards, and population cancer burden, would be less than significant (DEIR, Section 3.1.5.1, Impact AQ-5). Accordingly, the measures suggested by the comment are not required to mitigate a significant impact of the Proposed Project.

LAHD notes that a mitigation measure must have an essential connection with the significant impact of the project, and the measure must be roughly proportional to the project impact to be mitigated (CEQA Guidelines, § 15126.4(a)(4)(A)–(B)). When addressing a wide-spread regional impact such as air quality, lead agencies cannot require project applicants to shoulder more than their fair share of the costs of mitigation. CEQA further does not require that a project be modified or mitigated to improve upon existing environmental conditions (see *In re Bay-Delta Programmatic Envtl. Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1167–1169: ["[E]xisting environmental problems . . . that would continue to exist even if there were no [project] . . . are part of the baseline conditions rather than [project]-generated environmental impacts . . .."].)

The installation of air filtration systems throughout the community would be a considerable undertaking that would not be connected to a Project-specific significant impact or be proportional to the magnitude of the Project's reasonably foreseeable human health impacts (i.e., less than significant). The EIR does acknowledge the Proposed Project's contribution to an existing cumulative health impact (DEIR, Section 4.2.1.3, Impact AQ-5). However, that impact is an existing, wide-spread regional impact that, as described above, CEQA does not require individual projects to mitigate beyond their fair share. Region-wide impacts are more appropriately addressed by the larger-scale programs that the Port, the SCAQMD, CARB, and other stakeholders are implementing. At the Port level, these include programs aimed at improving air quality such as the CAAP and the Sustainable Construction Guidelines (see DEIR, p. 3.1-13), the Air Quality Mitigation Incentive Program, and the Technology Advancement Program.

Noise suppression measures are not necessary because the Proposed Project would not generate operational noise levels that would exceed significance criteria (the impact for which the noise suppression measures suggested by the comment would be appropriate) and would not make a considerable contribution to a significant cumulative noise impact (DEIR, Sections 3.7.4.3 and 4.2.7).

Because this comment presents no new significant or substantial evidence that would change the Draft EIR's conclusions related to mitigation of off-site air quality and noise impacts, no further response or revision to the FEIR is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-12:

The commenter contends that the Draft EIR's Health Risk Assessment is "under-evaluated" because it did not include the underestimated criteria pollutants emissions,

toxic pollutant emissions, and greenhouse gas emissions on public health that the commenter previously identified.

The Draft EIR's Health Risk Assessment (HRA) was prepared in accordance with OEHHA and SCAQMD guidance (DEIR, Appendix. B3). Based on that guidance, the HRA evaluates four different types of health effects: individual excess lifetime cancer risk, population cancer burden, chronic non-cancer hazard index, and acute non-cancer hazard index. The HRA also uses the USEPA's dispersion model AERMOD (v. 22112; USEPA 2022) to develop dispersion factors (i.e., predicted concentrations per unit of emission) for each source of emissions for average annual and hourly maximum averaging periods outside the Project site. Similarly, the Hotspots Analysis and Reporting Program (HARP2) Risk Assessment Standalone Tool (RAST) (v. 22118; CARB 2022) was used to perform the health risk calculations for the non-inhalation pathways for the multi-pathway chemicals.

The HRA was developed using a four-step process to estimate the health impacts described above: (1) quantify construction emissions and operational emissions for them Proposed Project and alternatives; (2) identify ground-level receptor locations that may be affected by emissions, including a regular receptor grid as well as specific discrete non-residential sensitive receptor locations nearby such as schools, child care centers, hospitals, elder cares, and recreational areas; (3) perform dispersion modeling analyses to estimate dispersion factors for each modeled source at each receptor location; and (4) estimate the ambient TAC concentrations and characterize the potential health impacts at each receptor location posed by the Proposed Project and alternative scenarios. To estimate cancer risk impacts for the construction and operation of the Proposed Project and alternatives, annual volatile organic compound (VOC) and particulate matter (PM) emissions of less than 10 microns (PM_{10}) associated with terminal construction and operation were estimated for each year of several long-term exposure periods and speciated into their TAC components as necessary for the HRA analysis using speciation profiles developed by CARB. The cancer risk exposure periods were 30 years for residents and other types of non-residential sensitive receptors such as schools, child care centers, hospitals, elder cares, and recreational areas, 25 years for occupational receptors, and 70 years for the population cancer burden analysis.

With these parameters in mind, the HRA concludes that the Proposed Project would not result in significant unmitigated health impacts in any of the four types of health risks evaluated. As summarized in Table 3.1-14 of the Draft EIR, the HRA concludes that the maximum individual cancer risk for the Proposed Project is predicted to be less than the 10-in-1 million significance threshold for all evaluated populations (i.e., occupational, residential, and non-residential sensitive receptors). Therefore, the impact of individual cancer risk for the Proposed Project would be less than significant. The population cancer burden was also found to be less than significant, as the HRA predicted it to be 0.0021, which is well below the threshold of 0.5. The HRA concludes that the maximum chronic hazard indices for the residential, non-residential sensitive, and occupational receptors are predicted to be 0.0068, 0.10, and 0.23, respectively, below the significance threshold of 1.0 for all receptor types. Therefore, the Proposed Project's chronic noncancer impact would be less than significant. Finally, the maximum acute hazard index is predicted to be 0.17, below the significance threshold of 1.0 for all receptor types. Therefore, the Proposed Project's acute noncancer impact would be less than significant.

Because the commenter does not provide significant new information that would change the outcome of the HRA's findings or the methodology described above, substantial

evidence supports the EIR's reliance on the HRA and its determination that the Proposed Project presents less-than-significant public health impacts. Accordingly, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-13:

The comment contends that the Draft EIR significantly underestimates the total criteria pollutant, toxic pollutants, and greenhouse gas emissions calculations for gypsum trucks. The commenter also contends that these figures are underestimated by a factor of 2 to 3; therefore, the figures in Table 2-2 should be increased by at least 2.5 to 3 times.

The Draft EIR provides a consistent and adequate analysis of truck emissions. The analysis assumed round trips, not one-way trips as the comment claims, for trucks hauling gypsum (DEIR, Table 3.1-3; Appx. B1, Table B1-4.) Once the Project is operational (i.e., beginning in year 2027), there would be approximately 1,975 such round trips per year (or approximately 3,950 one-way trips), each of which would be approximately 150 miles long (i.e., between the Project site and the boundary of the South Coast Air Basin).

The comment claims "port cargo trains and empty containers" as the reason for the analysis' underestimation, but neither of those factors is relevant to the Proposed Project because the Project would not involve train traffic or cargo containers. Further, the comment does not provide a reference or other support for its claims that emissions "are underestimated by a factor of 2 to 3" and that gypsum truck trips "should be increased by at least 2.5x-3x". It therefore remains unclear where those figures originate from, and absent additional substantial evidence to support those numbers, no further revisions to the Draft EIR's truck trip analysis is necessary or warranted.

The comment further contends that the Draft EIR's truck analysis did not account for and mitigate the impacts of gypsum truck trips: leaving their place of origin at either a truck company parking lot or an independent owner/operator's house; traveling to another location to pick- up the sealed dry-bulk pneumatic tanker trailer; and returning to the gypsum manufacturer or distributor in order to pick up the gypsum, deliver it to the Ecocem facility, and then return to their place of origin. First, LAHD notes that the Draft EIR did not represent that the trucks transporting gypsum would be "sealed dry-bulk pneumatic tanker trailer[s]." Instead, sealed dry-bulk pneumatic tanker trailers would be used to transport the product, GGBFS, from the Berth 191-194 facility to regional customers; gypsum trucks would be medium-duty box-type trucks (DEIR, p. 2-17 Section 2.5.3.4). Second, absent substantial evidence that the trucks would make all of the trips the commenter suggests (e.g., trips to the truck operators' homes or off-site places of business), those trips and sources are speculative, uncertain, and cannot be quantified for purposes of analyzing impacts. Because CEQA does not require that the EIR engage in such speculation, the only information available and relevant to the EIR's analysis of impacts associated with truck trips is related to the transport of the Proposed Project's materials (DEIR, Appendix B1, Table B1-4).

The comment otherwise provides no further information or substantial evidence that would support an analysis of those activities, nor does LAHD possess such information. In the absence of substantial additional information, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)) and no revision of the FEIR is necessary.

Response to Comment CFASE-14:

The comment states that the DEIR's truck analysis did not account for and mitigate the impacts of trips by trucks hauling GGBFS making the types of trips enumerated in Comment CFASE-13.

Please see Response to Comment CFASE-13, which is equally applicable to the trucks that would transport the GGBFS product, and further explains why, absent additional substantial evidence, the type of analysis this comment asks for is too speculative and thus not required under CEQA.

Response to Comment CFASE-15:

The comment contends that the Draft EIR's statement that trucks would not idle for more than 5 minutes is "impossible and underestimated."

The Draft EIR analyzed potential impacts associated with truck idling time. For example, per the California Air Resources Board's (CARB's) Heavy Duty Diesel Vehicle Idling Emission Reduction Regulation (CCR Title 13, Sections 1956.8, 2485), and restrictions imposed by Los Angeles County, idling of on-road trucks is not to exceed 5 minutes (DEIR, Appendix B1, p. B1-29). The CARB regulation will apply to trucks used during Project construction and operation and requires that on-terminal heavy-duty trucks be equipped with a non-programmable engine shutdown system that automatically shuts the engine down after five minutes, or, alternatively meets a stringent NOx idling emission standard (DEIR, Appendix B1, p. B1-7). Orcem, the Project applicant, has also confirmed that, to meet this regulatory requirement, truck engines would be turned off during loading of material. The Project would also be required, through lease measure LM AQ-4 Los Angeles Harbor (LAHD) Sustainable Construction Guidelines, to comply with the Port's Sustainable Construction Guidelines for Reducing Air Emissions, which impose requirements for meeting stringent emission standards on construction equipment and heavy-duty vehicles. The Port's Guidelines include Best Management Practices (BMPs) for all construction projects at the Port, and include measures and BMPs that reduce emissions, including a 5-minute limit on construction truck idling time (DEIR, p. 3.1-27; DEIR, Appendix B1, p. B1-22). Furthermore, LAHD has proposed an additional lease measure, LM AQ-5, Fleet Modernization for On-Road Trucks During Construction (FEIR Section 3.2.3) that, among other requirements, limits construction truck idling to 5 minutes. Thus, the Draft EIR's statement that trucks would not idle for more than 5 minutes is reasonable, supportable, and enforceable.

As to the comment's contention that the Draft EIR failed to analyze train delay impacts, trucks accessing the Project site during construction and operation would only cross the Vopak spur track that crosses Yacht Street/Nissan Way. The Vopak spur has very little train traffic, as on average, according to the port-area rail operator (Pacific Harbor Line [PHL]), no more than 9 cars are moved at a time, inbound on one weekday and then outbound on a different weekday. Given that train movement occurs only twice a week, very little of the Proposed Project's truck traffic during construction or operation would be blocked at this crossing. Rather, a Vopak rail movement (one per day, inbound or outbound) would, on average, only block Nissan Way/Yacht Street for about 40 seconds (assuming a 290-foot-long train moving at 5 mph). Given that the Proposed Project would generate an average of 254 trucks per day over a 24-hour period and that those trucks would encounter only one rail movement twice a week, truck idling and associated emissions would be insubstantial.

The Proposed Project's traffic would also cross the Port's mainline track located just north of Water Street. However, operational traffic would use the planned Berth 200 Roadway once it is completed, which would be less than two years after the Proposed Project begins operation (FEIR Section 3.2.6, Table 3.8-5). Accordingly, any idling of truck traffic at the mainline tracks would be restricted to construction vehicles.

Actual blockage times from October 2023 were extracted from the crossing hardware (provided by the PHL, which is under the authority of an operating agreement with LAHD), yielding the following statistics:

- Average train movements/weekday: 23.3
- Average weekday train movements/hour: 0.33-1.67/hour
- Average duration/train movement (both directions): 4.5 minutes

Given the temporal distribution of train movements, the average train movement duration, and temporal distribution of Project traffic (approximately 6 per hour assuming trips are evenly distributed over 24 hours of operations), few of the Proposed Project's construction trucks would be blocked. Hence, it is expected that truck idling would be minimal on a daily basis and emissions associated with idling at grade crossings would be insubstantial.

No further revisions to the Draft EIR's truck idling analysis is feasible or warranted, and no further response or revision to the FEIR is possible or required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment CFASE-16:

The comment states that the Draft EIR's cumulative impacts analysis of Project emissions is significantly underestimated and needs to be revised to include truck criteria pollutants, toxic pollutants, and greenhouse gas emissions. The comment argues that the cumulative impact assessments are underestimated by a factor of 2 to 3.

The EIR's description of the Proposed Project's potential cumulative impacts on air quality complies with CEQA. The emissions from Project-related trucks are included in the cumulative impact analysis under Draft EIR Section 4.2.1 (DEIR, pp. 4-12 to 4-21). This is because truck emissions are included in the total emissions of the Proposed Project (DEIR, Table 3.1-11 and Table 3.5-2), and the Proposed Project's total emissions are considered in the cumulative analysis. The Draft EIR's cumulative impact analysis for air quality and greenhouse gases is not quantitative, so the emissions from the Project-related trucks are not shown as a separate component of the cumulative impact. Instead, the Draft EIR acknowledges that the Proposed Project's operational impacts on air quality would make cumulatively considerable contributions to the assumed existing significant impacts related to criteria pollutants (NO_X, $PM_{2.5}$, and PM_{10}), toxic air pollutants, and greenhouse gases.

As to the commenter's contention that the cumulative impact assessments are "underestimated by a factor of 2 to 3," please see Responses to Comment CFASE-13.

Response to Comment CFASE-17:

The comment states that the Draft EIR did not address the impacts of the Transportation Security Administration's Transportation Worker Identification Credential (TWIC) status of truck drivers, which is required to enter the Port. The comment notes that there is currently a truck driver shortage and high turnover, but Ecocem has not provided any information or letters of intent, including contractual agreements between trucking

companies and Orcem, regarding whether their gypsum suppliers have enough truck drivers and trailers to meet Ecocem's delivery needs.

LAHD notes that all truck drivers accessing marine terminals in the Port of Los Angeles are required to be TWIC-compliant; accordingly, the third-party trucks that would service the Proposed Project would be driven by individuals with TWIC clearance. In any case, the impacts associated with drivers' TWIC status and any perceived truck driver shortage all relate to economic and social issues, rather than environmental issues. As stated in Responses to Comments ALLIED-2 and CFASE-6, CEQA only requires that an EIR analyze whether the Proposed Project may have a significant effect on the physical environment (CEQA Guidelines, § 15064(d)). CEQA is clear that "economic and social changes resulting from a project shall not be treated as significant effects on the environment." (CEQA Guidelines, § 15064(e).) For these reasons, any potential impacts associated with the TWIC status and availability of, and contracts with, truck drivers, would only be economic or social, and therefore not result in a physical change that should be regarded as a potentially significant effect on the environment. (CEQA Guidelines, § 15064, subd. (f)(6) ["Evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment"].) Thus, the EIR is not required to analyze these factors.

As to the commenter's claim that "Non-TWIC drivers typically will own older semi-trucks which are higher air polluting, have more accidents, have more frequent breakdowns on highways, freeways and public streets," the comment provides no substantial evidence to support that assertion, nor is LAHD aware of any such data that would warrant further inquiry or analysis. Furthermore, the Draft EIR uses emissions factors for the general truck fleet within the South Coast Air Basin (see DEIR, Appendix B-1, p. B1-29), rather than emissions factors from a TWIC-only truck fleet. Accordingly, absent additional evidence, no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)), and no revision of the FEIR is necessary.

Response to Comment CFASE-18:

This comment contends that the Draft EIR failed to analyze whether the local street, freeway, and highway capacity can adequately support the Proposed Project's anticipated number of truck trips per hour/day/year.

Please see Response to Comment CESPNC-4 regarding CEQA's requirements for a traffic analysis and the Draft EIR's analysis of impacts of truck traffic on local roadways. The commenter refers to 95,950 trucks per year, but DEIR Tables 2-2, 3.1-3, 3.8-4, and B1-4, present the correct figure of 65,950 truck trips per year (including both cement and gypsum trucks).

Response to Comment CFASE-19:

The comment quotes the Draft EIR's plan to use a control technology based on a barge-mounted scrubber system that captures and treats engine exhaust from at-berth vessels. The comment notes that there are two companies that would be able to service these ships, and that the Project applicant can meet with those companies to obtain a letter of intent to implement these scrubber and emissions capture systems.

Thank you for your comment. This comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment does not identify any specific deficiencies

in the Draft EIR or its analysis of ship emission mitigation; therefore, no further response is required (Public Resources Code, § 21091(d); CEQA Guidelines, § 15204(a)).

Response to Comment CFASE-20:

The comment provides a list of CEQA references, including citations to Guidelines Sections 15064, 15126.2, 15378(a), 15126.2(a), 15064.4(a), and 15126.4.

This comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies in the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Coastal San Pedro Neighborhood Council

Comment Letter

See Section 2.3.

Responses

Response to Comment COSPNC-1:

The comment recommends that the Proposed Project "be used as an incentive by the Port to significantly accelerate emissions control programs on ocean going vessels at-berth and in-transit emissions" to help mitigate significant and unavoidable NOx and PM impacts to a level of compliance.

Thank you for your comments on the Draft EIR. As to emission control programs on ocean going vessels at berth, please see Response to Comment SCAQMD-2. As to in-transit emissions and corresponding mitigation efforts, please refer to Response to Comment SCAQMD-3.

Response to Comment COSPNC-2:

The comment expresses its support for the Proposed Project given that the specialized cement it would produce would offset approximately 666,500 metric tons of carbon released per year.

Thank you for your comment; it is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project.

Response to Comment COSPNC-3:

The comment requests future monitoring and mitigation of traffic impacts resulting from trucks servicing the Proposed Project, as needed to mitigate or reduce traffic impacts on adjacent communities and roadways.

The Port monitors traffic conditions in the area surrounding the Proposed Project site and greater Port footprint as part of its goods movement improvement activities, and would therefore be able to implement improvements as necessary. The Draft EIR presents an informational analysis demonstrating that traffic conditions at local intersections would not be adversely affected by the Proposed Project's truck traffic. The DEIR (p. 3.8-16 [Table 3.8-16]) describes current LAHD projects and initiatives that will alleviate traffic issues in the area and further points out that Project-related heavy-duty trucks would use designated traffic routes that would minimize conflicts with or adverse effects on local intersections and traffic conditions (DEIR, p. 3.8-15 [Table 3.8-3], p. 3.8-16 [Fig. 3.8-1],

p. 3.8-17 [Fig. 3.8-2]). For example, the Draft EIR explains that during Project construction, all Project-related traffic would use Avalon Boulevard and Broad Avenue northerly to Harry Bridges Boulevard. This would help divert truck traffic from the Wilmington community's nearby recreational uses. Until March 2028, operational truck traffic from the Project would also use that route; thereafter, operational traffic would use the planned Berth 200 Roadway (FEIR Table 3.8-5), and LAHD will install traffic signage to re-route truck traffic and avoid potential delays (DEIR, pp. 3.8-17–3.8-18 [Figs. 3.8-3, 3.8-4]).

Response to Comment COSPNC-4:

The comment requests further analysis to include consideration of a rail-based product distribution alternative.

For a discussion on the Draft EIR's consideration of a rail-based product distribution project alternative, please see Response to Comment CESPNC-5.

E4 Strategic Solutions

Comment Letter

See Section 2.3.

Responses

Response to Comment E4SS-1:

The comment provides a summary and overview of the Proposed Project's construction and operation, and certain determinations and conclusions made in the Draft EIR.

Thank you for your comments on the Draft EIR. The comment is noted and hereby part of the Final EIR and will be before the decisionmakers. No further response is required.

Response to Comment E4SS-2:

The comment contends that the Draft EIR's Project Description fails to disclose the full scope of the Project with respect to overseas transportation because it omits important elements. The comment states that the Project Description should describe the entire voyage as an aspect of the Project, including overseas transport of GBFS by ocean-going vessels (OGVs) that originate from ports in Asia or Mexico.

CEQA does not obligate a lead agency to consider or describe impacts originating outside California, and common practice is to carry CEQA analyses to the State line or air district over-water boundaries. Similarly, CEQA requires only that the Project Description contain: (a) the precise location and boundaries of the proposed project; (b) a statement of objectives sought by the project; (c) a general description of the project's technical, economic, and environmental characteristics, and (d) a statement briefly describing the intended uses of the EIR (CEQA Guidelines, § 15124). Sections 1.2. and 2.4 of the Draft EIR describe the Project's location and setting; Section 2.3 describes the Project's purpose, need, and objectives; Section 2.5 describes the technical, economic, and environmental characteristics of the Project; and Sections 1.3 and 1.5.2 describe the intended uses of the EIR. Accordingly, the comment's statement that "the full voyage, from the ports of origin to the Project site is part of the 'whole of the action'" improperly expands the scope and jurisdiction of CEQA and the Port's reviewing authority, and is not otherwise required for an EIR's project description to be sufficient.

Furthermore, analysis of overseas transportation would be speculative, as the exact sources of GBFS and the exact composition of the vessel fleet over the life of the

Proposed Project are unknown at this time; however, the analysis required by CEQA presented in the Draft EIR is based on fleet composition information available to the preparers at the time of analysis. Thus, the analysis is not inadequate or misleading.

Response to Comment E4SS-3:

The comment contends that CEQA's exemption for out-of-state emissions under Public Resources Code section 21080(b)(14) and CEQA Guidelines section 15277 is inapplicable to the Project and requests that the Project Description be revised to accurately describe the Project and analyze impacts posed by Project-related OGVs operating beyond the State's overwater boundaries.

Please see Response to Comment E4SS-2, which explains why including emissions from out of state would improperly expand the scope of CEQA. While the comment correctly notes that the Project site is in the State of California, the emissions the comment requests be included would not be in the state and would thus be outside the scope of a CEQA analysis.

Response to Comment E4SS-4:

The comment contends that the Draft EIR fails to fully analyze GHG emissions generated by OGVs because the EIR only calculated GHG emissions from the state's overwater boundary, approximately 178 nautical miles from the Port of LA. The comment concludes by stating that the EIR fails to make the "good-faith effort" to describe emissions as required by "Code of Regs, tit. 14, §15064.4."

For the same reasons as described in the responses to comments E4SS-2 and E4SS-3, the Draft EIR properly tailored the scope of GHG emissions generated by OGVs by calculating those generated within CARB's California over-water boundary off the coast, which equates to a maximum one-way transit distance of 178 nautical miles, and is 130 nautical miles beyond the Southern California Air Basin (SCAB) over-water boundary (DEIR, pp. 3.5-17, 3.5-14). As such, the comment's suggested revision—i.e., to calculate all emissions generated by OGVs during their entire voyage—would improperly expand the scope and jurisdiction of CEQA and would require an analysis that is too speculative and difficult to predict. Furthermore, while Asia or Mexico could be likely points of origin for OGVs transporting GBFS in the near future, it would be speculative to assume that they will continue to be so throughout the life of the Proposed Project.

Response to Comment E4SS-5:

The comment states that the Draft EIR's failure to disclose the Proposed Project's full GHG inventory by ignoring GHG emissions from OGV activity beyond the state boundaries are misleading, particularly given that the Draft EIR asserts the Project would, overall, help reduce GHG emissions (DEIR, Section 3.5.2, p 3.5-3).

As described above, a complete GHG emissions inventory that accounts for out-of-state emissions generated by foreign OGVs is not required by CEQA, nor feasible due to the speculative nature of the OGVs that would service the Project, their proposed routes, their points-of-origin, and other extenuating factors that would be necessary to estimate their GHG emissions accurately.

Furthermore, the Draft EIR does not take credit for emissions reductions attributable to replacing a fraction of the Portland cement in California's construction industry with GGBFS. As discussed below, the Draft EIR's statements in Section 3.5 regarding the Proposed Project's potential GHG benefits are provided for context: the actual GHG calculations in Section 3.5 include only the emission sources involved in transporting,

processing, and distributing the raw materials and finished product and do not include the benefits of the use of the product throughout the region. Accordingly, the comment's implication that the Draft EIR is improperly taking credit is incorrect.

The Draft EIR's statements regarding the overall benefit to California in terms of GHG emissions are based on the difference between the GHG emissions generated by the traditional Portland cement industry and the GHG emissions associated with GGBFS . The Draft EIR explains that Portland cement production results in high GHG emissions, accounting for upwards of 2% of CO_2 emissions in California (DEIR, p. 3.5-3). Any substitute for traditional Portland cement that results in lower GHG emissions would benefit California by reducing the State's overall GHG emissions and by helping the State reach its GHG emissions reductions goals, all while supplying a highly-sought-after resource that fundamentally supports the State's building and construction industry.

Whether imported from abroad or produced in the region, Portland cement's thermal energy consumption, and therefore its GHG footprint, is substantially greater than that of GGBFS (DEIR Table 2-1; see also DEIR, pp. 3.5-3–3.5-4). As such, once imported and produced, the GGBFS material created by the Project's operations would result in an overall net reduction in GHG emissions with respect to cement or cement-type products (DEIR, p. 3.5-9 [CARB's 2022 Scoping Plan specifically mentions blending with low-carbon materials as an opportunity to reduce GHG emissions generated by the cement industry].) Accordingly, substantial evidence supports the Draft EIR's statements regarding the overall net-GHG benefits of the Proposed Project.

Response to Comment E4SS-6:

The commenter contends that the Product Import Terminal Alternative (Alternative 3) is not a valid Project Alternative because it does not meet any of the Project's objectives and describes an entirely different Project than the one proposed.

The Draft EIR's Alternatives chapter (DEIR, Ch. 5) analyzes each Project Alternative, including whether and how they will achieve the Proposed Project's objectives. For the Product Import Terminal Alternative (Alternative 3), the Draft EIR explains that the Product Import Terminal would not process any of the raw materials into the final GGBFS finished product—instead, the GGBFS finished product would come from overseas by vessel. The finished powder product produced overseas would be transported by ocean-going bulk vessels to Berth 191, where it would be off-loaded to storage silos by the vacuum conveyor system, stored onsite, and then loaded onto customer trucks (DEIR, p. 5-3).

Accordingly, the commenter's statement that the Product Import Terminal Alternative (Alternative 3) would import 775,000 MT per year of Portland cement is incorrect – Alternative 3 calls for importing finished GGBFS product, along with other cementitious products that are typically handled by other cement import terminals, such as Portland cement, fly ash, ground natural pozzolan. Thus, although this alternative would likely supply lower quantities of low-carbon binder, it would still nevertheless import some finished GGBFS product, and would also achieve the Project's objectives of: providing storage capacity for the rapid unloading of bulk ships delivering raw materials and for loading product on bulk tanker trucks; being located near the center of the Southern California market to reduce traffic burden, road wear, and energy requirements associated with truck transport of product; providing necessary import capacity for an

environmentally sustainable product; and facilitating the future development of improved low-carbon, high performance binders.

For these reasons, the Product Import Terminal Alternative (Alternative 3) is a legally adequate CEQA alternative because it is feasibly able to attain most of the basic Project objectives.

Response to Comment E4SS-7:

The comment points out that the Draft EIR did not include any discussion of water quality impacts, cites regulations promulgated by the Los Angeles Regional Water Quality Control Board, and states that the Draft EIR did not adequately characterize the chemical content of GBFS, particularly with respect to heavy metals for which Harbor waters are listed as impaired.

The comment correctly points out that the Draft EIR did not include a separate analysis of water quality. This is because, as the Draft EIR (p. ES-8) states, "the scope of this Draft EIR was established **based on the NOP issued by LAHD**…and on the comments received by [sic] agencies and the public" [emphasis added]. LAHD established the scope of the Draft EIR in accordance with the process in CEQA Guidelines Section 15063, which indicates that one of the purposes of an Initial Study is to focus the EIR on the effects determined to be significant, Section 15064, which outlines the process for determining potential significance, and Section 15143, which states, "effects dismissed in an Initial Study as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless the Lead Agency subsequently receives information inconsistent with the finding in the Initial Study." None of the comments received on the IS/NOP presented any substantial evidence suggesting that water quality issues were of concern; accordingly, the Draft EIR was not required to consider water quality.

The IS/NOP thoroughly analyzed the potential for significant impacts to water quality from implementation of the Proposed Project, including particulate matter releases from construction and operation and changes in runoff patterns (DEIR, Appendix A, pp. 43–45 [Section 6.9], pp. 47–50 [Section 6.10]). It concluded that with the proposed stormwater and erosion controls; compliance with the Construction General Permit and the Industrial General Permit (including the City's Low Impact Development requirements), the Los Angeles Regional Water Quality Control Board's Waste Discharge Requirements and the Section 401 Water Quality Certification, the USEPA's Vessel General Permit, and the USACE's Section 10 construction permit); and the nature of the GBFS raw material, potential impacts on water quality would be less than significant. Accordingly, consistent with CEQA Guidelines Section 15143 ("Effects dismissed in an Initial Study as clearly insignificant and unlikely to occur need not be discussed further in the EIR"), that issue was not considered in the Draft EIR.

The various Harbor water quality designations that the commenter cites, including various measures from the LARWQCB's Basin Plan, only apply in instances where substantial evidence shows that substantial pollution would reach Harbor waters. Here, however, the IS/NOP explained that the Project would not significantly and adversely pollute Harbor waters (DEIR Appendix A, pp. 43–45 [Section 6.9], pp. 47–50 [Section 6.10]). The Draft EIR concluded, based on substantial evidence, that the controls incorporated into the Proposed Project, including dust control measures and stormwater management and treatment measures consistent with the City's stormwater program requirements, would minimize the potential for trace metals to be mobilized and come into contact with Harbor waters in a manner that would adversely impact water quality. Therefore, the Proposed Project would not trigger application of the various regulatory

water quality measures cited by the comment and the commenter does not present any substantial evidence that disputes this conclusion.

The comment suggests that the chemical composition of GGBFS presented in the Draft EIR might not be representative of the Proposed Project's imported material. However, the Draft EIR's statement (p. 2-9) that the composition from load to load varies "somewhat" (rather than "substantially" or "considerably") is a reasonable characterization of the material and does acknowledge a degree of variability in its composition. The comment does not provide evidence that GBFS varies substantially in its composition.

The comment's statements regarding the heavy metal content of slag (with postulated impacts on water quality) appear to be based on a misunderstanding of the nature of GBFS. The study cited by the comment (Sas et al. 2015) concerns "steel slag", a material quite different from GBFS. Steel slag is produced by converting iron into steel, as (Sas et al. 2015) stated, in a basic oxygen furnace or an electric arc furnace. The blast furnace, on the other hand, is used to convert mined iron ore into metallic iron; the resultant slag is called blast furnace slag, which can be granulated, a beneficiation process done by quenching with water. They are different processes that produce slags with very different chemical compositions. Importantly, the production of steel involves the addition of carbon and various metals, including zinc and chromium, which may appear at elevated concentrations in the resultant steel slags. Iron production, by contrast, results in slags with compositions resembling that presented in the Draft EIR (Table 2-2) and in relevant safety data sheets (available upon request). Accordingly, the metal concentrations reported in Sas et al. (2015) and cited by the comment as evidence that the EIR under-reported metal concentrations in GBFS are not relevant to the Proposed Project.

The comment's characterization of the Proposed Project's best management practices (BMPs) and other control measures as a recognition of potential water quality risks because those measures "are functionally mitigation measures" is not consistent with CEQA guidance. CEQA allows lead agencies, such as the Port, to rely on generally applicable regulations to conclude an environmental impact will not be significant and therefore does not require mitigation; doing so does not improperly defer creation or imposition of mitigation. That principle applies here. The stormwater and dust control measures included as part of the Proposed Project (and described in the IS/NOP [DEIR, Appendix A, p. 48-49] and in the Draft EIR [Section 2.5.3; Section 3.1.3]), along with the permits that the Project must secure before construction can commence, are a combination of industry-standard measures and features designed to respond to the basic requirements of the City of Los Angeles' stormwater programs, the State of California's stormwater permits, and the Clean Water Act's NPDES permits (DEIR, Section 3.2.22, p. 3.2-26). Accordingly, they are not "functionally mitigation measures," but rather elements of the Proposed Project; accordingly, the level of detail presented in the DEIR is appropriate. The LAHD requires through the BMPs that every facility that handles cement incorporate extensive dust controls in order to comply with SCAQMD rules regarding particulate emissions (e.g., Rule 403 that regulates man-made fugitive dust and includes control measures), and most open stockpiles include provisions for periodic watering and runoff controls. Thus, the CEQA review adequately addressed the Proposed Project's potential impacts to water quality.

Response to Comment E4SS-8:

The commenter contends that, for prior projects, the Port has included in its EIRs an analysis of "hazardous and hazardous materials" if the project in question involved excavating soils contaminated by hazardous materials. Given this, the commenter argues that the EIR does not include information that is normally contained in an EIR's discussion of hazardous materials, including what types of contaminants are present at the Project site, along with their concentrations or potential threat to human health of the environment.

The Draft EIR addressed resources that were identified in the IS/NOP as potentially affected by the proposed action; resources that would not be affected, as evaluated in the IS/NOP, were not analyzed in the Draft EIR, consistent with CEQA guidance (CEQA Guidelines § 15143).

For the Proposed Project, the potential risks posed by site contamination have been evaluated in the course of the CEQA process as follows: the IS/NOP (DEIR, Appendix A), prepared using the criteria in CEQA Guidelines Appendix G, concluded that, given the nature of the Proposed Project and the standard controls that would be required by the construction permits, impacts related to encountering contaminated soil and, possibly, groundwater during excavation and grading activities would be less than significant without mitigation (IS/NOP Section 6.9 [DEIR, Appendix A, pp. 43–44]). As explained more fully in the IS/NOP and in the Responses to Comments DTSC-1 and DTSC-2, the Proposed Project's construction and operational activities would conform to the Soil Management Plan prepared for the Project (FEIR Appendix E) and to the requirements of the permits that the Project applicant would be required to obtain, including the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific Storm Water Pollution Prevention Plan (SWPPP). Those permits would require that Project construction and operation adhere to standard BMPs to minimize runoff of contaminations and clean-up any spills, including, but not limited to: controls for vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and solid and hazardous waste management. Similarly, contamination at most of the Project site does not currently exceed regulatory limits, particularly for detected levels of diesel-range petroleum hydrocarbons, volatile organic compounds (VOCs), and selected heavy metals; but the Project would still install all appropriate structural vapor control measures, such as impermeable membrane, passive venting, and paving, to reduce any risks to operational on-site workers (Appendix. A, p. 44.) To this end, prior site-specific health risk analyses concluded that concentrations of these contaminants did not pose significant risks or hazards to off-site receptors.

Given the controls that would be in place, as described above, construction and operation of the Proposed Project would not create a significant hazard to the public through routine use, transport, or disposal of hazardous substances, and impacts would be less than significant without mitigation. Accordingly, the Draft EIR was not required to include a section analyzing the Proposed Project's potential impacts to hazards and hazardous materials because the Proposed Project would not have potentially significant and unmitigated impacts to those resource areas. The LAHD notes that the other EIR cited as an example by the comment (for the Al Larson Boat Shop Improvement Project [SCH No. 2010091041]) was prepared more than 10 years ago for a different type of project with different site conditions, and is thus not relevant to the proposed Orcem project.

As to the comment's statement that the Draft EIR did "not reveal what types of contaminants are present at the Project site," the Draft EIR disclosed the types of contaminants likely to be encountered ("heavy metals, petroleum hydrocarbons, and volatile organic compounds"). The Draft EIR references site assessment studies (i.e., Leighton 2018, EnviroTox 2018) that disclose the levels of site contamination and their threat to human health and the environment; those studies were part of the Draft EIR, by reference, and are available on request (DEIR, Appendix A, p. 44; DEIR, pp. 2-13–2-14). In summary, the site assessments determined that existing contamination at the Project site largely does not exceed regulatory limits and that contamination above those limits poses no significant risk or hazard to off-site receptors, while any potential risks to on-site workers would be localized and could be addressed by structural vapor control measures (DEIR, Appendix A, p. 44; DEIR, p. 2-13). Contaminated groundwater beneath the Project site is also not expected to pose a risk to the public or workers due to the minimal potential for exposure during construction and operation (DEIR, Appendix A, p. 44; DEIR, p. 2-13). Finally, contaminated soils encountered during construction would be tested and managed in accordance with standard removal and treatment/disposal protocols and the guidance of the project-specific Soil Management Plan (DEIR, Appendix A, p. 44; DEIR, pp. 2-13–2-14; FEIR Appendix E).

For these reasons, given the controls that would be in place and imposed as required permit conditions and BMPs (described above), construction and operation of the Proposed Project would not create a significant hazard to the public through routine use, transport, or disposal of hazardous substances, or through reasonably foreseeable accidental or upset conditions; therefore, impacts would be less than significant. The CEQA review process adequately addressed hazardous materials that may be encountered during construction.

Response to Comment E4SS-9:

The comment states that the Draft EIR's air quality analysis omits critical data and employs flawed methods. In particular, the commenter identifies three "main areas" that contribute to the analysis' defects, including: (1) the omission of critical emissions data; (2) the reliance on inconsistent and flawed methodologies to calculate emissions and pollutant concentrations; and (3) material discrepancies and inconsistencies among the Project Description, the EIR's air quality analysis, and the supporting appendices. The commenter repeats these points in more detail in subsequent paragraphs, which have been designated as individual comments and for which detailed responses are provided.

As to the first "main area," the comment contends that the EIR omits: emissions data for toxic air contaminants (TACs); calculations for certain stationary source emissions; VOC emissions for grinding aids; emissions data for harbor craft; supporting data for plume rise assumptions; vehicle emission contributions for toxic air contaminants; and support for an exclusion of fugitive dust from the health risk assessment. Please see Responses to Comments E4SS-12 (TAC data); E4SS-16, ES4SS-17, and E4SS-18 (stationary source data); E4SS-19 (VOC emissions), E4SS-13 and E4SS-23i (harbor craft emissions); E4SS-23vi (plume rise assumptions); E4SS-12 and E4SS-23iii (vehicle TAC emissions), and E4SS-25 (fugitive dust in the HRA).

As to the second "main area," the commenter contends that the Draft EIR relied on inconsistent and flawed methodologies, including: reliance on incorrect emissions factors to calculate electricity use; use of flawed methods to evaluate particulate matter (PM) emissions; use of incorrect emissions factors to assess paved and unpaved road travel; use of unsupported emission factors for the dryer that likely underreports NOx and CO;

failure to follow federal standards to assess $PM_{2.5}$ emissions; inaccurately characterizing haul road emissions; failing to use accurate meteorological data; and failing to follow EPA guidance to evaluate background pollutant concentrations. Please see Responses to Comments E4SS-11 (electricity generation emission factors); E4SS-23ii and E4SS-24 (PM emissions methodology); E4SS-14 (road use emissions factors); E4SS-17 and E4SS-18 (dryer emissions); E4SS-23ii ($PM_{2.5}$ methodology); E4SS-23iv (haul road emissions); E4SS-8 and E4SS-23vii (meteorological data); and E4SS-23vii and ix (background pollutant concentrations methodology).

As to the third "main area," the commenter states that material discrepancies and inconsistencies exist amongst the Project Description, Air Quality analysis, and EIR appendices, including: discrepancies in the emissions calculations for harbor craft and OGVs, which may result in underreporting of NOx emissions; use of erroneous heat limits for the dryer; inconsistent gas usage for the dryer; discrepancies in the analysis of road dust from vehicle travel; inconsistencies in the level of stockpile activity; inconsistencies between the amount of fuel used and the hours equipment is used; inconsistencies in the release temperature for grinding dryer/mill exhaust; inconsistencies between the Project Description and the temporal distribution of emissions; inconsistency between the heavy metals listed for GBFS and gypsum; and inaccuracy in the reference exposure levels in the appendices.

While it is unclear which portions of the Project Description, Air Quality analysis, or appendices these "inconsistencies" refer to, each portion of the Draft EIR consistently conveys and accurately reports all calculations from the supporting air quality studies and analyses. In particular, please see Responses to Comments E4SS-13 and E4SS-15 (harbor craft and OGVs); E4SS-18 (dryer heat limits and gas usage); E4SS-20 (road dust); E4SS-21 (stockpile activity); E4SS-22 (equipment activity and fuel use); E4SS-23v (dryer exhaust temperature); E4SS-23viii (temporal distribution of emissions), E4SS-28 (heavy metals in GBFS and gypsum); and E4SS-31 (reference exposure limits).

Response to Comment E4SS-10:

The comment identifies discrepancies in the Draft EIR's technical analysis and Appendix B1 calculations regarding the Proposed Project's global warming potentials (GWP).

The comment correctly notes discrepancies in the GWP values presented in Section 3.5 and Appendix B1 of the Draft EIR. Although the description of the greenhouse gas pollutants in Section 3.5.3 was intended purely as contextual information, the global warming potential values and note 7 in the Conversion Factors and Constants table of Appendix B1 (p. B1-110) have been updated in the FEIR to reflect the analysis performed in Section 3.5. The calculation of GHGs did not use the SCAQMD GWP values referenced in Appendix B1, but rather used the IPCC 6th assessment values, which are more up-to-date than the SCAQMD values. The calculation of dryer emissions has been updated to use the IPCC 6th assessment GWP values, and Table 3.5-2 has been revised accordingly. LAHD notes that the change is insubstantial (1 metric ton per year), as methane and nitrous oxide emissions would be a minute fraction of total GHG emissions.

LAHD notes that the text in Section 3.5.3 is informational only, and these updates and revisions do not change the Draft EIR's methodology or impact determinations.

Response to Comment E4SS-11:

The comment states that the Draft EIR used inaccurate GHG emission factors from USEPA eGRID data instead of using emissions factors from Los Angeles Department of Water and Power (LADWP) for GHG emissions from electricity generation.

The comment is correct that use of LADWP factors in the Draft EIR would have resulted in higher estimates of the Proposed Project's total GHG emissions in early years. The difference would not have been considerable: LAHD notes that the LADWP factor for the year 2021 of 609 pounds of CO_2 per MWH (megawatt-hour), is approximately 15% higher than the 2021 eGRID value of 532 lbs CO_2/MWH. Furthermore, LADWP projects zero GHG emissions by 2035 (LADWP 2022 – Power Strategic Long-Term Resource Plan, p. 4-63). As a result, in its later years the Proposed Project would have zero GHG emissions from electricity consumption, rather than the 93 metric tons predicted by the DEIR for 2049 (DEIR Table 3.5-2).

In the early years of the Proposed Project, however, electricity use could constitute a substantial fraction of total GHG emissions (e.g., in DEIR Table 3.5-2, nearly one-third of the GHG emissions in Year 2027 would result from electricity generation). Accordingly, given that the LADWP emission factor in 2027 is higher than the eGRID value for that year, the use of the LADWP factor would result in an increase compared to the amount shown in the Draft EIR (from 6,261 to 7,171 metric tons). That would translate to an insubstantial increase (approximately 4 percent) in the Proposed Project's total GHG emissions. In any case, the Draft EIR's significance conclusion, i.e., that the Proposed Project's GHG emissions would represent a significant impact, would be unchanged. LAHD has revised Table 3.5-2 in the FEIR to incorporate the LADWP 2021 emission factor and apply the NREL projections of future emissions reductions. This approach results in GHG emissions in 2049 of 107 metric tons rather than the zero forecast by LADWP, and thus represents a conservative estimate.

Response to Comment E4SS-12:

The comment states that the Draft EIR fails to adequately disclose TACs from construction and operation of the Project due to discrepancies or inconsistencies with the supporting analysis and due to use of incorrect or unsubstantiated data.

The Draft EIR contains the information, including data, assumptions, and modeling methodology, necessary to calculate TACs for input into the models used in the analysis. Appendix B1 reported the total particulate matter (PM) and volatile organic compounds (VOC) emissions, Appendix B2 reported the dispersion modeling methods and results, and Appendix B3 reported the profiles that were used to speciate (i.e., determine the relative concentrations of the various TAC components) the total PM and/or total VOC/total organic gases (TOG) emissions from all relevant sources (not just the dryer emissions) into individual TAC. The TAC emissions for each source can be calculated using the total PM or total VOC/TOG emissions and appropriate speciation profiles which provide the weight fractions of the individual TACs included in the PM or total VOC/TOG emissions. This calculation followed the standard methodology recommended in the Hot Spots Guidance and was implemented in the Draft EIR HRA databases. The detailed methodology and procedures of this step are not described in the EIR, as it is not LAHD's (or most other lead agencies') practice to provide step-by-step details of the HRA analyses, though they are available upon request. In the HRA analysis, health risks were calculated based on the annual average or 1-hour maximum TAC concentrations using the emissions, source-specific dispersion factors, and matching speciation profiles directly.

Details of the inputs, queries used, and the outputs in the HRA databases were submitted to the SCAQMD on October 13, 2023, and that agency has not indicated that it considers the analyses flawed in any way. The TAC concentrations and risk calculations can be verified either in the Draft EIR HRA databases submitted to the SCAQMD and available on request or outside the Draft EIR HRA databases using the input tables (emissions, dispersion factors, speciation profiles, toxicities, and exposure intake factors, etc.) provided in the databases. Accordingly, the Draft EIR provides adequate information to allow the public to conduct independent analyses.

For more information on how the HRA analyzed potential impacts from TACs, please see Response to Comments CESPNC-3, CFASE-11, and CFASE-12.

Response to Comment E4SS-13:

The comment states there are discrepancies between the diesel particulate matter (DPM)/PM_{10} to $PM_{2.5}$ scaling value used between construction and operational emission values for harbor craft emissions.

The comment is accurate to the extent that the source notes three different ratios. However, the table titled "Correction Factors" on page B1-60 of the Draft EIR confirms that the 92% value sourcing CARB's OFFROAD model was used consistently for the analysis (the statement on p. B1-60 that 89% was used is erroneous, and the FEIR has been revised to correct that error). The OFFROAD model is appropriate for the analysis because it represents more recent guidance than the CARB emissions inventory that the comment cites and is more specific to harbor craft. LAHD notes that the difference between 92% and 95.6% for the harbor craft source is small, relative to total project emissions, as changing the emissions of harbor craft by 3.6 percentage points would result in a negligible change in total emissions and in the severity of the impact and would therefore not change the impact determination.

Similarly, although the comment notes apparent inconsistencies with the harbor craft (HC) inputs, the comment is inaccurately comparing the Draft EIR's values to the Port of Los Angeles 2022 Emissions Inventory (EI). The 2022 EI had not been prepared or released when the Draft EIR was being prepared; therefore, the Draft EIR's values are accurately sourced from the Port of Los Angeles' 2021 EI, as those values were the most up to date data at the time of the analysis. CEQA does not require that an EIR be constantly updated, but instead, it need only rely on the best information available at the time it is prepared.

For more information on the Draft EIR's methodology for analyzing emissions from engines, please refer to Response to Comment SCAQMD-1, SCAQMD-2, and SCAQMD-3.

Response to Comment E4SS-14:

The comment states the mean vehicle weight used in the analysis should consider the weighted average of vehicle weight and distance traveled.

CARB's Entrained Road Travel Methodology Summary from March 2021 indicates the average vehicle fleet weight is based on the vehicle count with no account of the distance traveled per vehicle type. The Draft EIR's analysis did take into account vehicle weight as a weighted average. As stated in Appendix B1 on page B1-56, "Average weight of vehicles traveling on site during construction was estimated by the number of trips on site for the different vehicle classes (LDA, LDT1 and T7) and their weights." The analysis assumed an on-site trip length of 0.1 miles per visit for all vehicle classes. Accordingly,

the method used in the Draft EIR is appropriate and consistent with the guidance in AP-42 (to which the comment cites).

Response to Comment E4SS-15:

The comment contends that there is a discrepancy between the 2021 POLA Emissions Inventory and the Draft EIR's selection of oceangoing vessel (OGV) engine tier under the Proposed Project and the Reduced Project Alternative. In particular, the comment argues that the Draft EIR does not provide evidence to support the claim that OGV engines would be 50% Tier 2 and 50% Tier 3 beyond the informational statement provided by Orcem's vessel fleet operator.

The OGV tier levels used in the Draft EIR calculations were provided by Ecocem and reflect that company's knowledge of the vessel fleet that would deliver GBFS to the Project site in the near future (because the composition of the vessel fleet farther in the future is speculative [see Response to Comment E4SS-1 and E4SS-2], the air quality calculations assume that fleet composition for the life of the project). The POLA 2021 EI values are based on the general bulk carrier fleet, not on the subset of that fleet that would service the Proposed Project. Accordingly, the emissions factors used in the Draft EIR for OGVs serving the Proposed Project are appropriate and no revision of the FEIR is required.

Response to Comment E4SS-16:

The commenter contends that the EIR omits emissions calculations results from numerous emission unit tables, including those from Storage and Loading Silos, Fuel Combustion at the Dryer, from the Grinding Mill, and from Material Handling.

The emissions calculations that the comment refers to (i.e., storage and loading silos on page B1-109, emissions from fuel combustion at the dryer on page B1-110, emissions from the grinding mill on page B1-111, and emissions from material handling of GBFS and gypsum on page B1-112) were presented in the summary table on pages B1-124 to B1-140 and in Section 3.1 of the Draft EIR. Accordingly, the Draft EIR adequately discloses all requisite information which allows for informed public review and decision-making.

Response to Comment E4SS-17:

The commenter contends that the EIR may underreport NOx and CO emissions based on a recent Best Available Control Technology (BACT) determination that was performed for a similar aggregate dryer unit. Based on this determination, the commenter argues that NOx emissions could be 2x higher and CO emissions could be 15x higher for than estimates provided for the dryer in the Draft EIR.

The September 2, 2022, BACT determination cited in the comment was for a granite dryer rated at 135 MMBtu/hr and is from Part B of the SCAQMD BACT Guidelines, which are Lowest Achievable Emission Rate (LAER)/BACT determinations for major sources. Because the Proposed Project would not be a major source, as defined in SCAQMD Rule 1302(s), BACT determinations are appropriately referenced from Part D of the BACT Guidelines for Non-Major Polluting Facilities (i.e., compliance with Rule 1147 and natural gas for sulfur dioxide (SO_x) and PM_{10} [rotary dryer for Rev. 2 2-1-2019]).

Response to Comment E4SS-18:

The commenter contends that the EIR uses inconsistent dryer emissions. In particular, the commenter states the proposed monthly heat input limit of 11,000 MMBtu per month

does not relate to the proposed annual heat input limit of 195,000 MMBtu per year once fully operational in calendar year 2027.

The annual average emissions from the dryer were calculated based on hourly emissions (i.e., the average hourly heat input and emission factor) and the normal operating schedule (i.e., 24 hours per day, 7 days per week, and 45 weeks per year). The daily emissions were calculated as the maximum rated heat input capacity and maximum operating schedule (i.e., 24 hours per day). Therefore, the monthly heat input limit and annual heat input limit on page B1-110 of Appendix B1 were not the basis of the annual and daily emissions on page B1-108. The annual operational energy usage in Table 3.3-4 is equivalent to the energy usage that is basis for the annual average emissions (i.e., the average hourly heat input and the normal operating schedule as presented on page B1-110). Table 3.1-3 presents a maximum natural gas dryer fuel consumption whereas Table 3.3-4 presents the annual average energy from natural gas at the dryer. The daily and annual emissions from the dryer are the same on page B1-108 and B1-134. The values in Table 3.3-4 present the operational assumptions of the Proposed Project and are the basis of the emission calculations and input to dispersion modeling.

Response to Comment E4SS-19:

The comment states that grinding aids, which typically include organic compounds, are used at grinding mills to increase grinding efficiency and reduce energy consumption. Based on this, the commenter argues that the EIR fails to take into account VOC emissions from the Proposed Project's use of grinding aids that would likely be used at the mill, thus resulting in potential underreporting of air quality impacts.

The Draft EIR does not underreport air quality impacts. With respect to VOCs, the Proposed Project would not use grinding aids, such as the VOCs referenced by the commenter. Accordingly, there would be no VOC emissions from those aids, and the Draft EIR does not underreport air quality impacts related to VOC emissions.

Furthermore, the Draft EIR explained that "All dust generated within the mill building (e.g., bucket elevator, air slides, etc.) and the GGBFS material transfer to and from silos (e.g., bucket elevator, air slides, etc.) would be captured by filters. In other words, based on closed loop project design and filter efficiency, there would be no dust emissions from these particular sources that do not go through a filter." (DEIR, p. 3.1-31.) Appendix B1 further explains: "PM_{10} and $PM_{2.5}$ emissions from the electric grinding mill were calculated based on a manufacturer guarantee for the filter specification (i.e., 2.5 mg/Nm3 on dry basis). The average and maximum exhaust flow rate as well as temperature were based on the project design. The PM emissions were assumed to have 100% capture efficiency due to pneumatic conveyance from the mill to the process bag filter." (DEIR, Appx. B1, p. B1-34.)

Response to Comment E4SS-20:

The comment states that the EIR underreports entrained road dust emissions, arguing that there is a discrepancy in the EIR's methodology for estimating entrained road dust construction emissions compared to estimating the entrained road dust operation emissions. In particular, the comment states that the EIR fails to consider the road surface silt loading specific to LA and Orange Counties, fewer rainfall days per year, and heavier average vehicle weights for onsite vehicles traveling the road from the delivery/customer heavy duty trucks, like it did for construction emissions.

The silt loading factor, defined as the mass of silt-sized material per unit area of travel surface (EPA, AP-42, Section 13.2.1), would be expected to differ between different road

types (e.g., onsite versus offsite). The vehicle weight would be expected to differ between construction and operation, since different vehicles would be utilized for these different phases as listed in Appendix B1. The annual rainfall days for onsite operation were referenced from Table 5 of CARB's Miscellaneous Process Methodology 7.9. Entrained Road Travel, Paved Road Dust, which provides the rainfall days for each of the counties in the Los Angeles region. Accordingly, the analysis was appropriate to the conditions of the Proposed Project, and no revision of the FEIR is needed.

The onsite entrained road dust emissions from unpaved roads were based on operational silt loading values with a rationale provided on page B1-116 in Appendix B1 (i.e., the silt loading factor was referenced from AP-42 Table 13.2.2-2 for iron and steel production (mean) since these are the onsite conditions associated with operational onsite unpaved roads). The onsite entrained road dust emissions from paved roads were based on operational silt loading values with rationale provided on pages B1-117 to B1-123 (i.e., the silt loading factor was referenced from Table 3.c.3. of California Air Resources Board Miscellaneous Process Methodology 7.9. Entrained Road Travel, Paved Road Dust published in March 2021 for local road type for California.

The rationale for the selection of the operational vehicle weights was cited on page B1-116 as follows: "Operating weight was based on specifications for CAT 336 in an email received on June 7, 2022. Operating weight includes 90% fuel tank and 165 lb operator, as referenced from Technical Specifications for 336 Hydraulic Excavator from the Caterpillar website." On pages B1-117 and B1-119, the rationale for the selection of the operational vehicle weights was cited as follows: "Operating weight was based on specifications for CAT 972M in an email received on June 7, 2022. Operating weight includes tires, full fluids, operator, standard counterweight, ride control, cold start, fenders, axles, power train guard, secondary steering, sound suppression and 4.8 m3 bucket, as referenced from Technical Specifications for 336 Hydraulic Excavator from the Caterpillar website." The rationale for the selection of the operational vehicle weights was cited on page B1-121 as follows: "Vehicle weight was assumed to be equal to Toyota 80V electric pneumatic forklift with up to 17,500 lb. capacity. The weight of the forklift was assumed to be 20,000 lbs. The weight accounts for travel with load and no load." The rationale for the selection of the operational vehicle weights was cited on pages B1-122 and B1-123 as follows: "Based on Ecocem correspondence received February 28, 2022, with load."

Response to Comment E4SS-21:

The comment contends that the EIR underreports emissions from the Proposed Project's stockpiles, as based on the criteria and methodology relied on from USEPA's AP-42, Chapter 13.2.5.

USEPA AP-42 Chapter 13.2.5 provides the most appropriate basis for the calculation of stockpile emissions for the Proposed Project. While the median grain size of GBFS is less than 1 centimeter (DEIR, p. 2-9), the use of AP-42 Chapter 13.2.5 takes into account that GBFS forms a crust that is not easily disturbed (i.e., "nonerodable") and that the stockpile would have a high water content due to frequent watering. These features would substantially limit particulate matter emissions from wind erosion, making the surface act more like gravel than sand. The additions/removals would be intermittent (not continuous) because the stockpile formation and removal processes would not occur 24 hours per day, 7 days per week, 52 weeks per year, but would instead fluctuate with vessel arrivals and mill activity levels (DEIR Section 2.5.3.5).

The emissions from the formation of the stockpiles and removals from the stockpile were provided in the material handling calculations. Material handling daily and annual emissions were provided in the "Material handling" rows on page B1-108 of Appendix B1 and the associated calculations were presented on pages B1-112 to B1-113. The stockpile wind erosion emissions were provided on page B1-108 in the "GBFS Storage Pile" and "Gypsum Storage Pile" rows, with the associated calculations on pages B1-114 and B1-115.

Erosion potential was calculated using USEPA's AP-42, Chapter 13.2.5. Equation 3 for a dry, exposed surface with limited erosion potential. Erosion potential is equal to zero when the friction velocity is less than or equal to threshold friction velocity. The friction velocity is greater than the threshold friction velocity two days per month. Friction velocity was calculated using USEPA's AP-42, Chapter 13.2.5. Equation 4 for a large, relatively flat pile or exposed area with little penetration into the surface wind layer and a height-to-base ratio less than or equal to 0.2. The emission factor was calculated using USEPA's AP-42, Chapter 13.2.5. Equation 2 for each disturbance period for wind-generated particulate emissions. The stockpiles would be frequently watered and enclosed on three sides to control emissions.

In AP-42, on page 13.2.5-2, the emission factor is stated to be calculated on an annual basis in units of measure of grams per square meter per year based on the particle size multiplier multiplied by the sum of the erosion potential corresponding to the observed or probable fastest mile of wind for the period between disturbances. On pages B1-114 to B1-115 of DEIR Appendix B1, the daily emissions were based on the maximum daily emission factor and the annual emissions were calculated as the average hourly emissions multiplied by the annual operation schedule. The annual emissions are greater than the maximum daily controlled emissions (i.e., 0.09 lbs PM_{10} per day for GBFS multiplied by 7 days per week and 52 weeks per year equals 33 lbs PM_{10} per year for GBFS; i.e., 0.004 lbs PM_{10} per day for gypsum multiplied by 7 days per week and 52 weeks per year equals 1.31 lbs PM_{10} per year for gypsum). This approach would be a continuous disturbance (i.e., daily; for a surface disturbed daily, N = 365 per year). Therefore, the annual emissions were conservatively calculated. These calculations are for the wind erosion of stockpiles (i.e., Ap-42 13.2.5 Industrial Wind Erosion on DEIR pages B1-114 to B1-115). The calculations for the material handling are presented on DEIR pages B1-112 to B1-113.

Accordingly, the stockpile emissions calculations are consistent with regulatory guidance and are not underreported, and no revision of the EIR is necessary.

Response to Comment E4SS-22:

The comment notes that the EIR underreports front end loader and excavator emissions. The commenter also states that the EIR fails to provide calculations demonstrating that the identified amount of fuel is sufficient for the hours needed to work.

The activity values provided in the Draft EIR are consistent and appropriate given that, during Project operations, only two off-road vehicles would be operating, one of them only 4 hours per day. These operational details were provided by the Project proponent and are presented in Section 6.1 of Appendix B1 of the Draft EIR; fuel consumption was calculated using engine data from the OFFROAD2021 EI model output by vehicle category and model year and by factoring in the vehicle activity levels. Briefly, gallons/hour were calculated using the fuel consumption and horsepower hours from OFFROAD2021 EI model output by vehicle category, model year, calendar, year, and

region. Those factors, paired with the low annual use of the equipment, account for the small fuel consumption value.

Response to Comment E4SS-23:

The commenter summarizes Appendix B2 of the Draft EIR, which contains the air dispersion modeling analysis of specific criteria pollutants associated with the Proposed Project and Alternatives. Based on the provided summary, the commenter identifies a list of "notable assumptions or conclusions in the EIR that are deficient."

Individual responses to each list item identified by the commenter are provided below:

i. The comment contends that the EIR fails to justify the harbor craft emission assumptions in Draft EIR Appendix B2 of 10% of time on site and 90% off site.

The comment is correct that the assumptions in Appendix B2 may underestimate harbor craft on-site activity. However, those assumptions are only relevant to the Localized Significance Threshold (LST) screening analysis, which is performed to determine whether modeling is necessary for dispersion analysis. That screening analysis showed that modeling was necessary because emissions of NO_x and PM exceeded the thresholds (DEIR Appendix B2 Table B2-1). Use of more conservative assumptions (i.e., a higher percentage of activity on site) would not have changed any of the conclusions of the screening analysis.

For calculating emissions of criteria pollutants and TACs, the Draft EIR's assumptions regarding operational-phase harbor craft (i.e., tugboat) activity are consistent with LAHD practice in CEQA documents and are presented in Draft EIR Appendix B1 (Section 5.2 and pp B-104-B-106). The emissions calculations include the harbor craft activity involved both in vessel assist and in deploying and retrieving the Yokohama fenders during each OGV visit. The assumptions for vessel assist are that each tugboat would spend 30 minutes at berth (i.e., onsite) per vessel call (15 minutes during OGV arrival and 15 minutes during departure). As the total transit time between the berth and the seaward rendezvous point is typically well over an hour, the time at berth (i.e., on site) is approximately 15% of the total activity. For the activity involving Yokohama fenders, the analysis assumed 67% of the time on site. Accordingly, the emissions calculations used for criteria pollutant evaluation and for the HRA assume substantially more than 10% of harbor craft activity would occur on site and are reasonable. The comment provides no evidence to the contrary; accordingly, no revision of the FEIR is necessary.

ii. The comment suggests that the EIR fails to address federal national ambient air quality standards (NAAQS).

In accordance with CEQA requirements, the Draft EIR assessed air quality impacts of the Proposed Project and alternatives. The State CEQA Guidelines Section 15064.7 states that the public agency may develop and establish thresholds of significance to be used in determining whether the environmental (e.g., air quality) impacts are significant. The Project site is located within the South Coast Air Basin under the jurisdiction of the SCAQMD. That agency has published air quality significance thresholds, including localized significance thresholds (LSTs) and ambient air quality standards for criteria pollutants (https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=250). The Draft EIR follows the methodologies discussed in the SCAQMD's CEQA air quality handbook and

other relevant CEQA guidelines (https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook). While the SCAQMD significance thresholds for PM_{10} and $PM_{2.5}$ concentrations are not directly equivalent to federal NAAQS standards, SCAQMD derived those thresholds based on the allowable change in a project-related concentration not to exceed the SCAQMD's regulatory concentration thresholds from its Rule 403 for and Rule 1301 for construction and operational activities, respectively.. As detailed in the Draft EIR (Section 3.1.5), the air quality analyses calculated the ambient air quality impacts of the Proposed Project and alternatives against the relevant SCAQMD air quality significance thresholds. Those impacts are presented in Section 3.1.5 of the Draft EIR.

iii. The comment argues that the EIR failed to analyze light duty vehicle impacts.

As stated in Section 3.1.5 of the Draft EIR, emissions from worker light-duty gasoline vehicles associated with the Proposed Project and alternatives account for 0.26% percent of the total emissions. The major contributors to the PM_{10} and $PM_{2.5}$ impacts at the maximum impact locations near the Project site are onsite fugitive dust emissions from material handling and transfer. Given that the PM impacts are significant as disclosed in the Draft EIR, inclusion of the emissions from the worker light-duty gasoline vehicles would not affect the significance determination, and the minor contribution of those emissions would not substantially change the severity of the impact.

iv. The comment states that the EIR inaccurately identifies haul road emissions.

While the USEPA Haul Road Workgroup Memorandum published in 2011 recommends that volume source configurations be based on the comparison of the modeling results and monitoring data, it also recognizes that the study was limited and did not preclude use of area source configuration. USEPA's PM Hotspot Guidance (Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas, https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf) published in 2021 recommends line-area sources for modeling roadway sources. One of the disadvantages of using volume sources is that concentrations are not calculated in AERMOD when receptors are within the receptor exclusion zone. LAHD notes, therefore, that both line-area sources and volume sources are acceptable source configurations to be used for air dispersion models such as AERMOD and should be considered based on project-specific considerations. Given that the ambient air receptors (e.g., workers at the adjacent facility) are close to the roadway sources, the Draft EIR appropriately employed the line-area source configuration for the air quality analyses.

v. The comment asserts that the EIR contains discrepancies in parameters for modeled sources.

The exhaust temperatures for the dryer (326.6 Kelvin [K]) and for the baghouse point sources (373.15 K) were obtained from Ecocem based on the design parameters at the time the Draft EIR was prepared. The exhaust temperature for the dryer is based on the average operating condition and the exhaust temperature for the baghouse point sources is based on the maximum temperature for the products. As these sources are not the largest contributors to the PM_{10} and $PM_{2.5}$ mass emissions (OGV emissions account for the majority of the Proposed Project

emissions [DEIR, Table 3.1-11]), additional refinements would not appreciably alter the results. As for the release height for the transport to silos, the ground level (i.e., 0 meter) release height was supplied by Ecocem and was used for modeling the air quality impacts to be conservative.

vi. The comment contends that the EIR fails to include data supporting the release height associated with plume rise.

The release heights for volume sources representing the emissions from OGVs during maneuvering and transiting were adjusted to account for the plume rise due to AERMOD's limitation. To reasonably represent the release heights for OGVs, this Draft EIR used common scaling factors that were developed based on the engineering judgement of LAHD staff and LAHD's consultants, consistent with past Port EIRs.

Additionally, as shown in the Draft EIR (Section 3.1.5.1 Impact AQ-4), the maximum air quality impacts were located near the Project site and the major contributors to the maximum air quality impacts are onsite sources close to the receptors. The contribution from the transiting and maneuvering OGVs is relatively small. For this reason, the release height of OGVs is very unlikely to change the modeling results in a way that would change the significance determination.

vii. The comment argues that the EIR fails to use current meteorological data.

As stated in the Draft EIR (Section 3.1.4.3), the meteorological data collected at Wilmington Community Station located at Saints Peter and Paul School were used for dispersion modeling. These data were considered the most representative for the Project site in accordance with the Bay-Wide Sphere of Influence analysis. The purpose of the Sphere of Influence analysis was to fully characterize the varying conditions found in different areas of the Ports' operations. The study evaluated over fifteen meteorological stations located within a 20-kilometer radius of the Ports and investigated several selection criteria, including the influence of geographic features on prevailing wind patterns to determine representativeness of the surface meteorological stations. Based on the results of that analysis, the Wilmington Community Station was recommended for projects in the inner harbor area for CEQA purposes; the same station has been used for other Port projects in the same area in past EIRs. Data from 2012 through 2016 are the most recent five years obtained from the POLA.

viii. The comment notes that there is a discrepancy in the temporal distributions in Appendix B2, Table B2-4.

The assumptions used in the air quality analysis were based on the reasonably foreseeable project information available at the time the Draft EIR was prepared. While the overall schedule for the facility's operation is 24 hours per day and 7 days per week, a specific temporal distribution was available for the trucks based on detailed truck traffic information provided by Orcem. That temporal distribution was applied in the modeling to adequately disclose the air quality impacts associated with the Proposed Project and alternatives.

ix. The comment states that the analysis fails to review ambient background concentration representativeness against EPA guidance and fails to analyze for PM_{10} and $PM_{2.5}$ concentrations for comparison with federal NAAQS.

Please refer to responses to comments E4SS-23.ii and BE4SS-23.vii above for an explanation of the Draft EIR's analysis of PM_{10} and $PM_{2.5}$ concentrations and comparison with federal NAAQS requirements. The Wilmington station includes monitoring of gaseous criteria pollutants, particulates, and meteorological parameters. Based on the Sphere of Influence analysis, the Wilmington station was selected to be representative of both meteorological and ambient air quality conditions within the Port. Per the direction from the SCAQMD, the Port's ambient monitoring data are assumed to include contributions from background sources.

Response to Comment E4SS-24:

The comment states that the EIR fails to justify the use of an 18-year-old personal communication for not using off-site driving emissions in the HRA.

The SCAQMD's Final Localized Significant Threshold (LST) Methodology document (SCAQMD 2008) states that, "Off-site mobile emissions from the project should not be included in the emissions compared to the LSTs…" (see Chapter 1 – Introduction, Basic Approach, page 1-4). Accordingly, that published reference, which has not been superseded by subsequent guidance, could be substituted for the 18-year-old personal communication to cite for excluding the off-site driving emissions. The exclusion of off-site mobile emissions is the reason why they are not included in the health risk assessment. The FEIR has been revised to cite SCAQMD (2008) instead of a personal communication.

Response to Comment E4SS-25:

The comment contends that the EIR's HRA fails to analyze fugitive dust from construction of the Proposed Project.

The comment is correct that the Draft EIR excluded fugitive dust from the HRA as not constituting a TAC. The exclusion is standard practice in LAHD's EIRs and is based on the LAHD's protocol for conducting project-level HRAs. That protocol was developed in consultation with SCAQMD, which directed that fugitive PM emissions from road dust, wind erosion, and earth-moving activities need only be evaluated as criteria pollutants (i.e., PM_{10}/$PM_{2.5}$), not as TACs in the HRA. Following this direction, the fugitive dust emissions from these construction sources for the site have been evaluated as criteria pollutants, but not in the HRA. For further discussion on the methodology of the HRA and how it calculated potential emissions impacts to human health, please see Responses to Comments CESPNC-3, CFASE-11, and CFASE-12.

Response to Comment E4SS-26:

The comment contends that the EIR's HRA fails to analyze TACs from construction and operation of the Proposed Project.

Please see the Response to Comment E4SS-11, which explains that the TAC emissions can be verified either using the total PM/VOC emissions (provided in Appendix B-1) with the appropriate speciation profiles assigned for each emissions source group and pollutant (see Table B3-1) or using the HRA databases that were submitted to SCAQMD in electronic format. To facilitate the review, the source group ID information has been added to the existing speciation table in Appendix B3 (see the last row in the updated Table B3-1) to summarize the speciation profiles assigned for each source group.

Regarding the exclusion of worker vehicles from the modeling, the Ground Transportation section (DEIR, Section 3.8) provides more detail on the worker vehicles. In the first three years of operations, worker vehicle contributions to annual total organic gas (TOG) emissions would peak at 0.53% of the total TOG, and most of those emissions would not occur close to the Project site, where the maximum impact would occur (because of OGV emissions). Furthermore, vehicle emission would be expected to decline over time due to turnover and modernization of the fleet per California regulations, and thus would continue to constitute a de minimis source. In addition, worker vehicle emissions are typically from gasoline, meaning they do not contribute to diesel PM, the main driver (> 90%) for the Project's health risk. Therefore, the contribution of worker vehicle emissions towards TACs and health risk when modeled would be minor and would neither substantially change the severity of the Proposed Project's impacts nor alter the EIR's impact determination. Accordingly, no revision of the FEIR is required.

For further discussion on the methodology of the HRA and how it calculated potential emissions impacts to human health, please see Responses to Comments CESPNC-3, CFASE-11, and CFASE-12.

Response to Comment E4SS-27:

The comment contends the EIR uses the incorrect toxic emissions profile for the dryer.

As explained in Response to Comment E4SS-11, the TAC concentrations calculated in the Draft EIR were estimated using total PM or total VOC emissions with best-matching speciation profiles from the CARB's speciation database and the source-specific dispersion factors. Speciation profile 719 (natural gas internal combustion engines) was used in the Draft EIR analysis as the best match available for natural gas dryers in the CARB speciation database. The analysis did not use the dryer emission factors suggested in the comment because they do not fit into the overall methodology used in the emission speciation (i.e., using the total PM_{10} or TOG emissions and the weight fraction by chemical provided in CARB's speciation database to estimate the chemical-specific emissions) and risk calculations for the Draft EIR.

Nonetheless, the total VOC emissions for the dryers estimated in the Draft EIR and their TAC emissions using speciation profile 719 were compared to the TAC emissions calculated using the emission factors recommended in the comment (i.e., in Table B-1: Default EF for Natural Gas Combustion (Lb/MMscf) for External Combustion Equipment (Boiler, Oven, Dryer, Furnace, Heater, Afterburner) from Appendix B of SCAQMD's AB 2588 Quadrennial Air Toxics Emissions Inventory Reporting Procedures. That comparison showed that the speciated annual average emissions for the most toxic carcinogenic VOCs with the highest emissions among all species (i.e., benzene and formaldehyde) estimated using profile 719 in the Draft EIR are substantially higher than those estimated using the EFs recommended in this comment. Therefore, the methodology used in the Draft EIR yielded more conservative estimates of the TAC emissions and health risks for the dryers, and no revision of the FEIR is required.

Response to Comment E4SS-28:

The comment states that there is a discrepancy concerning the heavy metals in GBFS and gypsum and the TACs analyzed in the EIR.

The comment is correct that Draft EIR Table 2-2 and Draft EIR Appendix B3 listed different heavy metals as being present in GBFS and gypsum. However, the comment's statement that Table 2-2 listed antimony, arsenic, barium, beryllium, cadmium,

chromium, cobalt, copper, lead, mercury, nickel, selenium, thallium, and vanadium as present in GBFS and gypsum is incorrect. Table 2-2 shows that arsenic, cadmium, cobalt, copper, lead, mercury, nickel, and thallium were not detected in the sample of Orcem's GBFS or in gypsum. The remaining elements were found in GBFS at concentrations far below the regulatory limits, and only barium and selenium were detected in gypsum.

The comment's statement, "Due to the nature of its production as a byproduct of iron and steel production, other metals such as zinc and aluminum are also expected to be present in blast furnace slag" is incorrect because GBFS is not a by-product of steel making (see Response to Comment E4SS-7).

The Draft EIR's HRA evaluated the toxic chemicals identified in the SDS and laboratory analysis for GBFS and gypsum. The calculated health risks for the offsite workers, residents, and other sensitive receptors due to exposure to fugitive dust from GBFS would be very low (i.e., negligible noncancer health effects only, and no contribution to cancer risk because GBFS and gypsum do not contain carcinogens; DEIR, Appendix B-3, Section 2.3 TAC Speciation, Table B3-2).

After the release of the Draft EIR and in response to the comment, LAHD conducted a sensitivity analysis of the HRA based on more recent laboratory analyses, provided by Orcem of the composition of GBFS, gypsum, and the GGBFS product. Those analyses indicated that in addition to the elements considered in the Draft EIR's HRA, the GBFS contained beryllium, chromium (as Cr^{+3}), fluoride, and vanadium. The sensitivity analysis used the updated speciation information shown in Table A of this response to comment. As shown in Table B of this response, the sensitivity analysis found negligible changes in the health risk results for exposure to fugitive dust from the GGBFS product. In particular, the analysis showed no change in cancer risk (because the materials do not contain carcinogens), marginal decreases in chronic hazard indices, and marginal increases in acute hazard indices. Because these tables do not present significant new information requiring further analysis and the conclusions of the Draft EIR with regard to health risks remain unchanged, no further revision or recirculation of the FEIR is required.

Table A. Comparison of TAC Speciation Used in the Draft EIR HRA and TAC Speciation Based on Updated Analytical Data

Toxic Air Contaminant	HARP TAC ID	Weight Fraction of Fugitive PM_{10} Used in HRA			Weight Fraction of Fugitive PM_{10} based on 2013 AWN Laboratory Results		
		Profile GBFS	Profile Gypsum	Profile GGBFS [a]	Profile GBFS	Profile Gypsum	Profile GGBFS [a]
Beryllium	7440417	0	0	0	0.0000069	0	0.0000066
Chlorine	7782505	0.0001	0.0000013	0.000096	0	0	0
Total Chromium	7440473	0	0	0	0.000017	0	0.000016
Fluoride	1101	0	0	0	0.000003	0	0.0000029
Manganese	7439965	0.002	0.00001	0.00192	0.0012	0.00001	0.0012
Selenium	7782492	0.006	0.0000013	0.00576	0.0000026	0.0000013	0.0000025
Silica quartz	14808607	0.0001	0.0000013	0.000096	0	0	0
Total Sulfate as S	9960	0	0.015	0.00636	0.000052	0.015	0.00065
Vanadium	1314621	0	0	0	0.000029	0	0.000028

Notes:

[a] The GGBFS product has a composition of 96% GBFS and 4% gypsum. The speciation for the mixture is used for speciating the fugitive dust emissions for GGBFS.

[b] The TACs listed in this Table were the detected constituents in the laboratory analysis for GBFS or gypsum materials.

Table B. Comparison of the Draft EIR HRA Results and the Results of the Sensitivity Analysis

Health Impact [a]	Receptor Type	Proposed Project – Draft EIR	Proposed Project - Sensitivity Analysis	Significance Threshold	Threshold Exceeded? [b]
Individual Cancer Risk	Residential	1.2×10^{-6} 1.2 in 1 million	1.2×10^{-6} 1.2 in 1 million	10×10^{-6} 10 in 1 million	No
	Sensitive	8.8×10^{-6} 8.8 in 1 million	8.8×10^{-6} 8.8 in 1 million		No
	Occupational	5.2×10^{-6} 5.2 in 1 million	5.2×10^{-6} 5.2 in 1 million		No
Chronic Hazard Index	Residential	0.0068	0.0056	1	No
	Sensitive	0.10	0.082		No
	Occupational	0.23	0.23		No
Acute Hazard Index	Residential	0.0034	0.0035	1	No
	Sensitive	0.019	0.026		No
	Occupational	0.17	0.17		No

Notes:

[a] The maximum health values shown in the table may not occur at the same receptor location. Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the receptor location with the maximum modeled health value. The health values at all other modeled receptors would be less than the values in the table.

[b] Exceedances of the thresholds are indicated in bold.

Response to Comment E4SS-29:

The comment observes that it is unclear whether the HRA analyzed operational emissions of paved and unpaved fugitive road dust.

The operational emissions from paved and unpaved road dust were included in the HRA. The speciation profiles presented in the SDS for GBFS and the laboratory analysis results for gypsum were used to identify and quantify the TACs to evaluate the onsite operational road dust emissions. The details of the speciation profiles for GBFS, gypsum, and the mixture (i.e., GGBFS) are provided in Table B3-2 in the Draft EIR. The offsite road dust emissions were not included in the HRA because they would not be composed of GBFS/gypsum (see additional discussions regarding the offsite road dust emissions in Response to Comment E4SS-25).

Response to Comment E4SS-30:

The comment argues that the HRA's disclosed health risk of 8.8 in 10 million is inaccurate.

As explained in Responses to Comments E4SS-23 through 28, above, and as more fully detailed in Responses to Comments CESPNC-3, CFASE-11, and CFASE-12, the method used in the HRA analysis is consistent with the recommendations of SCAQMD and CARB. In addition, as noted in Appendix B3, the non-residential sensitive receptors were conservatively evaluated using the default residential exposure assumptions assuming 30

years of continuous exposure, except for the two nearest non-residential sensitive receptors to the Project site – Banning's Landing Community Center and the University of Southern California (USC) Boathouse – where the health risks were evaluated based on facility-specific high-end exposure assumptions (see details in Section 4.2 in Appendix B3). This approach of assuming 30 years of continuous exposure is conservative and overestimates cancer risk for non-residential sensitive receptors.

Response to Comment E4SS-31:

The comment states that the HRA's reference exposure levels are not accurate.

The chronic and acute reference exposure levels (RELs) in Table B3-4 in the Appendix B3 text were typographical errors. The correct toxicity values for toluene were used in the HRA analysis in the risk calculation databases (provided to AQMD on October 12 2023). The revised Table B3-4 is included in the FEIR.

Response to Comment E4SS-32:

The comment argues that the EIR fails to analyze water demand or use.

The Proposed Project's water demand was addressed in the IS/NOP, a copy of which is included in Appendix A to the Draft EIR (DEIR, Appendix A, p. 65). As stated in that analysis, LADWP has indicated that it has sufficient capacity to meet the future needs of its service area, including the Project site. The IS/NOP explains that construction of the Project could result in a slight, but temporary increase in water demand as a result of worker consumption and dust control, but this would be temporary and negligible. Once in operation, the Project would increase demand for potable water use by virtue of the site's employees and some processed water used for cooling purposes, but not to an extent that would require LADWP to develop new water or supply facilities or expand existing facilities. Accordingly, the IS/NOP concluded that existing water supplies are available to serve the Proposed Project, therefore there would be no impact to water demand, and the issue of water supply and demand did not need to be considered further in the EIR. As the comment does not present any evidence to the contrary, no further response is necessary.

Response to Comment E4SS-33:

The comment contends the EIR fails to properly evaluate traffic impacts from increases in geometric hazards, based upon §2.4.2 of the City of Los Angeles Transportation Assessment Guideline (TAG) d in The TAG states "... if the answer is 'yes' to all of the following questions, further analysis will be required to assess whether the project would result in impacts due to queuing from a freeway off-ramp that could lead to unsafe differential travel speeds:

- Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
    - o No. This Project does not require Department of City Planning review/approval.
- Would the land use project generate a net increase of 250 or more daily vehicle trips?
    - o Yes. This Project may generate a net increase of 250 or more daily vehicle trips.
- Would the land use project add 25 or more trips to any off ramp in either the morning or afternoon peak hour?
    - o No. This Project would not generate 25 or more off-ramp trips (see below).

Although only one of the three questions above was answered "yes", an assessment of geometric design hazards and roadway (including freeway ramps) traffic operations has been prepared by LAHD licensed traffic engineers. The Proposed Project would generate an estimated 263 one-way truck trips (inbound and outbound combined) per day under its maximum production, and not 563 as cited by the commenter. Thus, the project would generate a maximum of only about 32 trips (16 inbound/16 outbound) per hour. However, it is expected that most of the trucks would occur between 8 am and 4 pm, to avoid commute peak-hour traffic on adjacent freeways. Those peak-hour trips would arrive/depart via I-710 and I-110, given the locations of prospective concrete batch plants throughout the region. The expected routes and distribution to the I-110 and I-710 means that the number of truck trips added to adjacent roadways by the Proposed Project would be insubstantial, and less than the threshold of 25 peak-hour trips contained in the TAG. That number of trips would not affect traffic operating conditions on the adjacent roadway system, including the State Highway System (and its interchanges). For example, using data provided by Caltrans that is produced using the LAHD transportation model (DEIR, Section 3.8.6, p. 3.8-14), the south I-110 off-ramp at Harry Bridges Boulevard/Figueroa Street/Gibson Boulevard would not experience queues extending upstream on to the freeway under year 2023 or Year 2027 conditions. The same applies to the I-710 southbound off-ramp at Anaheim Street that would serve inbound traffic, where the off-ramp extends 430 feet to its signalized terminus, which has its own dedicated signal phase. Because of the traffic routing once the LAHD Berth 200 Roadway is completed (DEIR, Section 3.8.6, p. 3.8-17), there would not be any outbound project traffic using the on-ramp at the Harry Bridges Bl/I-110 interchange. Hence, there would be no freeway on/off-ramp impacts.

In addition, the informational LOS analyses summarized in Table 3.8-3 of the Draft EIR indicates that all of the adjacent intersections currently operate at an acceptable Level of Service (LOS) D or better except for Alameda Street/Anaheim Street during the afternoon peak hour. Moreover, with the City of Los Angeles, Bureau of Engineering's improvement project that is expected to start construction in late 2024, that particular intersection is projected to operate at an excellent level of service (LOS) A under morning and midday periods.

With regard to general geometric hazards, the Proposed Project's driveway would be designed to safely accommodate trucks (sight distances and turn radii). Moreover, all intersections in the vicinity of the Project site currently have adequate turning radii.

Response to Comment E4SS-34:

The comment contends that the EIR's analysis of cumulative impacts is defective because it fails to provide meaningful analyses of the Project's impacts on numerous resources, including air quality, marine biological resources, and noise and vibration.

The Draft EIR includes considerations of cumulative impacts related to the resource areas analyzed in the Draft EIR, namely: Air Quality, Biology, Energy, Geology and Soils, Greenhouse Gases, Land Use and Planning, Noise, Ground Transportation, and Tribal Cultural Resources (DEIR, Chapter 4). The comment that the Draft EIR does not find that the Proposed Project would have cumulative impacts on any resource is incorrect.

In particular, with respect to air quality, the Draft EIR identifies considerable contributions to significant cumulative impacts related to operational emissions, both in terms of exceedances of SCAQMD emission thresholds and exceedances of ambient concentrations, and to health risk (DEIR, Section 4.2.1). This determination was made even though the Proposed Project's project-level impacts would be less than significant.

The comment's example, taken from the Proposed Project's construction impact analysis, does not acknowledge the Draft EIR's citation to SCAQMD guidance, which states that projects that do not exceed project-level thresholds are generally not considered to be cumulatively considerable (DEIR, p. 4-14). Given that guidance, the Draft EIR's determination of a significant cumulative impact related to health risks is conservative, as the project-level impact would be less than significant.

With respect to impacts to biological resources, the comment makes two points. The first point is related to habitat loss and appears to disagree with the Draft EIR's determination that because marine biological resources in the harbor appear to be flourishing, a significant cumulative impact to special status species does not exist. The comment states that the Draft EIR provides no support for that determination, but the Draft EIR's cumulative analysis specifically references the description of biological studies in the Biological Resources section (DEIR, Section 3.2.2) that support that determination (DEIR, p. 4-22).

The second point relates to the Draft EIR's statement (p. 4-24) that a substantial increase in vessel traffic is not expected, which is one of the bases for the Draft EIR's determination that there is not a significant cumulative impact on marine mammals due to increases in underwater noise from vessel traffic (the Draft EIR does identify a significant cumulative impact to marine mammals from vessel strikes, however). The comment is correct that the Draft EIR does not provide quantitative data on vessel traffic trends in Los Angeles Harbor to support its statement that vessel numbers are expected to decline in the future. Accordingly, the FEIR has been revised to provide a summary of vessel call data over the past 25 years, which shows that annual vessel calls have declined steadily during that period despite substantially increased cargo volumes.

With respect to impacts related to unstable soils, the comment is correct that the Draft EIR did not present a threshold distance to apply to the significance determination. This is because LAHD is unaware of any such threshold, and instead, using its professional and technical judgment, decided to use the best available information and methodology to guide its analysis. The comment does not offer a threshold that would contradict that determination. In any case, the Draft EIR's determination was also based on the ground stabilization elements described in the Geology and Soils section (DEIR, Section 3.4.4.3, p. 3.4-7), which would "substantially reduce the risk of lateral spreading, subsidence, liquefaction and collapse." Accordingly, the Draft EIR presents substantial evidence to support its determination with respect to cumulative impacts.

Finally, the FEIR has been revised to include a consideration of cumulative impacts for resource areas that were not included in the Draft EIR because the IS/NOP concluded that impacts would be less than significant.

FuturePorts

Comment Letter

See Section 2.3.

Responses

Response to Comment FUT-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior

to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Harbor Association of Industry and Commerce

Comment Letter

See Section 2.3.

Responses

Response to Comment HAIC-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

International Brotherhood of Electrical Workers Local 11

Comment Letter

See Section 2.3.

Responses

Response to Comment IBEW-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

KONVEIO

Comment Letter

See Section 2.3.

Responses

Response to Comment Konveio-1:

The comment offers the LAHD a system for tagging comments.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Los Angeles Maritime Institute/Children's Maritime Institute

Comment Letter

See Section 2.3.

Responses

Response to Comment LAMI-1:

The comment asks that consideration be given to allowing the existing wooden boat facility to remain on the Project site or be relocated elsewhere in the Port Complex.

Thank you for your comment on the Draft EIR. Marine Preservation Trust (MPT) is not a tenant of the Harbor Department at Berth 193. Rolland Wayne Ettel, doing business as (dba) Boatswayne Ettel, is the tenant of the Harbor Department premises at Berth 193 under Revocable Permit 14-10. Please see Response to Comment ASM-1 for more information.

The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Los Angeles Unified School District (LAUSD)

Comment Letter

See Section 2.3.

Responses

Response to Comment LAUSD-1:

Thank you for your comments on the Draft EIR. The comment contends that the Draft EIR's air pollution analysis should include LAUSD students and school staff as sensitive receptors and asserts that the Draft EIR must evaluate whether the Project's potential air quality impacts would conflict with or obstruct implementation of the Wilmington, Carson, West Long Beach Community Emissions Reduction Plan (CERP).

Thank you for your comments on the Draft EIR. The Draft EIR analyzes the Proposed Project's consistency with the Community Emissions Reduction Program (CERP) for Wilmington, Carson, and West Long Beach. The assessment (DEIR, p. 3.1-44) summarizes the air quality priorities of the CERP, explains their applicability under Chapter 5c to the Proposed Project's activities, and concludes that the Proposed Project is consistent with the applicable provisions of the CERP.

Modeling for the Draft EIR's air quality analysis (AERMOD) also relied on meteorological data (e.g., background concentrations for NO_2) collected at the Wilmington Community Station, which is located at the Saints Peter and Paul School approximately 1.2 miles northwest of the Proposed Project site. With respect to the sensitive receptors, the Draft EIR's analysis included consideration of potential air quality impacts to nearby receptors, based on: a 50 by 50-meter (m) grid up to 500 meters from the facility fence line; a 100x100 meter grid from 500m–1km from the fence line; a 250x250m grid from 1–5km from the fence line; and a 500x500m grid from 5–10km from the fence line (DEIR, p. 3.1-10 [Fig. 3.1-1]; DEIR, Appendix. B2, pp. B2-13–B2-15 [Figs. B2-5, B2-6, B2-7]). In addition to gridded receptors, previously identified sensitive

receptors near the Berths 191-194 facility were also incorporated, and included residential communities, schools, child-care centers, hospitals, recreational facilities, parks, and elder care facilities (DEIR, p. 3.1-8; DEIR, Appendix. B2, p. B2-13); accordingly, students were considered as sensitive receptors.

As explained more fully in the Responses to Comments CESPNC-3 and CFASE-12, the Draft EIR and its HRA relied on CEQA's significance threshold for cancer risks, and found that the maximum cancer risk from the Proposed Project is predicted to be less than the 10-in-1 million significance threshold for all evaluated populations, including occupation, residential, and non-residential sensitive receptors such as schools and child-care centers (DEIR, p. 3.1-39). Please see Responses to Comments CESPNC-3 and CFASE-12 for a more detailed explanation of these conclusions.

Response to Comment LAUSD-2:

The comment contends that the Proposed Project has the potential to transport hazardous materials during construction and operation. The comment recommends adding language that addresses these potential impacts.

As more fully explained in the Initial Study/Notice of Preparation (IS/NOP; DEIR, Appendix A [IS/NOP], Section 6.9, pp. 43–44), construction activities associated with the Proposed Project were found not likely to involve the use of substantial quantities of hazardous materials. Nevertheless, the storage and use of those materials would be required to comply with state and federal regulations, as well as the State's General Permit for Storm Water Discharges Associated with Construction Activity, and a Project-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP requirements could include, but are not limited to: controls for vehicle and equipment fueling and maintenance; material delivery, storage and use; spill prevention and control; and solid and hazardous waste management. Implementing these standards would minimize the potential for an accidental release of petroleum products or hazardous materials during construction activities.

The IS/NOP also determined that hazardous materials may be used or transported at the Project site during operation and would include small amounts of refined petroleum products and chemicals used in on-site equipment and facility maintenance activities. The facility, however, would not handle radioactive or unstable materials, and only nominal quantities of corrosive or oxidizing materials. As such, the Project would not create a significant hazard to the public through the routine use, transport, or disposal of hazardous substances. Nor would the Project emit hazardous emissions or handle hazardous materials within 0.25 miles of an existing or proposed school (DEIR, Appendix A, p. 45).

Finally, all construction and operational truck activity at the Project site would be required to follow Caltrans-designated and Port-assigned truck routes (DEIR, pp. 2-17–2-18 [Section 2.5.3.4]). A detailed description of those routes can be found in Section 2.5.3.4 of the Draft EIR's Project Description Chapter (see pp. 2-17–2-18), and a map of those routes can be found in Project Description Figure 2-7 (DEIR, p. 2-19) and in the Transportation Section in Figure 3.8-4 (DEIR, p. 3.8-18). LAHD therefore appreciates LAUSD's suggestion, but notes that these routes as well as the permitting measures described above would accomplish the same outcome as that desired by LAUSD's proposed language. Accordingly, no further revision of the FEIR is required.

Response to Comment LAUSD-3:

The comment notes that LAUSD's Transportation Branch must be contacted regarding potential impacts to existing school bus routes and proposes language to be included in construction permits that would address the LAUSD's concerns.

As noted in Response to Comment LAUSD-2, truck traffic associated with the Proposed Project would be required to use the Caltrans-designated truck routes described in the Draft EIR (DEIR, Section 2.5.3.4 and Figure 2-7, pp. 2-17–2-19). Given the concern of LAUSD over the possibility that the bus routes are in the designated truck routes, Orcem's construction contractor will be required to communicate with LAUSD officials to ensure school bus routes are not adversely affected.

As to the comment's reference to "a net increase of 1,000 or more daily vehicle trips," the Draft EIR explains in Table 2-2 that, at full operation, the facility would generate 65,950 truck trips per year, or approximately 253 trips per day and 52 employee trips per day As the traffic impact analysis concludes (DEIR Section 3.8.6), that volume of traffic would not adversely affect area roadways and intersections and would be far less than the 1,000 daily trips suggested by the comment. For more information on the number of anticipated truck trips, please also refer to Response to Comments SCAQMD-1, CESPNC-4, CFASE-13, and CFASE-18.

The comment presents several requirements that it requests be included "in the recommended conditions for traffic impacts." This FEIR assumes that language refers to the construction permits that LAHD would issue. LAHD's construction permit would require the Project proponent (i.e., Orcem) or its construction contractor to prepare a construction traffic management plan that would include measures to maintain traffic safety on public roads. Accordingly, no revision of the FEIR is required.

Northwest San Pedro Neighborhood Council

Comment Letter

See Section 2.3.

Responses

Response to Comment NWSPNC-1:

Thank you for your comments on the Draft EIR. The comment states that the NWSPNC voted that the No Project Alternative is the only feasible alternative and that modifications to Alternatives 2 and 3 to include rail transport of the GBFS could be environmentally acceptable.

Thank you for your comments on the Draft EIR. Please see Response to Comment CESPNC-1.

Response to Comment NWSPNC-2:

The comment summarizes the GBFS import, processing, and transport activities that the Proposed Project contemplates. The comment contends that these activities will produce PM_{10} and $PM_{2.5}$ particles in levels that exceed SCAQMD thresholds and that these exceedances are sufficient to require a finding that the "No Project" alternative is the only feasible alternative.

Please see Response to Comment CESPNC-2.

Response to Comment NWSPNC-3:

The comment states that Figure 3.1-2 in the Draft EIR shows a risk outline that encompasses residences and marinas, and should be clarified regarding its finding that the Project does not exceed the CEQA impact thresholds. The commenter also contends that the DEIR ignores "considerable data available that shows various important pulmonary impacts, especially on workers and children, such as COPD and asthma."

Please see Response to Comment CESPNC-3.

Response to Comment NWSPNC-4:

The comment expresses concern about potential truck traffic impacts and contends that the Proposed Project's anticipated truck trips should be analyzed according to Vehicle Miles Traveled (VMT), as opposed to the Level of Service (LOS) analysis that was provided for informational purposes only.

Please see Response to Comments CESPNC-4 and COSPNC-3.

Response to Comment NWSPNC-5:

The comment offers links to news articles about the port project in Vallejo in which Ecocem was involved and urges that the comments in those links related to toxic chemicals be considered.

Please see Responses to Comments CESPNC-5 and CFASE-3.

Response to Comment NWSPNC-6:

The comment proposes a modification of Alternatives 2 and 3 that would transport the GBFS by rail to "a remote site" where GGBFS would be produced and distributed. The alternative would use the existing Vopak rail spur for access the Project site.

Please see Response to Comment CESPNC-6

Rotary Club of Wilmington

Comment Letter

See Section 2.3.

Responses

Response to Comment RCW-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

San Pedro Chamber of Commerce

Comment Letter

See Section 2.3.

Responses

Response to Comment SPCC-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

South Bay Association of Chambers of Commerce

Comment Letter

See Section 2.3.

Responses

Response to Comment SBACC-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Wilmington Chamber of Commerce

Comment Letter

See Section 2.3.

Responses

Response to Comment WCC-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Wilmington Neighborhood Council

Comment Letter

See Section 2.3.

Responses

Response to Comment WNC-1:

The comment contends that the Proposed Project's operational activities do not require use of the site's waterfront properties. The comment cites the Port's use of a street sweeper on Port roads due to the former coal facility at Kaiser Point. The comment therefore suggests that, if the Project's processing activities proceed as proposed, they

should be done indoors and in covered structures with air scrubbers on all ventilation systems.

Thank you for your comments on the Draft EIR. As explained in Chapter 2 of the Draft EIR, the Proposed Project would import the primary raw material, granulated blast furnace slag (GBFS), needed to manufacture the product. The GBFS would arrive by oceangoing vessel from overseas sources; accordingly, waterfront access is required for those oceangoing vessels, and the Proposed Project would be infeasible without that access. The analysis of alternatives (DEIR Chapter 5) explains why locating the processing facility at some inland location would merely relocate, not avoid, the impacts of the Proposed Project and could have more severe impacts from double-handling the GBFS and adding locomotive emissions to the region's air. As described more fully in Response to Comment CESPNC-6, the analysis concludes that an inland processing location would be infeasible.

The comment appears to equate the Proposed Project with the Kaiser and LAXT coal export facilities in terms of releases of particulate matter. LAHD notes that the two materials – GBFS and coal --have different physical properties and would be handled very differently. The Draft EIR (Section 2.5) describes the materials that would be handled at the Proposed Project and the dust and erosion control measures that would be employed at the stockpiles, in the processing facility, and at the truck loading facility. As described in the Draft EIR, the grinding and mixing processes, conveyance of the fine-grained product, and loading the product into trucks would occur in fully enclosed structures equipped with filtration systems (DEIR, Section 2.5.3.5). Therefore, the Proposed Project is water dependent and would not result in fugitive particulates.

Response to Comment WNC-2:

The comment states that the Proposed Project would have substantial negative air quality impacts from particulate matter released from the storage piles, transfer points, processing equipment, and trucks, and recommends that transfer and manufacturing points should be enclosed.

Please see Response to Comment WNC-1.

Response to Comment WNC-3:

The commenter points to the NOP's statement that the Project forecasts 35,000 truck trips per year, but the Draft EIR now states that the Project will result in 65,950 one-way trips per year. The commenter states that the previous estimates were miscalculated, such that the 70,000 truck trips per year will not be 131,900 one-way trips per year. The commenter also quotes the NOP's statement that heavy duty trucks are not included in the transportation's VMT analysis; but advises that such an analysis should be performed given the community's ongoing concerns about truck emissions and public health impacts.

As to the forecasted number of truck trips, please see Response to Comments SCAQMD-1, CFASE-13, and CFASE-18.

The commenter is correct that the NOP did not include heavy-duty trucks in its transportation analysis. However, in response to comments on the NOP, the Draft EIR (Section 3.8.6) does include an analysis of truck traffic impacts on local intersections. Because CEQA does not require an analysis of intersection impacts, the analysis is presented as informational but is, nevertheless, a consideration of the Proposed Project's effects on local roadways, as requested by the comment. For a more detailed explanation on this analysis, please refer to Response to Comment CESPNC-4.

As to the potential air quality and human health impacts of the heavy-duty trucks that would serve the Proposed Project, please refer to Responses to Comments CESPNC-3, CFASE-11, and CFASE-12.

Response to Comment WNC-4:

The comment notes that the Proposed Project will be close to the Wilmington Waterfront Project, such that inclement weather with high winds could blow large amounts of slag from the facility over the new park. The comment asks whether the Port or Orcem will provide emergency safety showers, eye wash stations, or other protective measures, in the even the public is exposed. The comment also asks whether signage will be provided at the park to advise of possible exposure to blown slag and whether the public should seek medical attention in the event they experience symptoms.

The comment expresses concern that the Proposed Project's storage piles would be a source of toxic particulate matter that would adversely affect public health and the environment. That could only happen if the GBFS were friable (i.e., easily crumbled into fine particles) and contained substantial quantities of toxic substances. GBFS is not friable but is rather, as described in the Draft EIR (p. 2-9), a wet, coarse-grained, sand-like material. When stockpiled, the material forms a natural crust that resists erosion by wind and rain, and it does not break up into fine particles unless crushed by heavy equipment. Furthermore, as described in the Draft EIR, the stockpile would be watered regularly to further reduce the potential for dust to escape. Finally, producing, handling, and processing the final GGBFS product would occur indoors to minimize the potential for dispersion of particulate matter. As a result, there is no evidence that the public would be exposed to "large amounts of slag." Furthermore, the health risk assessment (DEIR, Section 3.1.5.1, Impact AQ-4) determined that human health risks, which would include effects of toxic substances in dust, would not exceed the thresholds established by the Office of Environmental Health Hazards Assessment, and therefore would not result in a significant impact. Accordingly, the notification and protective measures mentioned in the comment would not be necessary.

Response to Comment WNC-5:

The comment contends that the Proposed Project would openly store GGBFS, despite the Project site's proximity to the new Wilmington Waterfront Development, thereby resulting in an increased risk that the GGBFS will blow into the open air and nearby oceans.

As explained more fully in Section 2.5.3.5 of the Draft EIR's Project Description chapter, GGBFS would not be stored in open piles, but instead would be produced, handled, and stored in an enclosed system designed to minimize the escape of particulate matter (DEIR, pp. 2-11 and 2-21). Therefore, the measures described in the provided Safety Data Sheet are not relevant to the public's exposure. With respect to the toxicity and friability of GBFS (the raw material) and whether it would be blown into the open air and impact the nearby Wilmington Waterfront Park, please see Responses to Comments WNC-4 and CESPNC-5.

Response to Comment WNC-6:

The comment notes that WNC had previously suggested that the Port consider an alternative that included construction of a railroad "industrial side-track" to the site, which would allow for closed hopper rail cars to transport the product from the terminal to other distribution points. The commenter represents that this one change would

drastically reduce, or potentially eliminate, the number of truck trips required to service the Project, and states that this alternative was not explored.

Based on comments that the Port received on the IS/NOP, the Draft EIR considered providing rail as a potential Project alternative (DEIR, Section 5.4.2), but found that it would be infeasible due both to the inability to provide rail access to the Ecocem facility and due to the lack of rail access at inland cement plants, which would be the recipients of the final product. For a more detailed explanation on why a rail-based alternative was considered, but ultimately rejected as infeasible, please see Response to Comments CESPNC-1 and CESPNC-6.

Response to Comment WNC-7:

The comment contends that the No Project Alternative remains the best alternative. The commenter also disagrees that the Project site should be changed from a liquid bulk area to a dry bulk area as liquid bulk comes in containers at a higher degree than dry bulk, thereby protecting people and the environment. The comment reiterates that the only mitigation option would be a railroad track to the site with the gypsum stored in closed containers to be moved from the site.

For a detailed explanation on the Draft EIR's consideration of the No Project Alternative, please see Response to Comments CESPNC-1 and CESPNC-2.

The comment that the LAHD should not change the land use designation of the Project site from liquid bulk to dry bulk is noted. The issue was evaluated in the Draft EIR (Section 3.6), which concluded that the re-designation would not have significant impacts related to land use. The statement that "the gypsum [be] stored in containers to be moved from the site" misrepresents the Proposed Project and is infeasible, as the gypsum would be delivered to the site for use in the manufacturing process.

Regarding the feasibility of providing rail access to the Project site, please see Response to Comments CESPNC-1, CESPNC-6, and WNC-6.

Response to Comment WNC-8:

The comment questions why the Port intends to allow "a project of such toxicity and danger to be adjacent to" the new Wilmington Waterfront project, despite the Port's investment into that project and the Wilmington community.

The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. As to the Project's proximity to the Wilmington Waterfront Project, the Project site is approximately 0.2 miles from the Banning's Landing Community Center and separated from it by the Vopak leasehold.

The comment is otherwise general in nature and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment WNC-9:

The comment contends that the Project's contemplated manufacturing/milling of product is not water dependent and recommends that the Port's guideline that waterfront properties should be reserved for water-dependent activities should be upheld.

For a more detailed explanation on how the Proposed Project's operations constitute a waterfront use, please see Response to Comment WNC-1.

Response to Comment WNC-10:

The comment summarizes the Council's positions regarding the No Project Alternative (Alternative 1), a rail-based alternative to the Proposed Project, and the water-dependent status of the Proposed Project.

Please see Responses to Comments WNC-6 and WNC-7.

Response to Comment WNC-11:

The comment presents information regarding regional air pollution and health concerns, and states that the Port should not approve non-water-dependent projects and projects that would degrade the environment.

The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is otherwise general in nature and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment WNC-12:

The comment points out that the Proposed Project would result in exceedances of regulatory thresholds for ambient concentrations of particulate matter.

Please see Responses to Comments WNC-2 and WNC-5. LAHD notes that the concentration values in Table 3.1-13 do include ambient levels.

Response to Comment WNC-13:

The comment notes that the health risk contours presented in the DEIR include residential areas in Wilmington and asks for clarification of the DEIR's determination that the Proposed Project "does not exceed the CEQA impact requirements."

Please see Responses to Comments WNC-3, WNC-4, CESPNC-3, and CFASE-11.

Response to Comment WNC-14:

The comment questions why the DEIR did not address the impacts of the Proposed Project's truck traffic.

Please see Response to Comment WNC-3.

Response to Comment WNC-15:

The comment suggests that news articles related to the Vallejo project be considered.

Please see Responses to Comments WNC-7 and CFASE-6.

Response to Comment WNC-16:

The comment discusses a rail-based alternative to the Proposed Project.

Please see Response to Comment WNC-6.

Response to Comment WNC-17:

The comment states the Council's preference for the No Project Alternative (Alternative 1) and re-states its belief that the Proposed Project is not water dependent and that the rail-based alternative should have been explored in greater depth.

Please see Responses to Comments WNC-1, WNC-6, and WNC-7.

Wilmington YMCA

Comment Letter

See Section 2.3.

Responses

Response to Comment WYMCA-1:

The comment expresses its support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR, and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

2.2.3 Individuals

Dennis Casey

Comment Letter

See Section 2.3.

Responses

Response to Comment CASEY-1:

The comment asks that another location be found for the Proposed Project in order to maintain the current location of the Marine Preservation Trust facility, and that other nearby uses be recognized.

Thank you for your comment on the Draft EIR. Marine Preservation Trust (MPT) is not a tenant of the Harbor Department at Berth 193. Rolland Wayne Ettel doing business as (dba) Boatswayne Ettel is the tenant of the Harbor Department premises at Berth 193 under the Revocable Permit 14-10. Please see Response to Comment ASM-1.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Paul Cole

Comment Letter

See Section 2.3.

Responses

Response to Comment COLE-1:

The comment states that the Port should prevent the Proposed Project from negatively affecting Wayne Ettel's boatyard.

Thank you for your comment on the Draft EIR. Please see Response to Comment CASEY-1 and ASM-1. The comment is noted and is hereby part of the Final EIR and is

therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Wayne Ettel (Boatswayne Ettel)

Comment Letter

See Section 2.3.

Responses

Response to Comment ETTEL-1:

The comment contends that the Proposed Project is not water dependent and suggests that another location be found for the Proposed Project in order to maintain the current location of the Marine Preservation Trust facility and other tenants on the site.

Thank you for your comments on the Draft EIR. Please refer to Response to Comment ALLIED-1, which discusses the water dependency of the Proposed Project; Response to Comment CASEY-1, which discusses the issue of the tenants along the waterfront; and Response to Comment CESPNC-6, which discusses an inland processing facility.

Response to Comment ETTEL-2:

The comment summarizes the proposed Vopak cement terminal project and expresses concern over the presence of two cement terminals and their truck traffic in the vicinity of several non-industrial uses.

Please refer to Response to Comment ALLIED-1, which discusses the cumulative impact analysis as it pertains to the neighboring Vopak project.

Response to Comment ETTEL-3:

The comment contends that "waste slag" is highly friable material that could contain trace amounts of manganese and cadmium, and that it should not be handled in open conveyors. The comment further contends that there are no control measures for dust.

The comment's characterization of the GBFS raw material as highly friable waste slag "notorious for producing high volumes of dust" is not accurate. The GBFS is not friable but is rather, as described in the Draft EIR (p. 2-9), a wet, coarse-grained, sand-like material. When stockpiled, the material forms a natural crust that resists erosion by wind and rain, and it does not normally break up into fine particles. Furthermore, as described in the Draft EIR, the stockpile would be watered regularly to further reduce the potential for dust to escape. The comment claims that the material "may contain trace amounts of manganese and cadmium" and crystalline silica, but provides no evidence to support that statement as it relates to the material that Orcem would import.

The commenter is correct that gypsum is friable and can break up into fine particles, as the Draft EIR notes (DEIR, Section 2.5.1, p. 2-10). However, the Draft EIR points out that the gypsum pile, too, would be watered in accordance with the protocols specified in the SCAQMD permit to control dust, which would reflect the requirements of SCAQMD Rule 403 regarding fugitive dust (DEIR, p. 2-10). Accordingly, there is no reason to believe that appreciable quantities of gypsum particles would escape to affect workers or visitors to nearby facilities.

The comment's assertion that "there are no plans to stop the dust…from blowing into the water of the harbor and onto adjacent properties" is incorrect. The Draft EIR describes the dust control measures that would be employed for vessel unloading, raw material transfer, and stockpile management, including covered conveyors and frequent watering (DEIR, Section 2.5.3.5).

Finally, the Draft EIR conducted a health risk assessment of the Proposed Project that accounted for the properties of potential air emissions, including particulates, and concluded that impacts would be less than significant.

Response to Comment ETTEL-4:

The comment notes the potential for increased truck traffic on Avalon Boulevard as a result of the Proposed Project and related projects and terminal activity nearby.

Please see Response to Comment ALLIED-1, which addresses the cumulative impacts of truck traffic. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Samuel Hernandez

Comment Letter

See Section 2.3.

Responses

Response to Comment HERNANDEZ-1:

The comment asks if an environmental justice analysis was conducted for the Proposed Project.

Thank you for your comments on the Draft EIR. Please see Response to Comment CFASE-8 and Response to Comment CFASE-11, which explain that a separate environmental justice analysis was not performed because it is not required by CEQA. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment HERNANDEZ-2:

The comment asks what type of air monitoring was conducted to support the safety of the Proposed Project.

The Draft EIR (pp. 3.1-5 through 3.1-10 and Table 3.1-2) describes the air monitoring data that supports the air quality and health risk assessments. For air quality and meteorological data, the Draft EIR's analysis relied primarily on the LAHD's Wilmington Community Station at Saints Peter and Paul School in Wilmington. LAHD upgraded the air monitoring equipment at that station in 2022-2023, and filter-based PM_{10} monitoring equipment at the station was offline from May 2021 to May 2022 and resumed in June 2022. All other monitoring equipment at the Wilmington monitoring station was functional during the analysis period.

Jonathan Lennard

Comment Letter

See Section 2.3.

Responses

Response to Comment LENNARD-1:

The comment suggests that the Port should prevent the Proposed Project from negatively affecting the Maritime Preservation Trust facility.

Thank you for your comment on the Draft EIR. Please refer to Responses to Comment ASM-1 and CASEY-1. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Mallissa Morris

Comment Letter

See Section 2.3.

Responses

Response to Comment MORRIS-1:

The comment requests that a job fair be opened for employment at the Proposed Project once the project is underway.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Tim Murray

Comment Letter

See Section 2.3.

Responses

Response to Comment MURRAY-1:

The comment suggests that the Port should prevent the Proposed Project from negatively affecting the Maritime Preservation Trust facility.

Thank you for your comment on the Draft EIR. Please see Responses to Comment ASM–1 and CASEY-1. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Timothy O'Brien

Comment Letter

See Section 2.3.

Responses

Response to Comment O'BRIEN-1:

The comment states that the Port should prevent the Proposed Project from negatively affecting the Boatswayne Ettel shipyard.

Thank you for your comment on the Draft EIR. Please see Response to Comment ASM-1. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Sam Rade

Comment Letter

See Section 2.3.

Responses

Response to Comment RADE-1:

The comment asks for clarification on the use of Berth 191 between Vopak and Orcem.

Thank you for your comment on the Draft EIR. As described in the Draft EIR (p. 2-17), the use of Berth 191 would be shared by Orcem and the cement importing operation at the Vopak terminal, if both projects are implemented. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Enrique Sanchez

Comment Letter

See Section 2.3.

Responses

Response to Comment SANCHEZ-1:

The comment asks why the LAHD would approve the Proposed Project given its significant and unavoidable impacts.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Ryan Saxton (Petsworth Consulting Group)

Comment Letter

See Section 2.3.

Responses

Response to Comment SAXTON-1:

The comment provides background on the Vallejo project in which Orcem was involved and asks why the Proposed Project is different.

Thank you for your comments on the Draft EIR. Please refer to Response to Comment CFASE-6. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

The Project's Los Angeles site at the Port is fundamentally different from the Vallejo site, in that the Project site is located in an active industrial area that is not in close proximity to residential and sensitive uses. In addition, the wind patterns and topography at the two sites are different, meaning that the results of analyses of the Vallejo project cannot be applied to the Proposed Project. The Vallejo site is a brownfields site (meaning that it is an abandoned former industrial site that may contain certain pollutants or hazardous substances, thus requiring particular consideration and analysis during any proposed development) that is next to residential areas. Specifically, the nearest residential area to the Project site is approximately 3,000 feet away, whereas the nearest residential area to the Vallejo Orcem site is approximately 500 feet away. Other potentially sensitive receptors near the Proposed Project (i.e., the USC boathouse) would not be exposed to toxic air contaminants at levels that would result in significant health risks.

Response to Comment SAXTON-2:

The comment asks how the Proposed Project is compatible with the Clean Air Action Plan given its emissions of greenhouse gases.

LAHD acknowledges in the Draft EIR that the GHG emissions to be significant. The Proposed Project would be consistent with the CAAP's targets by incorporating lease measures that go beyond regulatory requirements, such as LM AQ-3: At-Berth Vessel Emissions Control Pilot Study to evaluate the feasibility of implementing an at-berth vessel emissions control system, and LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment, which requires Orcem to replace cementitious material handling equipment used for operation with the cleanest available material handling equipment to reduce other emissions benefits with co-benefits towards GHG emissions. The Clean Air Action Plan (CAAP) provides strategies and emission reduction targets to cut emissions from sources operating in and around the Ports. It was not the intention for the CAAP to be used to determine project thresholds. Accordingly, no revision of the FEIR is needed.

Response to Comment SAXTON-3:

The comment states that the Proposed Project's operational emissions of nitrogen oxides and particulate matter would exceed significance criteria, points out that particulate

matter in air can have detrimental effects on the human respiratory system, and questions why the Port thinks this is acceptable.

The Draft EIR acknowledges that emissions of nitrogen oxides would exceed significance criteria, but LAHD notes that emissions of particulate matter would not exceed the SCAQMD regional threshold (DEIR, Table 3.1-11). However, the dispersion modeling analysis showed that offsite NO_2 concentrations would not exceed SCAQMD thresholds (DEIR, Table 3.1-12), indicating no adverse health effects from that pollutant. Furthermore, the Draft EIR's Health Risk Assessment determined that the health impacts of emissions of air pollutants from the Proposed Project would be less than significant (DEIR, Table 3.1-14, p. 3.1-38).

As the Draft EIR discloses, maximum offsite concentrations of particulate matter would exceed SCAQMD thresholds (DEIR, Table 3.1-13). However, those concentrations would occur at the boundary of the Project site; concentrations would be much lower at the actual residential and sensitive population receptors because of dispersion by air movement over the intervening distance (over 3,000 feet to the nearest residential receptors in Wilmington). For more detail, please see Response to Comment CESPNC-2.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

Response to Comment SAXTON-4:

The comment notes that the Proposed Project's operational emissions of nitrogen oxides exceed significance criteria, points out that nitrogen oxides in air can have detrimental effects on the human respiratory system, and requests, "an explanation of how that is a safe working environment for anyone in close proximity to this proposed project."

Please see Response to Comment SAXTON-3, which points out that offsite concentrations of nitrogen oxides, which is what people near the site would be exposed to, would not exceed SCAQMD significance thresholds, indicating no adverse health effects from that pollutant.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code § 21091(d); CEQA Guidelines § 15204(a)).

James C. Smith

Comment Letter

See Section 2.3.

Responses

Response to Comment SMITH-1:

The comment states opposition to the Proposed Project on the basis that it would displace the Marine Preservation Trust boatyard.

Thank you for your comment on the Draft EIR. Please refer to Response to Comment ASM-1 and CASEY-1.

Wayne Widner

Comment Letter

See Section 2.3.

Responses

Response to Comment WIDNER-1:

The comment expresses support for the Proposed Project but suggests the Port require the tenant to restore the site to better-than-present condition upon vacating the site.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

2.2.4 Public Hearing

See Section 2.3.

Bruce Heyman (San Pedro Chamber of Commerce/Los Angeles Maritime Institute)

Response to Comment PH-1

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Pat Nave

Response to Comment PH-2a

The comment suggests that the GBFS imported via oceangoing vessels should be loaded onto trains and conveyed to an inland processing facility rather than being processed on site.

Please see Response to Comment WNC-1

Response to Comment PH-2b

The statement that the Proposed Project's material is "more deleterious [than coke and coal]" is unsupported by evidence either in the Draft EIR or provided by the commenter.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the

Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Response to Comment PH-2c

The comment suggests modifying Alternative 3 to provide rail access to the Proposed Project.

Please see the responses to comments CESPNC-6 and WNC-1.

Response to Comment PH-2d

The comment suggests that the Draft EIR include the destinations of the on-road trucks that would service the Proposed Project.

The Draft EIR (Section 2.2.2) describes the destination of the third-party trucks that would serve the Proposed Project as being "concrete production facilities throughout the [Southern California] region." A more precise description is not possible, given the number of potential customers and their geographic dispersion. The Draft EIR makes a reasonable assumption regarding average trip length; additional detail is neither possible nor necessary for an analysis of impacts compliant with CEQA.

Response to Comment PH-2e

The comment refers to the common practice in traffic analysis of equating a heavy-duty truck with a corresponding number of passenger cars, known as Passenger Car Equivalents (PCEs). The comment suggests using 2.5 passenger cars to evaluate the effects of heavy-duty trucks on roadway congestion.

As explained in the Draft EIR (Section 3.8.6), the type of analysis suggested by the comment is not required by CEQA and is not appropriate for the Proposed Project. Further, Section 3.8.6 of the Draft EIR includes an informational analysis of the Level of Service (LOS) for intersections in the area (DEIR, Section 3.8.6). That LOS analysis takes into consideration the operational characteristics of the heavy-duty trucks compared to passenger cars and shows that intersections in the area are operating at acceptable levels and that the Proposed Project's truck trips would not substantially alter intersection operations much, given its light traffic burden (approximately 260 truck trips per day).

Response to Comment PH-2f

The comment states that a rail-based alternative is "the most reasonable feasible option."

Please see the responses to comments CESPNC-6 and WNC-1.

Marcia Garcia Diaz (Wilmington Chamber of Commerce)

Response to Comment PH-3

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Tommy Faavae (International Brotherhood of Electrical Workers)

Response to Comment PH-4

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Henry Rogers (Harbor Association of Industry and Commerce)

Response to Comment PH-5

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Yolanda dela Torre (Wilmington YMCA)

Response to Comment PH-6

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Ryan Saxton (Petworth Consulting Group)

Response to Comment PH-7a

The comment refers to the Vallejo port project of which Ecocem was a component and asks why a project in Los Angeles is different.

Thank you for your comment on the Draft EIR. Please see Responses to Comments CESPNC-5 and SAXTON-1.

Response to Comment PH-7b

The comment questions the Proposed Project's compatibility with the Port's Clean Air Action Plan.

Please see Response to Comment SAXTON-2.

Response to Comment PH-7c

The comment notes the SCAQMD significance thresholds for priority pollutants and the health effects of airborne particulate matter.

The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the

Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

Response to Comment PH-7d

The comment notes the projected operational emissions of nitrogen oxides and requests an explanation of how that is a safe environment for nearby persons.

As disclosed in the Draft EIR (Section 3.1), the health risk assessment conducted for the Proposed Project found that health risks, including non-cancer risks, would be below significance thresholds. Accordingly, the Proposed Project's impacts on public health would be less than significant. For additional detail, please see Responses to Comments SAXTON-3 and SAXTON-4.

Carlos Rodarte (International Brotherhood of Electrical Workers)

Response to Comment PH-8

The comment expresses support for the Proposed Project.

Thank you for your comment on the Draft EIR. The comment is noted and is hereby part of the Final EIR and is therefore before the decision-makers for their consideration prior to taking any action on the Proposed Project. The comment is general and does not identify any specific deficiencies of the Draft EIR, therefore no further response is required (Public Resources Code §21091(d); CEQA Guidelines §15204(a)).

2.3 Comment Letters

Comment letters are presented in the order in which the responses are presented in Section 2.2.

From:	Hart, Leslie@Wildlife
To:	Sanchez Zelaya, Celia
Cc:	state.clearinghouse@opr.ca.gov
Subject:	CDFW Comment Letter on the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date:	Monday, December 11, 2023 2:49:28 PM
Attachments:	CDFW_CommentLtr_Berth191-194 (Ecocem) Low-Carbon Cement Processing Facility Project_DEIR_231211.pdf

Dear Ms. Celia Sanchaz Zelaya,

Please find attached the Department of Fish and Wildlife's comment letter on the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project's Environmental Impact Report SCH# 2022030294.

Sincerely,
Leslie

Leslie Hart
Environmental Scientist
California Department of Fish and Wildlife
Marine Region - Environmental Review and Water Quality Project
3030 Old Ranch Parkway, Suite 400, Seal Beach, CA 90740
Leslie.Hart@wildlife.ca.gov
www.wildlife.ca.gov

Every Californian should conserve water. Find out how at:



SaveOurWater.com · Drought.CA.gov

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Marine Region
1933 Cliff Drive, Suite 9
Santa Barbara, CA 93109
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

December 11, 2023

Celia Sanchez Zelaya
Planning Assistant - CEQA
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731
CSanchezZelaya@portla.org

BERTH 191-194 (ECOCEM) LOW-CARBON CEMENT PROCESSING FACILITY PROJECT
ENVIRONMENTAL IMPACT REPORT
SCH #2022030294

Dear Ms. Celia Sanchez Zelaya:

The California Department of Fish and Wildlife (Department) received a Draft Environmental Impact Report (DEIR) from the City of Los Angeles Harbor Department (City) for the Berth 191-194 (Ecocem) Low-Carbon Processing Facility Project (Project), pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that the Department, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

DEPARTMENT ROLE

The Department is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the state (Fish and Game Code, Section 711.7, subd. [a] & 1802; Public Resources Code, Section 21070; CEQA Guidelines Section 15386, subd. [a]). The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

(Id., Section 1802). Similarly for purposes of CEQA, the Department is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources. The Department is also responsible for marine biodiversity protection under the Marine Life Protection Act in coastal marine waters of California and ensuring fisheries are sustainably managed under the Marine Life Management Act. Pursuant to our jurisdiction, the Department has the following comments and recommendations regarding the Project.

PROJECT DESCRIPTION SUMMARY

Proponent: Orcem Americas, Inc.
Objective: The primary objective of the proposed Project is to supply the Southern California construction industry with the lowest-carbon binder, which is an alternative to the higher carbon cement products used in Portland Cement. Ecocem's technologies will help the State of California meet its net-zero emissions target for the cement industry by 2045. The proposed Project will involve the construction and operation of a new dry bulk processing facility at Berth 191 and on the backlands adjacent to Berth 192-194 in the East Basin of the Port of Los Angeles that would improve marine shipping and commerce.

Most of the Project construction would be land-based. In-water work would be required at Berth 191 to remove 11 damaged timber pilings and replace them with new pilings to bring the wharf into serviceable condition, install approximately 41 new timber piles as part of the required wharf repairs, install 47 pilings along the wharf's edge to support an upgraded fendering system, and conduct minor post-construction clean-up dredging to remove up to 1,500 cubic yards of sediment from the berthing area. The DEIR assumes that some pile removal and driving would be accomplished using water-borne equipment such as a derrick barge, tugboat, and supporting small craft to be conservative. Primary Project activities include:

- Site preparation (including site clearance), ground improvements, and paving;
- Repairs to the wharf at Berth 191, including repairing surfaces and replacing pilings and bracing elements;
- Development of the enclosed processing plant, including construction of plant buildings, storage facilities such as silos and open stockyard, and installation of conveyance systems and processing equipment;
- Construction of ancillary buildings;
- Improvement of site infrastructure, utilities, and supporting facilities.

Location: The Project is located at 100 Yacht Street, Wilmington, Port of Los Angeles, Los Angeles County, California.
Timeframe: The Project would be constructed over a period of approximately 18 months, starting in 2024.

BIOLOGICAL SIGNIFICANCE

Discussion and Comment: The Los Angeles Harbor (Harbor) waters support many resident and migratory fish and special status wildlife such as seabirds, marine mammals, and sea turtles. Important marine plants such as eelgrass (*Zostera marina*) support those fish and wildlife species and are common throughout shallow areas and along shorelines of the Harbor. Eelgrass is important as fish nursery habitat throughout the Harbor and supports juvenile and adult fish. Harbor waters also support commercially and recreationally important fish and invertebrate species such as California halibut (*Paralichthys californicus*), California spiny lobster (*Panulirus interruptus*), and the important forage fish Northern anchovy (*Engraulis mordax*).

COMMENTS AND RECOMMENDATIONS

The Department offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife resources.

I. Project Level Impacts and Other Considerations

Pile Driving and Sound Criteria

Comments: Underwater noise associated with pile driving and pulling activities may cause temporary or permanent impacts to fish and invertebrates, such as temporary movement out of the Project area, barotrauma injury, or mortality. The Department relies on guidance from the Fisheries Hydroacoustic Working Group to set safe sound pressure level (SPL) criteria for pile driving and pulling activities (Fisheries Hydroacoustic Working Group 2008). The SPL dual criteria include a peak level of 206 dB and a cumulative sound exposure (SEL) level of 187 dB for fish 2 grams and heavier or a cumulative SEL of 183 dB for fish less than 2 grams. Additionally, if hydraulic jetting or an impact hammer is used for pile driving, this may impact water quality, releasing contaminants from sediments into the water and/or creating turbidity that could harm fish.

CDFW-1

Recommendations: The DEIR states that the installation of the new and replacement piles would be accomplished using impact hammers. The Department recommends using a vibratory hammer for pile driving to the greatest extent feasible, or an alternative technology that produces the least amount of noise. If an impact hammer must be used (e.g., due to pile material, refusal at bedrock), multiple minimization measures are needed to reduce sound levels. The Department recommends the following be included as mitigation measures in the Final EIR:

- A sound attenuation and monitoring plan should be submitted to the resource agencies for review prior to initiating pile driving activities.
- A wood, or similar material, cushion block should be used between the pile and hammer during all pile driving using an impact hammer.

- To further reduce hydroacoustic impacts to fish and marine mammals, a bubble curtain should be used during all impact pile driving to reduce sound below levels that have been shown to cause injury and/or mortality.
- Underwater sound level monitoring should be conducted during pile driving and pulling. If SPLs and SELs exceed agreed upon levels as per the Interim Criteria for Injury to Fish, work should cease and additional steps should be taken to reduce the underwater noise to acceptable levels.

The Department recommends that the City uses a silt curtain when possible to control turbidity during high turbidity generating activities caused by an impact hammer. Additionally, high turbidity generating activities should be conducted when there are no strong outgoing tides since this could exacerbate turbid conditions and negatively impact marine life.

CDFW-1 cont'd

Water and Sediment Contamination

Comments: Incomplete removal of old creosote treated timber piles may result in broken piles and pile stub at or above the mud line. A creosote timber pile stub that is left at the mudline may potentially continue to leach contaminants into the Harbor waters and benthic sediments. The DEIR states that some damaged creosote timber piles may end up being broken at the mudline instead of being pulled, but does not specify the depth that the creosote timber piles must be cut below the mud line, which is at least 2 feet.

Additionally, the DEIR specifies the replacement or repair of timber piles within the Harbor. Fish and Game Code (FGC) states that it is unlawful to deposit into, permit to pass into, or place where it can pass into waters of the state any substance or material deleterious to fish, plant life, or bird life (FGC Section 5650(6)). The Department considers any wood treated with Ammoniacal Copper Zinc Arsenate (ACZA), Chromated Copper Arsenate (CCA), Alkaline Copper Quaternary (ACQ) to be deleterious materials.

CDFW-2

Recommendations: To reduce creosote contaminant exposure to Harbor waters and sediments, the DEIR should include cutting creosote timber piles at least 2 feet below the mud line if they break off or cannot be directly pulled.

The Department recommends avoiding the use of treated wood piles in the Harbor waters. The City should consider the use of piles made of alternative materials such as plastic, concrete, or steel to the maximum extent feasible. If use of plastic, concrete, or steel piles is not feasible, all wood piles should be wrapped with a benign material, such as plastic wrap or a polyurea coating, to prevent Harbor waters from direct contact with the treated wood. Additionally, all wrapped wood piles that may be subject to contact with docks, floating debris and/or boats, should be inspected on a yearly basis to confirm the integrity of the wrap and to repair any damaged areas.

Marine Mammal and Sea Turtle Monitoring

Comments: Harbor seals (*Phoca vitulina*), California sea lions (*Zalophus californianus*), other species of marine mammals, and sea turtles may be present or occur within the Project area. Project activities, particularly noise from pile driving, could impact these animals if they are present.

Recommendations: The Department appreciates Mitigation Measure MM BIO-1 included in the DEIR to protect marine mammals during the construction of the Project, however, the preparation and implementation of a marine mammal and sea turtle monitoring plan should be added to this mitigation measure. The Department recommends that the City prepare and implement a marine mammal and sea turtle monitoring plan that includes, but is not limited to: CDFW-3

- Establishment of an underwater exclusion zone.
- Preconstruction monitoring to update the animals' occurrence and use of the area.
- Monitoring of marine mammals and sea turtles by an experienced observer immediately prior to and during all pile driving activities.
- Pile driving should not occur while marine mammals or sea turtles are present within the exclusion zone.

The Department recommends that the City consult with the National Marine Fisheries Service and U.S. Fish and Wildlife Service regarding the above recommendation and any other necessary avoidance and mitigation measures to reduce impacts to marine mammals and sea turtles.

Invasive Species Impacts

Comments: Disturbance of the bottom sediments from potential pile construction or anchoring may redistribute non-native species that compete with native species. This could cause widespread adverse impacts to eelgrass and the marine ecology. The invasive alga *Caulerpa taxifolia* is listed as a federal noxious weed under the U.S. Plant Protection Act and while deemed eradicated in 2006 is monitored for potential future emergence. Another invasive alga species found recently in Newport Bay and San Diego Bay is *Caulerpa prolifera*, which is also a potential threat to growth and expansion of native eelgrass beds and other native algae. CDFW-4

Recommendations: The Department appreciates that a pre-construction *Caulerpa Spp.* survey will be conducted to identify potential existence of invasive *Caulerpa Spp.* as described in the Caulerpa Control Protocol https://media.fisheries.noaa.gov/2021-12/caulerpa-control-protocol-v5.pdf (October 2021). Any sightings of *Caulerpa Spp.* should be reported within 24 hours to the Department (Caulerpa@wildlife.ca.gov), and NMFS at 562-980-4037 (nmfs.wcr.caulerpa@noaa.gov).

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals. CDFW-5

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by the Department. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.) CDFW-6

CONCLUSION

The Department appreciates the opportunity to comment on the DEIR to assist the City in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Leslie Hart, Environmental Scientist at R7CEQA@wildlife.ca.gov.

Sincerely,

Craig Shuman, D. Env
Marine Regional Manager

ec: Office of Planning and Research, State Clearinghouse
state.clearinghouse@opr.ca.gov

REFERENCES

NMFS. 2014. California Eelgrass Mitigation Policy, National Marine Fisheries Service,https://archive.fisheries.noaa.gov/wcr/publications/habitat/california_eelgrass_mitigation/Final%20CEMP%20October%202014/cemp_oct_2014_final.pdf.

Fisheries Hydroacoustic Working Group. 2008. Interim Criteria for Injury of Fish Exposed to Pile Driving Operations: Memorandum. Washington: Federal Highway Administration.

From:	CEQAReview
To:	Sanchez Zelaya, Celia; Office of Planning and Research - State Clearinghouse
Cc:	Kereazis, Dave@DTSC; Wiley, Scott@DTSC; Aghakiant, Narine@DTSC
Subject:	DTSC Comments to the Berth 191-194 Ecocem Low-Carbon Cement Processing Facility Project
Date:	Friday, December 8, 2023 2:58:16 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png image007.png DTSC Comment Letter-Berth 191-194 Ecocem Low-Carbon Cement Processing Facility Project.pdf

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Good Afternoon Celia,

Thank you for the opportunity for the Department of Toxic Substances Control to review and comment on the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project. Attached you will find DTSC's comments for consideration. If you have any questions or comments, please reply to this email for guidance.

Thank you,

Tamara Purvis
Associate Environmental Planner
CEQA Unit-Permitting/HWMP
916-255-3857
Tamara.Purvis@dtsc.ca.gov
Department of Toxic Substances Control
California Environmental Protection Agency

DTSC Department of Toxic Substances Control
CalEPA California Environmental Protection Agency

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Yana Garcia
Secretary for
Environmental Protection

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

December 8, 2023

Celia Sanchez Zelaya
Planning Assistant – CEQA
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731
CSanchezZelaya@portla.org

RE: DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE BERTH 191-194 (ECOCEM) LOW-CARBON CEMENT PROCESSING PROJECT DATED OCTOBER 12, 2023 STATE CLEARINGHOUSE # 2022030294

Dear Celia Sanchez Zelaya:

The Department of Toxic Substances Control (DTSC) received a Draft Environmental Impact Report (DEIR) for the Berths 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project (Project). The proposed Project is located at 100 Yacht Street, Wilmington, CA 90744. The proposed Project involves the construction and operation of a new processing facility on the backlands adjacent to Berths 192-194 that would import raw materials by ship and truck, temporarily store and process them to produce a low-carbon binder (an alternative to Portland cement) and load third-party trucks that would transport the product to local consumers. The proposed Project would receive one of the raw materials from overseas by dry bulk cargo vessels operating at Berth 191. Based on our Project review, DTSC requests consideration of the

following comments.

1. Based on the figures included in the DEIR, the proposed Project may affect and in turn may be affected by the historical contamination by the Gibson Environmental and Wilmington Liquid Bulk Terminal The Gibson Environmental Inc. (Gibson) operation is an area within the Wilmington Bulk Liquid Terminals, located in Wilmington, CA. Gibson operated a liquid waste recycling facility from 1990 to 1994. The facility is undergoing RCRA closure. The project is in the closure certification review process now.

   Further information on the Gibson Environmental and Wilmington Liquid Bulk Terminal site can be found on EnviroStor. The Site's potential contaminants of concern (COCs) are Total Petroleum Hydrocarbons (TPH) -Jet Fuel, Motor Oil., Stoddard Solvent, Diesel, and Gas.

   The Project has a Corrective Action Consent Agreement (Consent Agreement) and you must follow all orders and restrictions of the consent agreement.

   DTSC-1

2. The Project and future CEQA documents should acknowledge the potential for historic or future activities on or near the Project site to result in the release of hazardous wastes/substances on the Project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated.

   DTSC-2

3. DTSC recommends that all imported soil and fill material should be tested to ensure any contaminants of concern are within approved screening levels for the intended land use. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material

   DTSC-3

meets screening levels for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use.

DTSC-3 cont'd

DTSC appreciates the opportunity to comment on the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Project. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like any clarification on DTSC's comments, please respond to this letter or via email for additional guidance.

Sincerely,

Tamara Purvis

Tamara Purvis
Associate Environmental Planner
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and
Research State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Associate Environmental Planner
CEQA Unit – HWMP
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Dave.Kereazis@dtsc.ca.gov

Scott Wiley
Associate Governmental Program Analyst
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Scott.Wiley@dtsc.ca.gov

Narine Aghakiant
Environmental Scientist
Site Mitigation and Restoration Program
Department of Toxic Substances Control
Narine.Aghakiant@dtsc.ca.gov

From:	Albert Lew
To:	Sanchez Zelaya, Celia
Subject:	CEQA letter completed: Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project - NOA of dEIR
Date:	Tuesday, November 14, 2023 11:26:55 AM
Attachments:	10302023_Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project - NOA of dEIR.pdf

Please find attached the official response. Contact us if you have any questions.

Regards,

Albert C. Lew, P.E., C.S.P.
Wastewater Engineering Services Division (WESD)
Bureau of Sanitation
Department of Public Works
City of Los Angeles
Phone: 323.342.6207
Fax: 323.342.6210




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FORM GEN. 160 (Rev. 8-12)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: October 30, 2023

TO: Lisa Wunder, Interim Director
Environmental Management Division.

Attn: Celia Sanchez Zelaya, Planner
Environmental Management Division.

FROM: Rowena Lau, Division Manager
Wastewater Engineering Services Division
LA Sanitation and Environment

SUBJECT: **BERTH 191-194 (ECOCEM) LOW-CARBON CEMENT PROCESSING FACILITY PROJECT - NOTICE OF AVAILABILITY OF DRAFT ENVIRONMENTAL IMPACT REPORT**

This is in response to your October 12, 2023 Notice of Availability of a Draft Environmental Impact Report for the proposed project located at 100 Yacht Street, Wilmington, CA 90744. LA Sanitation, Wastewater Engineering Services Division has received and logged the notification. Upon review it has been determined that the project is unrelated to sewers and does not require any hydraulic analysis. Please notify our office in the instance that additional environmental review is necessary for this project. LASE-1

If you have any questions, please call Than Win at (323) 342-6268 or email at than.win@lacity.org.

RL/TW: sa

c: Julie Allen, LASAN
Michael Scaduto, LASAN
Spencer Yu, LASAN
Than Win, LASAN

File Location: CEQA Review\FINAL CEQA Response LTRs\FINAL DRAFT\Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project - NOA of dEIR.docx

From:	Danica Nguyen
To:	Sanchez Zelaya, Celia; Ceqacomments
Cc:	Sam Wang
Subject:	South Coast AQMD staff's comments on the Draft EIR for the Proposed Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility Project
Date:	Friday, December 8, 2023 10:32:27 AM
Attachments:	LAC231012-01 DEIR Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility Project .pdf

Dear Celia Zelaya,

Attached are South Coast AQMD staff's comments on the Draft Environmental Impact Report (Draft EIR) for the Proposed Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility Project (SCH No. 2022030294) (South Coast AQMD Control Number: LAC231012-01). Please contact me if you have any questions regarding these comments.

Regards,

Danica Nguyen
Air Quality Specialist, CEQA-IGR
Planning, Rule Development & Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765
Phone: (909) 396-3531
E-mail: dnguyen1@aqmd.gov
Please note South Coast AQMD is closed on Mondays.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL: December 8, 2023

ceqacomments@portla.org
csanchezzelaya@portla.org
Celia Sanchez Zelaya, Planning Assistant
Port of Los Angeles - Environmental Management Division
425 South Palos Verdes Street
San Pedro, California 90731

Draft Environmental Impact Report (Draft EIR) for the Proposed Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility Project (Proposed Project) (SCH Number: 2022030294)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The Port of Los Angeles is the California Environmental Quality Act (CEQA) Lead Agency for the Proposed Project. To provide context, South Coast AQMD staff has provided a brief summary of the project information and prepared the following comments organized by topic of concern.

South Coast AQMD Staff's Summary of Project Information in the Draft EIR

Based on the Draft EIR, the Proposed Project includes constructing and operating low-carbon cement processing facilities on the backland behind Berth 192-194 and repairs to the wharf at Berth 191,[1] on an approximately 6.1-acre site.[2] Process buildings and conveyors, an administration and maintenance building, material storage silos and piles, and truck-loading facilities would occupy the Proposed Project site.[3] The granulated blast furnace slag (GBFS) material would arrive by ship, and the gypsum material would arrive by truck[4] at the facility to produce the final product ground granulated blast furnace slag (GGBFS).[5] The Proposed Project is located at 100 Yatch Street, Wilmington.[6] Based on the aerial photographs, the nearest sensitive receptors (e.g., residential uses) are approximately 3,935 ft northwest of the Proposed Project site. The construction is expected to last 18 months,[7] as analyzed in 2024 and 2025.[8]

[1] Draft EIR. Page 2-7.
[2] *Ibid*. Page 2-4.
[3] *Ibid*. Page 2-7.
[4] *Ibid*. Page 2-11.
[5] *Ibid*. Page 2-9.
[6] *Ibid*. Page 2-4.
[7] *Ibid*. Page 2-14
[8] *Ibid*. Page 3.1-14.

South Coast AQMD Staff's Comments on the Draft EIR

Inconsistent on the Truck Trips throughout the CEQA Documents

The number of truck trips generated from the Proposed Project is summarized in Table 3.1-3[9] in Section 3.1 – Air Quality and Meteorology, Table 3.8-4[10] in Section 3.8 – Ground Transportation in the Draft EIR and in Table B1-4[11] in Appendix B1 – Air Quality Regulations/Methodology and Air Quality and GHG Emissions/Energy. However, the numbers in these documents are inconsistent, as shown in Tables A, B, and C below.

Table A – Proposed Project Truck Trips Generation (Draft EIR Section 3.1)

	Year	Table 3.1-3
Total Trucks (one-way trips/year)	2025	32,975
	2027	65,950
	2049	65,950

Table B – Proposed Project Truck Trips Generation (Draft EIR Section 3.8)

	Table 3.8-4
Annual One-way Truck Trips	66,000
Daily One-way Truck Trips	263

SCAQMD-1

Table C – Proposed Project Truck Trips Generation (Appendix B1)

	Year	Table B1-4
Total Annual Round Trips	2025	16,488
	2027	32,975
	2049	32,975
Total Daily Round Trips	2025	66
	2027	132
	2049	132

The information regarding the number of daily truck trips associated with the Proposed Project's operation should be consistent throughout the Draft EIR and its appendices. It does not only serve compatible purposes but also accuracy in terms of emissions from mobile sources (trucks). Based on the truck trips in Tables A, B, and C above, it is essential that the Lead Agency provides an explanation for the discrepancy among the CEQA documents for the Proposed Project and provides a revision to correct the truck trip information in the final document.

[9] *Ibid*. Page 3.1-17.
[10] *Ibid*. Page 3.8-15.
[11] *Ibid*. Appendix B1 - Air Quality Regulations/Methodology and Air Quality and GHG Emissions/Energy. Page B1-29.

Information Regarding the Ocean-Going Vessels at Berth Regulations

According to the California Air Resources Board (CARB), the United States Environmental Protection Agency (U.S. EPA) granted CARB's authorization request for the 2020 At Berth Regulation. The Ocean-Going Vessels At Berth Regulation aims to reduce nitrogen oxides (NOx) and diesel particulate matter (DPM). CARB issued an Enforcement Notice on October 24, 2023, to confirm that at the beginning of November 20, 2023, all regulated entities must follow and comply with the requirements set forth in the 2020 Regulation.[12] The impact of the Proposed Project's operational emissions would be significant for NOx, and the majority of emissions are generated from ocean-going vessels. The Lead Agency is recommended to review the 2020 At Berth Regulation and ensure following the requirements. For more information about the Regulation, the Lead Agency can visit CARB's webpage at https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessels-berth-regulation and Federal Register's webpage at https://www.federalregister.gov/documents/2023/10/20/2023-23261/california-state-nonroad-engine-pollution-control-standards-ocean-going-vessels-at-berth-notice-of. SCAQMD-2

Additional Air Quality Mitigation Measures

CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize or eliminate any significant adverse air quality impacts. To further reduce the Proposed Project's air quality impacts, South Coast AQMD staff recommends that the Lead Agency incorporate the following mitigation measures in the Final EIR.

As the Proposed Project would include the use of ocean-going vessels (OGV) and potentially heavy-duty trucks, it is recommended that the Lead Agency should consider mitigation measures that address cleaner vessels, like maximizing calls from IMO Tier 3 ships (3.4 g/kW) and retrofitting with OGV emissions reduction technologies for the anticipated bulk vessel calls, and limiting truck idling, respectively. SCAQMD-3

Mitigation measures for operational air quality impacts from mobile sources that the Lead Agency should consider in the Final CEQA document may include the following:

- Require zero-emissions (ZE) or near-zero emission (NZE) on-road haul trucks, such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. Given the state's clean truck rules and regulations aiming to accelerate the utilization and market penetration of ZE and NZE trucks, such as the Advanced Clean Trucks Rule[13] and the Heavy-duty Low NOx Omnibus Regulation,[14] ZE and NZE trucks will become increasingly more available to use. The Lead Agency should require a phase-in schedule to incentivize the use of these cleaner operating trucks to reduce any significant adverse air quality impacts. South Coast AQMD staff is available to discuss the availability

[12] California Air Resources Board. Ocean-Going Vessels at Berth Regulation. Access at: https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessels-berth-regulation
[13] California Air Resources Board. Advance Clean Truck. Access at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks.
[14] California Air Resources Board. Heavy-duty Low NOx Omnibus Regulation. Access at: https://ww2.arb.ca.gov/our-work/programs/heavy-duty-low-nox.

of current and upcoming truck technologies and incentive programs with the Lead Agency. At a minimum, require the use of a 2010 model year that meets CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. All heavy-duty haul trucks should meet CARB's lowest optional low-NOx standard starting in 2022. Where appropriate, include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the Energy and Utilities and Service Systems Sections in the CEQA document. Include the requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards and make the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance. SCAQMD-3 cont'd

South Coast AQMD Rules, Permits, and Responsible Agency

If the implementation of the Proposed Project would require the use of new stationary and portable sources, including but not limited to emergency generators, fire water pumps, boilers, spray booths, etc., air permits from South Coast AQMD will be required, and the role of South Coast AQMD would change from a Commenting Agency to a Responsible Agency under CEQA. In addition, if South Coast AQMD is identified as a Responsible Agency, per CEQA Guidelines Sections15086, the Lead Agency is required to consult with South Coast AQMD. In addition, CEQA Guidelines Section 15096 sets forth specific procedures for a Responsible Agency, including making a decision on the adequacy of the CEQA document for use as part of evaluating the applications for air permits. For these reasons, the Final EIR should include a discussion about any new stationary and portable equipment requiring South Coast AQMD air permits and identify South Coast AQMD as a Responsible Agency for the Proposed Project. SCAQMD-4

The Final EIR should also include calculations and analyses for construction and operation emissions for the new stationary and portable sources, as this information will also be relied upon as the basis for the permit conditions and emission limits for the air permit(s). Please contact South Coast AQMD's Engineering and Permitting staff at (909) 396-3385 for questions regarding what types of equipment would require air permits. For more general information on permits, please visit South Coast AQMD's webpage at http://www.aqmd.gov/home/permits.

Conclusion

As set forth in California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(a-b), the Lead Agency shall evaluate comments from public agencies on the environmental issues and prepare a written response at least 10 days prior to certifying the Final EIR. As such, please provide South Coast AQMD written responses to all comments contained herein at least 10 days prior to the certification of the Final EIR. In addition, as provided by CEQA Guidelines Section 15088(c), if the Lead Agency's position is at variance with recommendations provided in this comment letter, detailed reasons supported by substantial evidence in the record to explain why specific comments and suggestions are not accepted must be provided.

Thank you for the opportunity to provide comments. South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter.

Please contact Danica Nguyen, Air Quality Specialist, at dnguyen1@aqmd.gov should you have any questions.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA-IGR
Planning, Rule Development & Implementation

CN:SW:DN
LAC231012-01
Control Number

From: Bruce Falk
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date: Thursday, December 7, 2023 2:13:43 PM

Good afternoon,

We are contacting you on behalf of, Boatswayne. We have been doing business with Wayne Ettel from Boatswayne since 2009. Mr. Ettel has played a huge role in helping many boat owners repair their old boats in the Los Angeles Harbor. The Port of LA, will be at a great loss without Wayne Ettel's business location. He is one of the few remaining experts in his field. ASM-1

Please consider the economic ramifications.

Thank you!
Kind regards.
Bruce Falk
Action Sales & Metal Co., Inc.
310-549-5666
bruce@actionsalesmetal.com
www.actionsalesmetal.com

From: Steven Regis
To: Ceqacomments
Subject: Berth 191 EcoCem Slag Mill Proposal Comments
Date: Monday, December 11, 2023 11:36:15 AM
Attachments: image002.png
Allied letter re EcoCem Berth 191.pdf

Mr. Cannon,

I have attached CalPortland Company's comments describing our concerns with the proposed slag mill on Berth 191.

Steven Regis

CALPORTLAND®
Steven A. Regis
Chief Operating Officer
CalPortland Co.
10655 W. Park Run Dr. Suite 275
Las Vegas, NV 89144
626-852-6219

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December 11, 2023

Via Email <ceqacomments@portla.org>

Christopher Cannon, Director
Los Angeles Harbor Department
Environmental Management Division
425 Palos Verdes Street
San Pedro, CA 90731

RE: COMMENTS ON THE BERTH 191-194 (ECOCEM) LOW-CARBON CEMENT PROCESSING FACILITY PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

Mr. Cannon,

Allied Cement Company ("Allied") has reviewed the Draft Environmental Impact Report ("DEIR") for the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project ("Project") and respectfully submits the following comments.

Allied operates a cement terminal at Berth 191 in the Port of Los Angeles ("Port") under a Terminal Services Agreement ("TSA") with Vopak Terminal Los Angeles Inc. ("Vopak"). Allied does not necessarily oppose the Project but wants to ensure that the Port and the DEIR have given proper consideration to the co-utilization of Berth 191 by Allied and Orcem. Allied raised this concern in its comments on the Project's Notice of Preparation/Initial Study; however, as discussed below, the DEIR failed to adequately analyze the cumulative impacts associated with the co-located operations. Allied is also concerned that the DEIR does not accurately describe the Project's vessel operations, which could result in a conflict between Allied and Orcem's operations. We discuss each of our concerns in more detail below.

1. **The DEIR fails to properly analyze the Project's cumulative impacts with the reasonably foreseeable impacts associated with Allied's continued operations at Berth 191.**

An EIR's discussion of cumulative impacts must provide a summary of the cumulative environmental effects that are expected and a reasonable analysis of the cumulative impacts of the relevant projects. (14 Cal. Code Regs., § 15130(b)(4)-(5).) The discussion of cumulative impacts should be guided by standards of practicality and reasonableness. (*Id.* at § 15130(b).) An EIR should include a detailed analysis of cumulative impacts when data is reasonably available or can reasonably be produced by further study when such analysis is necessary to ensure that the cumulative effect is identified and disclosed. An EIR is not required, however, to speculate about cumulative impacts that *might* occur. (*Kings County Farm Bureau v. City of Hanford* (1990) 21 Cal.App.3d 692, 729; *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 277.) In *City of Long Beach v. City of Los Angeles* (2020) 19 Cal.5th 465, for example, the court held that an EIR for a railyard expansion project was deficient in its analysis of cumulative impacts

Allied-1

because it failed to provide "meaningful information" about another railyard project for an adjacent site. (*Id.* at 490.)

Here, the DEIR acknowledges the relative importance of The Berth 187-191 [Vopak] Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project ("Vopak Project") in its discussion of cumulative impacts:

> One project of particular note in this cumulative analysis is Project #31, the Berths 187-191 (Vopak) Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project, as it is located immediately adjacent to the Proposed Project. Furthermore, that project would, if approved, be constructed at approximately the same time as the Proposed Project and its vessels would use the same berth (Berth 191) as the Proposed Project during operations.

(DEIR, p. 4-3.)

Allied-1 cont'd

Despite acknowledging its importance to the cumulative impact analysis, the DEIR fails to provide meaningful information about the Vopak Project that would allow an analysis of the two projects' cumulative impacts. Rather, the DEIR's simply includes a generalized discussion of the Vopak project. (See, e.g., DEIR, pp. 4-8, 4-14, 4-15, 4-17.)

Specifically, the DEIR fails to state the annual number of the vessel calls at Berth 191 that will result from the Vopak Project, proposed total bulk cement import, and other key data that is reasonable to discuss and analyze in the DEIR. Moreover, this data is readily available to the Port, as it is currently preparing an EIR for the Vopak Project. Accordingly, the DEIR should be revised and recirculated to properly analyze the Project's cumulative impacts with the co-located Vopak Project.

2. The DEIR does not accurately describe the Project's vessel operations which could conflict with Allied's continued use of Berth 191.

The DEIR's description of vessel operations is internally inconsistent and does not provide justification for the anticipated time that each vessel will unload at Berth 191. Without consistent and complete information, Allied is concerned that there will be a conflict among Orcem and Allied concerning the equitable use of Berth 191.

Allied-2

The DEIR provides that, at full operation, the Project would import approximately 800,000 metric tons of granulated blast furnace slag ("GBFS"), requiring twenty-four vessel calls per year. (DEIR, p. 2-16.) Orcem would import GBFS to the Port using 45,000-56,000-ton Supramax vessels with lengths ranging from 500 to 625 feet. (DEIR, p. 2-17.) This information is internally inconsistent. Twenty-four Supramax vessels could actually import between 1.08 and 1.34 million tons of GBFS annually, a significantly higher figure than the 800,000 tons analyzed in the DEIR. This discrepancy needs to be addressed. If the higher import figure is the correct one, the DEIR needs to be revised and recirculated to analyze the impacts of the higher import levels.

The DEIR further provides that unloading each vessel would take five days. (DEIR, p. 2-17.) Unloading operations would include the use of onboard deck cranes discharging GBFS into portable hoppers, which then discharge GBFS to portable conveyors at the wharf. (DEIR, p. 2-10.)

The Berth 187-191 [Vopak] Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project's Notice of Preparation/Initial Study ("Vopak NOP/IS"), in contrast, provides that Berth 191 could handle a maximum of 500,000 tons of dry bulk cement import annually, requiring fifteen vessel calls per year at Berth 191. (Vopak NOP/IS, p. 2-28.) Each vessel, therefore, could hold approximately 35,000 tons of material.

Allied's vessels would be unloaded using two pneumatic Kovako machines, rather than onboard cranes, which vacuum cementitious materials from the vessel's hold. The Vopak NOP/IS states that vessels would take approximately 6 days to unload. (Vopak NOP/IS, p. 2-28.)

It is unclear why the Port assumes that Orcem can unload a Supramax vessel with a carrying capacity between 45,000 and 56,000 tons using an onboard deck crane in just five days, when the Port has stated that it will take Allied a minimum of six days to unload a significantly smaller vessel, using two Kovako pneumatic unloaders, each with a capacity of 250 tons per hour—a rate similar to unloading with onboard cranes. Based on this data, Allied is concerned that the DEIR underestimates the length of time Orcem's vessels will unload at Berth 191. Moreover, the DEIR fails to account for the delays that port congestion causes in delivering goods, which have only increased following the COVID-19 pandemic. Accordingly, the DEIR should be revised and recirculated to properly analyze the unloading time for Orcem's vessels and, should the Port approve the Project, condition approval upon the equitable use of Berth 191 with Allied's operation.

Allied-2 cont'd

We appreciate your consideration of our comments on the DEIR and we look forward to working with the Port and Orcem to address these concerns.

Sincerely,
ALLIED CEMENT COMPANY

Steve Regis

From:	Kristina Smith
To:	Ceqacomments
Cc:	Commissioners; Tim McOsker-Councilmember CD15; Christian Guzman-CD15
Subject:	Letter from Central San Pedro Neighborhood Council containing comments on Ecocem project
Date:	Monday, December 11, 2023 8:49:34 PM
Attachments:	ecochem letter CESPNC 12-11-23.pdf

Attached please find a letter containing comments from the Central San Pedro Neighborhood Council.

Please acknowledge receipt of this email and the attachment.

Thank you.

Kristina Smith
Neighborhood Council Services
310-918-8650 cell

Dillon Clark, President
LaMar Lyons, Vice President
Matthew Garland, Secretary
Eugenia Bulanova, Treasurer
Barbara St. John, Communications Officer

Central SAN PEDRO NEIGHBORHOOD COUNCIL

A City of Los Angeles Neighborhood Council Certified 2002

www.centralsanpedronc.org • 1840 S. Gaffey Street, #212, San Pedro, CA 90731 • 310-918-8650 • info@centralsanpedronc.org

December 11, 2023

Ms. Lisa Wunder
Interim Director
Environmental Division
Port of Los Angeles

Via: cegacomments@portla.org

Dear Ms. Wunder,

Thank you for the opportunity to comment on the Ecocem project DEIR.

As outlined herein, the Central San Pedro Neighborhood Council voted that the "no project" alternative is the only feasible alternative due to the air quality, health risks, and traffic impacts. At the same time, we voted that a modification of Alternatives 2 and 3 to provide for import and throughput of the raw granulated blast furnace slag via rail car addresses those impacts and could be environmentally acceptable. CESPNC-1

THE "NO PROJECT" ALTERNATIVE

Granulated blast furnace slag [GBFS] is similar to sand. Ecocem proposes to grind the product into a very fine dust material similar to the cement used in concrete, and loading it onto trucks for distribution throughout southern California.

The import, grinding, storage, truck loading and truck transport of the very fine product produces considerable PM 10's [particles smaller than 10 microns in size] and PM 2.5's [smaller than 2.5 microns in size]. Particles that small can lodge in the lungs and can even pass cell walls in the lungs and lodge in the brain. CESPNC-2

Table 3.1-13 in the DEIR shows the levels of the particle emissions for the years 2025, 2027, and 2049, and compares them with the AQMD threshold limits. **These are the predicted emissions after all feasible mitigations are applied and are for the project itself without including any ambient levels.** The predictions are based on what the levels would be at the property line. Predictions for what they would be in the surrounding area, from trucks and product dust for example, are not computed.

Table 3.1-13: Maximum Localized Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations — Proposed Project Operation

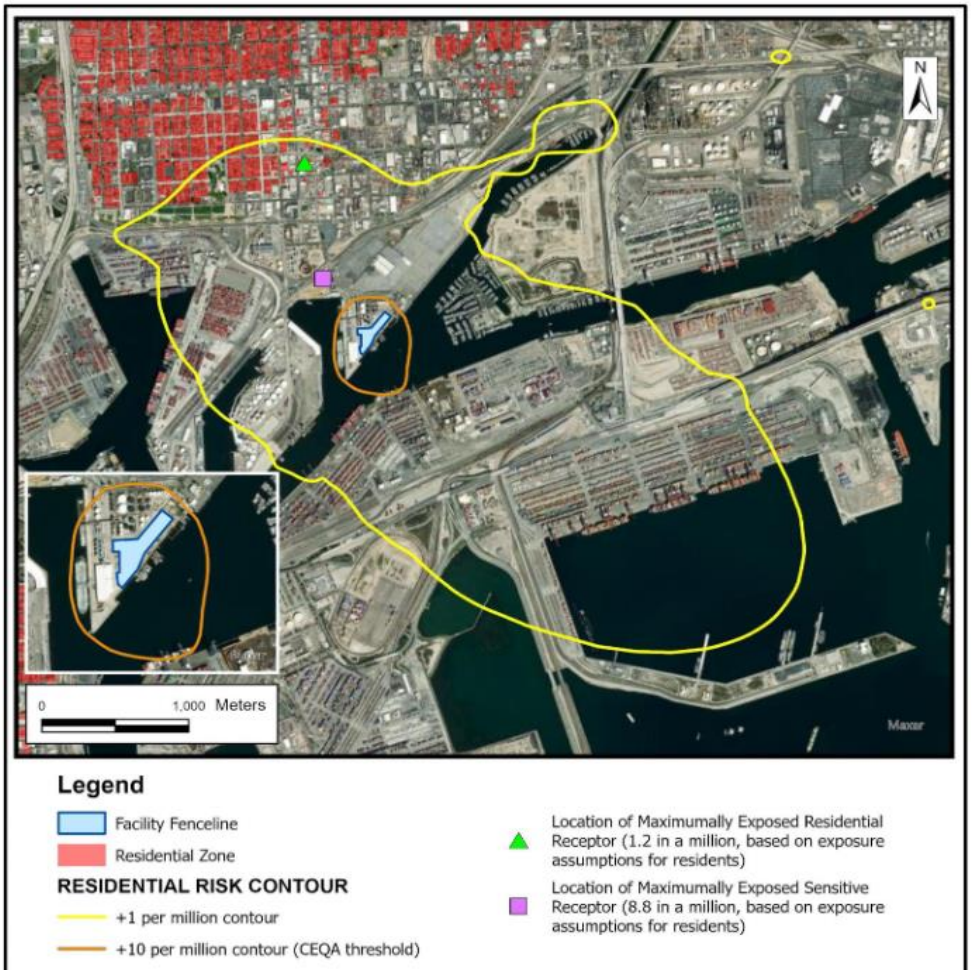
Pollutant	Averaging Time	Analysis Years	Ground-Level Concentration (µg/m³) [a,d]	SCAQMD Threshold (µg/m³)[b]	Concentration above Threshold?
PM_{10}	24-hour	2025	**10.9**	2.5	**Yes**
		2027	**21.6**	2.5	**Yes**
		2049	**21.5**	2.5	**Yes**
	Annual	2025[c]	**1.6**	1	**Yes**
		2027	**7.0**	1	**Yes**
		2049	**7.0**	1	**Yes**
$PM_{2.5}$	24-hour	2025	**3.3**	2.5	**Yes**
		2027	**6.6**	2.5	**Yes**
		2049	**6.6**	2.5	**Yes**

Notes:
[a] Exceedances of the thresholds are indicated in **bold**.
[b] Because the thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds, background concentrations are not added to the Maximum Modeled Project Concentration.
[c] 2025 annual average concentrations include construction impacts from January 2025 through July 2025 and operational impacts from August 2025 through December 2025.
[d] 24-hr concentrations were evaluated for off-site locations where persons may be exposed to the emissions from project activities, based on SCAQMD's Final Localized Significance Threshold Methodology (SCAQMD 2008). Commercial and industrial land uses were conservatively included for all averaging times.

CESPNC-2 cont'd

These emissions exceed the threshold standards by 60% up to 864%. This alone is sufficient to require a finding that the "no project" alternative is the only feasible alternative. There are a few others.

Figure 3.1-2: Isopleths of 30-Year Residential Cancer Risk – Proposed Project



CESPNC-3

Health risks are also a concern. CEGA does not require evaluating health risks unless they exceed more than 10 per million cancer cases. The DEIR found no cancer risk requiring an assessment. However, Figure 3.1–2 in the DEIR shows two risk outlines, one encompassing the project site as well as the adjacent Vopak terminal and another encompassing numerous residences in Wilmington, at least four terminals in the Port, plus the adjacent marinas. Given the claim that the project does not exceed the CEQA impact requirement, this should be clarified. The DEIR also ignores the considerable data available that shows various important pulmonary impacts, especially on workers and children, such as COPD and asthma.

CESPNC-3 cont'd

The identified air quality impacts alone are more than enough to indicate the "no project' alternative should be selected as the only feasible alternative because, as the DEIR indicates, they cannot be mitigated to a level of insignificance.

There is also the impact of truck traffic. Large hopper trucks will be used to import gypsum to the site for use in the crushing process, and to transport finished products from the site to various locations, apparently mostly in Southern California. There will be approximately 66,000 truck trips per year, averaging 73 miles each trip, or about the distance from the site in Wilmington to San Bernardino.

Ecocem believes that CEQA does not require analysis of the environmental impact of these truck trips. They believe that analyzing the vehicle trips of their 26 employees is all that is are required, and included those trips, averaging 10miles each, in their DEIR.

CESPNC-4

They do address the truck transport issue but declare that it is for informational purposes only. See Section 3.8.6, starting at page 3.8-14. In doing so however, they counted each truck as if it were a regular vehicle and only calculated the impact of the level of service at intersections in and around Wilmington. This is called a "Level of Service" [LOS] analysis and they use it rather than the "Vehicle Miles Traveled" [VMT] method. The average one-way truck trip is estimated to be 73 miles, or 4,818,000 miles per year. Since they assert that VMT only applies to cars, not trucks, they don't analyze the VMT for trucks.

Each truck is 72 feet long, length occupied by 2 1/2 cars. If the trucks are counted as if they were 2 1/2 cars each, it would impact on numerous intersections in around the area, degrading them to a level of service requiring modification of those intersections. Further, the informational limitation ignores things like impact on the neighborhood of the 263 hopper trucks rolling through the neighborhoods each day, ignores the impact on the condition of the roadways of the very heavy trucks on the pavement, does not discuss the impact on the new Wilmington Waterfront Park currently under construction, the increase in accidents, and the like.

These are the impacts and omissions that indicate the "no project" alternative should be the preferred alternative. As a note, Ecocem points out that it was unable to secure a site in Long Beach or Port Hueneme, and we know from previous news reports that they were turned down in Vallejo as well. We strongly suggest that the comments in the following links, particularly those related to toxic chemicals in the GBFS product, be taken into consideration.

CESPNC-5

https://web.archive.org/web/20220625160749/https://www.voicesofvallejo.com/not-so-harmless,

https://www.voicesofvallejo.com/fugitive-dust

We do believe that a modification of Alternatives 2 and 3 might result in an environmentally acceptable project.

CESPNC-6

Alternative 2 is for a reduced product alternative and Alternative 3 is for a finished product import terminal.

Alternative 2 lowers the volume of the project, reducing the ship calls from 24 per year to 23 per year, but retains the on-site crushing and processing operation and still would distribute the finished product by truck. This does not materially reduce the air quality and truck transport impacts.

Alternative 3 is a product import terminal, where the slag would be processed before import, off-loaded and distributed it from the site. It does not really reduce much of the air quality impact and would have all the truck transport issues.

There is a combination/modification of Alternatives 2 and 3 that eliminates most if not all of the air quality impacts and truck transport impacts. That alternative would have the site used as an import terminal for the granulated blast furnace slag [GBFS] and transporting it out of the terminal area by rail car to a remote site where the GBFS could be processed and distributed as Ground Granulated Blast Furnace Slag [GGBFS].

CESPNC-6 cont'd

Ecocem understands that raw product import and export via rail eliminates the truck transport and air quality issues, but says it is not feasible because it would require permits from others.
Interestedly, they say that 20 rail cars per day would equal the 263 trucks per day that they hope to use.

Next door to the site is the Vopak terminal. Vopak has a rail line into the terminal as well as a fully enclosed and well-ventilated product storage barn, now unused but currently rented to Portland Cement Company.

Ecocem says that a rail line to its site would require extending the track that now runs through Vopak, would require road crossing agreements a double track would be needed to accommodate the 20 rail cars per day. This ignores the fact that the Port owns all the track in the Port, that the streets are not dedicated public streets, and the Pacific Harbor Lines is owned by the Port as well. The Port could easily construct an industrial sidetrack down Canal Street to the proposed terminal.

Under this proposed modification of Alternatives 2 and 3, the raw product would be imported through the site, loaded onto rail cars and transported to a more acceptable, non-waterfront grinding mill, then distributed throughout Southern California.

In summary, the Council believes that the no project alternative is the only reasonable and feasible option that meets the project objectives in the least environmentally impactful way and is the one that should be selected, as required by Cal. Code Regs. Title 14 Sec. 15126.6, Cal. PRC Secs. 21002, 21081. We also note that the project to manufacture GGBFS in the manner proposed by Ecocem requires use of waterfront property for a non-waterfront dependent use. The Port has traditionally rejected uses that are not waterfront dependent. Perhaps that is why this project was rejected by the Port of Long Beach, Vallejo and Port Hueneme.

We believe the Port should explore the rail transport option in greater depth. We propose, and are willing to participate in, a study group with Port staff and PHL staff to explore this option. Thank you for your consideration.

Sincerely,



Dillon Clark, President
On behalf of the Central San Pedro Neighborhood Council
(Passed by the CeSPNC Board on December 11, 2023)
cc: Board of Harbor Commissioners
Council 15 Office

From:	Jesse Marquez
To:	Ceqacomments
Cc:	Jesse Marquez; Jesse Marquez
Subject:	Public Comments Submission - Berth 191-194 Ecocem Processing Facility Project DIER
Date:	Tuesday, December 12, 2023 12:00:42 AM
Attachments:	CFASE et al Public Comments - Opposing POLA Ecocem Processing Facility Project Draft EIR - 12-11-2023.pdf BAAQMD - 20190403 Vallejo Orcem DFEIR pdf.pdf Bay Crossings - Orcem Four Hijack Vallejo City Council.docx Bay Crossings - Three Vallejo Councilmembers Must Recuse From VMT - Orcem Vote.docx DOJ Orcem comment-vallejo-marine-terminal-eir - 11-7-2018 - 53 pgs..pdf North Bay Business Journal - Vallejo cement plant proposal hits area home values- opponent.docx San Francisco Chronical - Green' cement mill - Vallejo's savior or environmental disaster.docx Times Harold - City Attorney Claudia Quintana - Evidence before council opinion on Orcem.docx CFASE Commercial Status Availability of Zero Emissions Transportation Vehicles - CHE - Construction Equipment 9-1-2023.pdf

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Director of Environmental Management
Lisa Wunder, Acting Director
Los Angeles Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731
310-732-3615
ceqacomments@portla.org

Su: Draft Environmental Impact Report (DEIR)
Berth 191-194 Ecocem Processing Facility Project
APP # 180628-109
SCH # 2022030294

Re: Public Comments Opposing the Berth 191-194 Ecocem Processing Facility Project & DRAFT EIR Non-Compliance to CEQA

The Coalition For A Safe Environment (CFASE) and et all undersigned community organizations submit the following public comments Opposing the Berth 191-194 ECOCEM Processing Facility Project and the DRAFT EIRs Non-Compliance to CEQA Requirements.

See Attachments

Jesse N Marquez
Coalition For A Safe Environment

Coalition For A Safe Environment
Community Dreams
EMERGE
Wilmington Improvement Network
Organización de Servicios Comunitarios Familiares
Citizens For A Better Wilmington
San Pedro Peninsula Homeowners United
NAACP San Pedro-Wilmington-Palos Verde Branch # 1069
West Long Beach Association
Latinos In Action
Friends of the Air, Earth and Water
California Kids IAQ
California Communities Against Toxics
St. Philomena Church Social Justice Committee
Del Amo Action Committee
California Safe Schools
Action Now

December 11, 2023

Director of Environmental Management
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425 S. Palos Verdes Street
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Su: Draft Environmental Impact Report (DEIR)
Berth 191-194 Ecocem Processing Facility Project
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Re: Public Comments Opposing the Berth 191-194 Ecocem Processing Facility Project & DRAFT EIR Non-Compliance to CEQA

The Coalition For A Safe Environment (CFASE) and et all undersigned community organizations submit the following public comments Opposing the Berth 191-194 ECOCEM Processing Facility Project and the DRAFT EIRs Non-Compliance to CEQA Requirements.

ECOCEM Processing Facility Project will be located in the City of Los Angeles community of Wilmington. Wilmington has been identified by the California Environmental Protection Agency (CALEPA) and Cal EPA Office of Environmental Health Hazard Assessment (OEHHA) as a Disadvantaged Community (DAC) and an Environmental Justice Community (EJC). The ECOCEM Processing Facility Project will also negatively impact Disadvantaged Communities and Environmental Justice Communities in San Pedro, Harbor Gateway, Carson and West Long Beach who border or are near the Port of Los Angeles, Port Freight Transportation Corridors and

CFASE-1

Warehouse/Distribution Centers.

Disadvantaged & Environmental Justice Communities Definitions & Rquirements

California Code, Government Code - GOV § 65040.12

(4)(e)(1) For purposes of this section, “environmental justice” means the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

(2) “Environmental justice” includes, but is not limited to, all of the following:

(A) The availability of a healthy environment for all people.

(B) The deterrence, reduction, and elimination of pollution burdens for populations and communities experiencing the adverse effects of that pollution, so that the effects of the pollution are not disproportionately borne by those populations and communities.

(C) Governmental entities engaging and providing technical assistance to populations and communities most impacted by pollution to promote their meaningful participation in all phases of the environmental and land use decision making process.

(D) At a minimum, the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions.

CFASE-2

California Code, Health and Safety Code - HSC § 39711

(a) The California Environmental Protection Agency shall identify disadvantaged communities for investment opportunities related to this chapter. These communities shall be identified based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but are not limited to, either of the following:

(1) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.

(2) Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

CFASE-3

We Oppose the Berth 191-194 Ecocem Processing Facility Project and Draft EIR for the following listed reasons, information, and violations of California Environmental Quality Act (CEQA):

1. We request that the Port of Los Angeles grant another public comment extension for 30 additional days. We have numerous times in the past in numerous Project EIR’s public comments asked the Port not to have more than one project public comment deadline on the same day and to have the public comments a minimum of 30 days apart to allow the public sufficient time to properly research, consult, prepare and submit written public comments.

CFASE-4

The Port of Los Angeles and City of Los Angeles have violated California Code, Government Code - GOV § 65040.12 (d)(4)(e)(1) and (e)(2). CFASE-4 cont'd

2. The Port of Los Angeles is not complying with NEPA for the Berth 191-194 Ecocem Processing Facility Project because it requires the preparation of a Draft Environmental Impact Statement (DEIS) and a Final Environmental Impact Statement (FEIS). The project involves demolition and construction in coastal waters, and has significant environmental impacts on air quality, greenhouse gas emissions, biological habitats and public health. CFASE-5

3. The Port of Los Angeles executive management, legal counsel and environmental management has once again failed in their fiduciary responsibility to conduct "due diligence," in investigating Ecocem, Ecocem's corporate related companies and Ecocems associated business partner's past history.

a. The Ecocem, its subsidairy Orecem Americas and business partner Vallejo Marine Terminal submitted an application to the city of Vallejo to build a cement mill in Vallejo, San Francisco Bay, California. The project was terminated by the city and rejected by the city Planning Commission due to the project's significant environmental impacts and the failure of Vallejo Marine Terminal to respond to requests for information and status of its Appeal. Ococem wanted to build its mill on the Vallejo Marine Terminal owned site.

b. The Bay Crossings newspaper reported:

"A proposal to demolish historic structures and construct a private marine terminal serving large cargo vessels and a cement plant at the mouth of the Napa River has been a source of controversy in Vallejo for the past six years. Three councilmembers are conflicted and should recuse themselves from upcoming votes on the project." CFASE-6

"Vallejo City Councilmembers Rozzana Verder-Aliga—and two fellow council members running for reelection—Jesus "Jess" Malgapo and Pippin Dew-Costa have demonstrated a well-documented improper level of bias prior to environmental review and approval of the project sufficient to undermine the intent and purpose of the California Environmental Quality Act (CEQA). There are no tripwires or bright lines to cross that indicate when such a level of unacceptable bias prior to environmental review occurs. Instead, it must be assessed based on the totality of the circumstances."

"In this case, the circumstances strongly indicate that these councilmem-bers should recuse themselves. They colluded in secret with special interest representatives and the applicants, using the Vallejo Marine Terminal (VMT) andOrcem Americas project to advance a private development initiative that undercuts the city's public planning process."

"The participants in this clandestine, well-organized effort left written records of their activity, subsequently revealed through public records requests. These communications reflect an early enthusiastic commitment by members of the city council to the VMT/Orcem project in the absence of any information regarding the potential negative environmental impacts."

"A majority of the Vallejo City Council went far beyond simply having a favorable opinion of the project prior to any impact analysis, but instead committed to the project at multiple levels in an organized effort hidden from public view. Their abandonment of objectivity is captured in the extraordinary documented measures taken to incorporate

the VMT/Orcem project as an integral part of their private development plan for Vallejo's waterfront without regard for environmental consequences."

"The willingness of councilmembers to ignore city policy, commandeer public resources in support of a private initiative, repeatedly violate the noninterference clause in the City Charter, and betray the public trust in the open and participatory function of local government all serve to indicate an extreme and unacceptable level of bias. Three of these participants—Malgapo, Dew-Costa and Verder-Aliga—continue to serve on the Vallejo City Council, with Malgapo and Dew-Costa up for reelection in November."

"VMT/Orcem made significant campaign contributions to the MISEDC councilmembers along with the county building trades-affiliated PAC, Jumpstart Vallejo. The latter group brings in members wearing safety vests to pack the chambers each time an action related to the VMT/Orcem project comes before the council. Their members would benefit from the temporary construction jobs created in developing the heavy industry infrastructure."

c. The Times~Harold newspaper reported that Vallejo Marine Terminal (VMT): CFASE-6 cont'd

"VMT is owned by Alan Varela and William Gilmartin, who both plead guilty in May to conspiring to obtain city contracts through former San Francisco head of public works Mohammed Nuru. The pair were arrested by the FBI for bribing Nuru with a $40,000, air-conditioned tractor, as well as thousands of dollars in extravagant meals.

"Vallejo's Sperry Mill site, owned by Vallejo Marine Terminal, appears to be operating industrial uses there without permits, a Times-Herald investigation shows. VMT has been doing so since the City of Vallejo sent a cease and desist notice to it two years ago."

4. The Bay Area Air Quality Management District (BAAQMD) submitted a letter to the City of Vallejo which stated the following in summer:

"The City of Vallejo was recently identified as a priority community that experiences high exposure to air pollution under the Air District's Community Health Protection Program (per AB 617). In addition, the Air District's Community Air Risk Evaluation (CARE) program identified Vallejo as a disproportionally impacted community approximately ten years ago due to the higher exposure and health burden within the community. Vallejo residents are exposed to higher levels of air pollution than other communities in the Bay Area. The intent of the Community Health Protection Program and CARE programs are to identify communities with higher air pollution levels and greater vulnerability, and to develop strategies to reduce the public's exposure to local sources of air pollution. The Project as proposed will increase air pollution in an already overburdened community and increase the health burden placed on the community from toxic air contaminants including diesel particulate matter, a known carcinogen."

"The Air District has received a partial permit application for the Orcem segment of the Project; however, an application for the Vallejo Marine Terminal has not been received. For permitting purposes, the Air District will consider emissions associated with each portion of the overall Project when determining the Project's consistency with meeting new source review permitting requirements".

"The Air District conducted a health risk assessment (HRA) for the stationary sources proposed for the Orcem portion of the Project. Based on the information provided to

date, it appears that the project could not be permitted by the Air District unless additional pollution control equipment and/or process modifications were included. The potential increase in cancer risk from the stationary sources would require Orcem to install Best Available Control Technology for Toxics (TBACT) on all sources of significant risk. As currently. proposed without TBACT or the VMT application. The Air District would not be able to permit this Project."

"The DFEIR also identified significant safety impacts to pedestrians and bicyclists due to the substantial increase in daily truck trips generated by the Project (over 500 trnck trips daily) that use local streets that will serve this Project (Lemon and Sonoma Boulevard). This substantial increase in heavy-duty truck traffic will discourage community members, including children and students of nearby schools, from using alternative modes of transportation, such as walking and cycling, due to safety concerns and exposure to diesel particulate matter. More can and should be done to protect pedestrians and cyclists from traffic hazards and exposure to diesel particulate matter. Walking and cycling are key components to healthy communities and are goals in the Air District's 2017 Clean Air Plan. As proposed, the Project will discourage these alternative modes of transportation."

5. The State of California Department of Justice (DOJ) submitted a letter to the City of Vallejo which stated the following in summary: CFASE-6 cont'd

"The California Attorney General's Office has reviewed the draft final Environmental Impact Report ("DFEIR"[1]), Environmental Justice Analysis ("EJA"), and the Air Quality Evaluation and Health Risk Assessment for the Revised Operations Alternative of the Project ("Revised Air Analysis") for the Vallejo Marine Terminal and Orcem Cement Plant Project ("Project") and respectfully submits the following comments.

"The Attorney General has an interest in safeguarding the state's environment and public health, and in ensuring that all citizens of the state—including low-income communities and communities of color—are treated fairly in the implementation of environmental laws that impact them.[2] The environmental documents for the Project fail to provide adequate legal support for the City of Vallejo ("the City") to approve the Project because: 1) the DFEIR fails to adequately disclose, analyze, and mitigate the significant environmental impacts of the Project; and 2) the EJA improperly concludes that the Project would not disproportionately impact low- income communities of color, and thus misleads decision makers and the public by minimizing the Project's significant environmental justice concerns. We urge the City conduct further environmental analysis prior to project approval to ensure that the DFEIR and EJA's inadequacies are corrected and the Project's environmental impacts are understood, disclosed, and mitigated to the maximum feasible extent.

"The California Environmental Protection Agency ("CalEPA") has designated the area as a "disadvantaged community," using a tool called CalEnviroScreen that considers environmental, health, and socioeconomic information to produce scores and rank every census tract in the state. A census tract with a high score is one that experiences a much higher pollution burden than a census tract with a low score.[3] CalEnviroScreen places the communities adjacent to the Project in the 83rd percentile for overall pollution burden and vulnerability. The area ranks high for the number of sites contaminated with harmful chemicals (96th percentile), leaking underground storage tanks that contain hazardous chemicals (99th percentile), impaired water bodies (91st percentile), and hazardous waste facilities (89th percentile). The communities have an extraordinarily high rate of asthma (99th percentile) and cardiovascular

disease (96th percentile), both conditions that are caused and exacerbated by air pollution. Babies born from this area are more likely than 83 percent of babies in the state to be born with a low birth weight (less than five and a half pounds). Mothers who are exposed to pollution are more likely to bear low birth weight babies, and low weight babies are more likely to die as infants or develop asthma and other chronic diseases than babies who weigh more.

CFASE-6 cont'd

II. **Comments**

A. The DFEIR Violates CEQA

a. The DFEIR Fails to Adequately Consider the Project's Environmental Setting and Cumulative Impacts

b. The Revised Air Quality Analysis is Flawed and Underestimates the Project's Air Quality Impacts

c. The DFEIR's Mitigation Measures for Other Project Impacts are Inadequate, Unlawfully Deferred, and Unenforceable

d. The DFEIR Fails to Analyze the Potentially Significant Impacts of Coal Transport

CFASE-7

B. The Environmental Justice Analysis is Flawed and Misleading

a. The EJA's Demographic Analysis is Misleading

b. The EJA Fails to Acknowledge the Already-Existing Pollution Burden

CFASE-8

C. The DFEIR Fails to Consider the Potential Risks Due the Project Site Being Situated in a Sea-Level Rise Inundation Zone

CFASE-9

III **Conclusion**

"In conclusion, the DFEIR should be revised and, if necessary, recirculated, to remedy the CEQA inadequacies identified above, and to ensure the Project's environmental and community impacts are fully understood, disclosed, and mitigated to the maximum feasible extent. We appreciate your consideration of our comments and hope that you will require a full consideration of the Project's true impacts prior to certifying the environmental document and reviewing the Project for approval."

CFASE-10

6. The Project should not be approved because:

a. The projects significant Criteria Pollutant and Toxic Pollutant Emissions and inadequate proposed mitigation will impact protected Disadvantaged Communities and Environmental Justice Communities disproportionately more than any other community.

There are Zero Emission Technologies and Emissions Capture & Treatment Technologies currently available for over 90% of ECOCEMS vehicle and equipment need requirements. See Attachment: CFASE Zero Emission Transportation Vehicles, Cargo Handling Equipment, Construction Equipment & Ship/Boat

CFASE-11

Commercial Availability Survey.

b. The projects significant Greenhouse Gas Emissions and inadequate proposed mitigation will impact protected Disadvantaged Communities and Environmental Justice Communities disproportionately more than any other community.

   There are Zero Emission Technologies and Emissions Capture & Treatment Technologies currently available for over 90% of ECOCEMS vehicle and equipment need requirements. See Attachment: CFASE Zero Emission Transportation Vehicles, Cargo Handling Equipment, Construction Equipment & Ship/Boat Commercial Availability Survey.

c. The projects significant Cumulative Impacts and inadequate proposed mitigation will impact protected Disadvantaged Communities and Environmental Justice Communities disproportionately more than any other community.

   There are Zero Emission Technologies and Emissions Capture & Treatment Technologies currently available for over 90% of ECOCEMS vehicle and equipment need requirements. See Attachment: CFASE Zero Emission Transportation Vehicles, Cargo Handling Equipment, Construction Equipment & Ship/Boat Commercial Availability Survey.

CFASE-11 cont'd

d. The projects significant Public Health Impacts and inadequate proposed mitigation will impact protected Disadvantaged Communities and Environmental Justice Communities disproportionately more than any other community.

   - There are Zero Emission Technologies and Emissions Capture & Treatment Technologies currently available for over 90% of ECOCEMS vehicle and equipment need requirements. See Attachment: CFASE Zero Emission Transportation Vehicles, Cargo Handling Equipment, Construction Equipment & Ship/Boat Commercial Availability Survey.
   - Air Purification Systems can be installed in all sensitive receptor homes, condos and apartments.
   - Air Purification Systems can be installed in all sensitive receptor child care centers.
   - Air Purification Systems can be installed in all sensitive receptor public schools, park gyms, recreational centers and senior citizen centers.
   - Noise suppression, dampening and canceling technologies such as soundproof glass, doors, wall panels, enclosures, curtains, paint etc. exist to mitigate all nose impacts to all categories of sensitive receptors.

e. The projects Health Risk Assessment is under-evaluated because it did not include the underestimated Criteria Pollutants Emissions, Toxic Pollutant Emissions and Greenhouse Gas Emissions on Public Health that we have identified.

CFASE-12

7. Truck Criteria Pollutants, Toxic Pollutants & Greenhouse Gas Emissions

CFASE Public Comments, Request for Information & Inclusion in EIR:

CFASE-13

The total Criteria Pollutant, Toxic Pollutants & Greenhouse Gas Emissions calculations

for Gypsum truck trips are significantly underestimated because the emissions were based on only a one-way truck trip not the total number of trip destinations and truck VMT for delivery to ECOCEM.

The total Criteria Pollutant, Toxic Pollutants & Greenhouse Gas Emissions calculations for Gypsum truck trips are significantly underestimated also because port cargo trains and empty containers entering and leaving will take a minimum of 20-30 minutes. The ECOCEM Gypsum truck delivery and GGBKS shipments will also be delivered.

The emissions are underestimated by a factor of 2 to 3.

Table 2-2 referenced numbers for Gypsum truck trips, one-way trips/yr., GGBFS truck trips, one-way trips/yr. and Total trucks one-way trips/yr. and should be increased by at least 2.5x-3x.

CEQA requires that both Direct and Indirect Effects be assessed and mitigated.

I. Gypson Truck Trips

a. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin the Gypson manufacturer or distributer with a sealed dry-bulk pneumatic tanker trailer to deliver to ECOCEM and then return home.

b. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin the Gypson manufacturer or distributer to pick-up a sealed dry-bulk pneumatic tanker trailer in another location and returning to the Gypson manufacturer or distributer in order to pick up the Gypsum, deliver Gypson to ECOCEM and then return home.

c. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin a large truck company parking lot, traveling to get a sealed dry-bulk pneumatic tanker trailer in another location and returning to the Gypson manufacturer or distributer in order to pick up the Gypsum, deliver Gypson to ECOCEM and then return home .

d. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin an Independent Owner/Operator ‘s house, traveling to pick-up a sealed dry-bulk pneumatic Tanker Trailer in another location and returning to the Gypson manufacturer or Distributer in order to pick up the Gypsum, deliver Gypson to ECOCEM and then return home.

CFASE-13 cont'd

II. GGBKSBKS Truck Trips

ECOCEM does not own any Heavy-Duty Trucks/Trailers/Tractors or Sealed Dry-Bulk Pneumatic Tanker Trailers.

a. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin a large truck company parking lot, traveling to pick-up a sealed dry-bulk pneumatic tanker trailer in another location, then travel to ECOCEM to pick up a GGBKS load,

CFASE-14

deliver the GGBKS to the customer and then return home.

b. The Draft EIR failed to identify, acknowledge, assess and mitigate the Gypsum Heavy-Duty Trucks/Trailers/Tractors leaving their place of origin an Independent Owner/Operator ‘s home, traveling to pick-up a sealed dry-bulk pneumatic tanker trailer in another location, then travel to ECOCEM to pick-up a GGBKS load, deliver the GGBKS to customer and then return home.

CFASE-14 cont'd

III. Truck Idling

a. The Draft EIR states that the trucks will not idle for more than 5 minutes which is impossible and underestimated. The Draft EIR also states," Truck loading would be carried out within a building located below the product dispatch silos. Each truck loading event would take approximately 6 to 10 minutes."

   This means that Truck Idling would be equal or more than a truck loading a minimum 6-10 minutes. In reality trucks would arrive at different times early and get in que to wait their turn resulting on more idling emissions.

b. The Draft EIR failed to include port train delay impacts on truck arrivals and departures. We estimate that on the average there are 10-15 train cars leaving and entering the Port of Los Angeles daily that will cause a significant increase in emissions. The Draft EIR needs to include Idling emissions caused by port train passing delays

c. The emissions are underestimated by a factor of 2 to 3.

CFASE-15

8. Cumulative Impacts

CFASE Public Comments, Request for Information & Inclusion in EIR:

The Draft EIR Emissions Cumulative Impacts are significantly underestimated and need to be revised to include Truck Criteria Pollutants, Toxic Pollutants & Greenhouse Gas Emissions that we have identified in these public comments.

The Draft EIR Emissions Cumulative Impact assessments are underestimated by a factor of 2 to 3.

CFASE-16

9. Truck Driver Availability and TWIC Requirements

a. The Draft EIR did not address and assess the impacts of the Transportation Security Administration issued Transportation Worker Identification Credential (TWIC Card) requirements for Truck Drivers to enter the port.

b. There is currently a Truck Driver shortage, the ports in the past have had Truck Driver shortages and there is a high company turnover of Truck Drivers.

c. ECOCEM has provided no information that their Gypsum supplier(s) have sufficient Truck Drivers and dry-bulk pneumatic tanker trailers to meet ECOCEMS delivery needs.

d. ECOCEM has provided no information, letters of Intent or signed agreements from Trucking Companies to pick-up GGBFS at their facility.

CFASE-17

e. ECOCEM has provided no information, assurances, letters of Intent or signed agreement with Trucking Companies that they will not change drivers after the leave the port. TWIC Card Truck Drivers are the only public assurance that the Truck Driver is a legal and safe driver. Non-TWIC drivers typically will own older semi-trucks which are higher air polluting, have more accidents, have more frequent breakdowns on highways, freeways and public streets.

CFASE-17 cont'd

10. Truck Traffic & Congestion

The Draft EIR failed to conduct an assessment of local street, freeway and highway capacity for ECOCEM's 95,995 Trucks per year, 263 Trucks per day and 11 Trucks per hour which is highly underestimated and is closer to 526 per day and 22 Trucks per hour.

CFASE-18

11. Ship Emissions Mitigation

a. The Draft EIR states that ECOCEM," plans to use a control technology based on a barge-mounted scrubber system that captures and treats auxiliary engine exhaust emissions from vessels while at-berth."
b. There are two companies that would be able to service ECOCEM ships and ECOCEM can meet with them now to get a letter of intent or signed agreement for a barge-mounted scrubber system that captures and treats auxiliary engine exhaust emissions service when ECOCEMs terminal is complete.

CFASE-19

12. CEQA References Applicable to our Public Comments:

Section 15064 - Determining the Significance of the Environmental Effects Caused by a Project

(a) Determining whether a project may have a significant effect plays a critical role in the CEQA process.

(1) If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, the agency shall prepare a draft EIR.

(2) When a final EIR identifies one or more significant effects, the lead agency and each responsible agency shall make a finding under Section 15091 for each significant effect and may need to make a statement of overriding considerations under Section 15093 for the project.

CFASE-20

(b)

(1) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(2) Thresholds of significance, as defined in Section 15064.7(a), may assist lead agencies in determining whether a project may cause a significant impact. When

using a threshold, the lead agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant.

(c) In determining whether an effect will be adverse or beneficial, the lead agency shall consider the views held by members of the public in all areas affected as expressed in the whole record before the lead agency. Before requiring the preparation of an EIR, the lead agency must still determine whether environmental change itself might be substantial.

(d) In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project.

(1) A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project. Examples of direct physical changes in the environment are the dust, noise, and traffic of heavy equipment that would result from construction of a sewage treatment plant and possible odors from operation of the plant.

(2) An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution.

CFASE-20 cont'd

(3) An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable.

Section 15126.2 - Consideration and Discussion of Significant Environmental Impacts

(a) The Significant Environmental Effects of the Proposed Project. An EIR shall identify and focus on the significant effects of the proposed project on the environment. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant

environmental effects the project might cause or risk exacerbating by bringing development and people into the area affected. For example the EIR should evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas), including both short-term and long-term conditions, as identified in authoritative hazard maps, risk assessments or in land use plans, addressing such hazards areas.

CEQA Guidelines, § 15378, subd. (a)

The project under CEQA, is defined to include, “the whole of an action, which has a potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment.”

Emissions sources include but may not limited to:

Construction Emissions

- Construction equipment on site
- Trucks hauling materials to and from the site
- Worker commute trips

Operational Emissions

- Vehicle trips (mobile sources)
- Natural gas consumption (on-site)
- Electricity consumption (on-site)
- Water consumption and generation of wastewater
- Solid waste disposal
- Landscape maintenance activity (area sources)

CFASE-20 cont'd

CEQA Guidelines § 15126.2, subd. (a).

An analysis of a project must give “due consideration to both the short-term and long-term effects”

CEQA Guidelines, § 15064.4, subd. (a)

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

(1) Quantify greenhouse gas emissions resulting from a project; and/or

(2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should

consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as
compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency
determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to
implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

CFASE-20
cont'd

Section 15126.4 - Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects

(a) Mitigation Measures in General.

(1) An EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy.

(A) The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures proposed by the lead, responsible or trustee agency or other persons which are not included but the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

(B) Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. Formulation of mitigation measures shall not be deferred until some future time. The specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the

type(s) of potential action(s) that can feasibly achieve that performance standard and that will considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence

CFASE-20 cont'd

(c) Mitigation Measures Related to Greenhouse Gas Emissions.
Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;**(2)** Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;**(3)** Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

The Coalition For A Safe Environment et al co-signature organizations respectfully file these Public Comments on behalf of our members, organization affiliations, the public and request that all issues identified and requests be accepted and included in our request for a Project Denial and revised Draft Environmental Impact Report.

Please see attachments for information sources stated in these public comments.

Jesse N. Marquez is the designated contact person for all co-signatory organizations for all future correspondence, information, questions, hearings and meetings. All co-signatories and individuals reserve their rights to participate in all future meetings, discussion, actions, mediation and negotiations.

Respectfully Submitted,



Jesse N. Marquez
Executive Director
Coalition For A Safe Environment

Drew Wood
Executive Director
California Kids IAQ

Ricardo Pulido
Executive Director
Community Dreams

Dulce Altamirano
Directora Ejecutiva
Organización de Servicios Comunitarios Familiares

Magali Sanchez-Hall, MPH
Executive Director
EMERGE

Martha Cota
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Anabell Romero Chavez
Wilmington Improvement Network
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Citizens For A Better Wilmington

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Modesta Pulido
Chairperson
St. Philomena Social Justice Ministry

Robina Suwol
Executive Director
California Safe Schools

Jane Williams
Executive Director
California Communities Against Toxics

Cynthia Babich
Executive Director
Del Amo Action Committee

Mitzi Shpak
Executive Director
Action Now

Chuck Hart
President
San Pedro Peninsula Homeowners United

Rosalie Preston
President
Friends of the Air, Earth and Water

Theral Golden
Treasurer
West Long Beach Association

From:	Dean Pentcheff
To:	Ceqacomments
Cc:	Bezmalinovich, Augie
Subject:	Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date:	Monday, November 27, 2023 6:08:05 PM
Attachments:	Ecocem comments — Coastal SPNC.pdf

Please find attached formal comments on the Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project from the Coastal San Pedro Neighborhood Council.

Thank you.

-Dean
--
Dean Pentcheff
pentcheff@gmail.com
pentcheff@nhm.org
https://research.nhm.org/disco


The following motion was passed unanimously at the Board meeting of the Coastal San Pedro Neighborhood Council on 20 November 2023:

The Coastal San Pedro Neighborhood Council submits the attached comments on the Draft Environmental Impact Report for Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility, addressing concerns on Air Quality and Meteorology, Greenhouse Gases, Local Traffic Circulation, and the Rail Based Product Distribution Alternative.

November 20, 2023
Lisa Wunder, Interim Director
City of Los Angeles Harbor Department Environmental Management Division 425 Palos Verdes Street
San Pedro, CA 90731

Subject: Comments Submittal for the Draft EIR for Berth 191-194 (ECOCEM) Low-Carbon Cement Processing Facility

Reference: Coastal San Pedro Neighborhood Council Comments Submittal RE Subject Project, dated April 20, 2022

To whom it may concern,

We appreciate consideration and response to our Comments defined in the reference letter and request response to the following as related to the Draft EIR for the Proposed Project applicable for the sections listed.

Section 3.1 Air Quality and Meteorology

As impacts would remain significant and unavoidable for NOx in all operational years and would remain significant and unavoidable for operation-related ambient pollutant concentrations in all years for annual and 24-hr PM10 and 24-hr PM2.5, we recommend that this project be used as an incentive by the Port to significantly accelerate emissions control programs on ocean going vessel at-berth and in-transit emissions to such an extent that the significant and unavoidable impacts of NOx and PM will be reduced or mitigated to a level of compliance. COSPNC-1

Section 3.5 Greenhouse Gases

GHG emissions of the project will be significant and unavoidable for all analyzed years. However, we recognize that the specialized cement production of the project is expected to save approximately 666,500 metric tons of carbon release per year, relative to the same production of ordinary Portland cement. This savings for the planet greatly exceeds the 12,000 – 21,000 metric tons of CO_2e (GHG) emitted by plant operation. Therefore we support this project as a net gain for GHG emission control. COSPNC-2

3.8.6 Local Traffic Circulation

We appreciate the LAHD assessment of potential impacts from Project-related truck traffic on local intersections and arterial road segments and the improvement plans defined in Table 3.8-4 and depicted in Figures 3.8-1 through 3.8-3. We further request regularly scheduled (e.g., monthly) monitoring of traffic impacts resulting from Project operations and continuing improvements and roadway or operational modifications determined necessary to mitigate or reduce traffic impacts on the adjacent communities and the impacts on roadways from heavy duty truck traffic. COSPNC-3

5.4.2 Rail Based Product Distribution Alternative

We request futher analysis to include consideration and input from the Harbor area neighborhood councils in the immediate vicinity (including Wilmington and Northwest San Pedro Neighborhood Councils) regarding the three primary issues explained in the DEIR that render the alternative infeasible. COSPNC-4

We will appreciate your consideration and response. Sincerely,

Doug Epperhart, President

On behalf of the Coastal San Pedro Neighborhood Council Board

From: Howard Berman
To: Ceqacomments
Subject: Project title "Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Monday, December 11, 2023 10:38:40 AM
Attachments: E4 Comment Letter to POLA.docx

Attached please find my comments on the subject referenced item.
Thank you for this opportunity to comment on this matter.
HB

Howard Berman, President
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Howard Berman, President
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December 11, 2023

Via Email: ceqacomments@portla.org

Port of Los Angeles
Los Angeles Harbor Department
425 Palos Verdes Street
San Pedro, CA 90731

Re: **Berths 191-194 Low-Carbon Cement Processing Facility Project**
Comments on Draft Environmental Impact Report

E4 Strategic Solutions appreciates the opportunity to comment on the Draft Environmental Impact Report ("EIR") for the "Berths 191-194 Low-Carbon Cement Processing Facility Project" (the "Project").

We begin with a brief overview of the Project, followed by our comments.

PROJECT OVERVIEW

According to the EIR, the Project is the construction and operation of a low-carbon binder import and processing facility on 6.1 acres located at the Port of Los Angeles ("POLA"). The Project also includes repairs and upgrades to Berth 191 to receive imports of granulated blast furnace slag[1] ("GBFS") from ports of origin in Asia or Mexico. GBFS is described as "a by-product of the production of molten iron in a blast furnace, as the molten slag from the blast furnace is quenched in water." (EIR, pp. 2-2, 2-9.)

GBFS would be imported to the Project site by ocean-going vessels ("OGVs") between 500 and 625 feet in length, with cargo capacities up to 56,000 tons. (EIR, p. 2-17.) A new processing facility adjacent to Berths 192-194 would grind and process incoming GBFS (together with gypsum imported by truck) into a low-carbon cement binder. (EIR, p. 2-2.) The resulting product, known as ground granulated blast furnace slag ("GGBFS"), would be stored in onsite silos, from which third-party trucks would be loaded to transport the GGBFS to concrete production facilities throughout the region. (EIR, p. 2-3.) E4SS-1

The EIR characterizes GGBFS as an environmentally beneficial alternative to traditional portland cement. The EIR describes GGBFS as a low carbon "binder" that serves as "a partial substitute to traditional portland cement and portland limestone cement in concrete." (EIR, p. 2-1.) The EIR states that GGBFS requires 14 percent less energy to produce than portland

[1] GBFS is "a by-product of the production of molten iron in a blast furnace, as the molten slag from the blast furnace is quenched in water." (EIR, pp. 2-2, 2-9.)

cement and would "help the State of California meet its net-zero emissions target for the cement industry." (EIR, pp. 2-1, 2-2.)

The Project is projected to achieve full operations by 2027, at which time the site would annually receive 800,000 metric tons ("MT") of imported GBFS, which would in turn allow the production of 775,000 MT of GGBFS. (EIR, p. 2-16.) At that level of operation, the Project would receive 24 vessel calls per year, and generate approximately 65,950 truck trips to import gypsum and distribute GGBFS throughout the Los Angeles region. (EIR, p. 2-16.) E4SS-1

The POLA has prepared a draft EIR to analyze the Project's potential environmental impacts. After review, it is clear that the EIR contains several significant defects, outlined below, which render the document inadequate.

COMMENTS

1. **The Project Description fails to disclose the full scope of the Project with respect to overseas transportation.**

The EIR's Project Description omits important elements. The Project plainly requires the transportation of material by OGVs to the POLA from ports of origin in Asia or Mexico. This is an integral part of the activity that would be approved. Yet, the Project Description fails to treat the entire voyage from those overseas ports to the Project site as part of the Project. The EIR instead assumes that the Project includes only that segment of the voyage between the Project site and the state's overwater boundary, 178 nautical miles from the coast. (EIR, p. 3.5-14.) As follows, the EIR's failure to describe the entire voyage as part of the Project renders the Project Description inadequate. E4SS-2

Here, according to the Project Description, the Project includes the operation of facility that would annually receive up to 800,000 MT of GBFS by OGVs from ports in Asia or Mexico, through an estimated 24 OGV calls per year. (EIR, pp. 2-16, 2-17.) Plainly, the Project requires the overseas transport of GBFS to operate. Overseas transport of GBFS is an integral part of the facility's operation. Thus, the full voyage, from the ports of origin to the Project site, is part of the "the whole of an action" that may cause direct or reasonably foreseeable indirect physical changes in the environment, such as air pollutants and GHG emissions (as described below).

By omitting this integral component of the Project from the Project Description, the EIR is fundamentally inadequate and misleading. The EIR must be revised to fully describe the Project.

2. **CEQA's exemption for out-of-state emissions is inapplicable.**

The EIR explains the decision not to fully analyze the GHG emissions generated by OGVs by asserting that CEQA applies only to OGV emissions "within California's boundaries." (EIR, p. 3.5-14.) The EIR thereby asserts that Project-related GHG emissions generated outside of the state's boundaries are beyond the scope of CEQA. It is reasonable to assume (though the EIR is silent) that the EIR makes this assertion based on CEQA's exemption for certain projects located outside of California. (Pub. Resources Code, § 21080(b)(14); Code of Regs., tit. 14, § 15277.) E4SS-3

By its terms, however, this exemption does not apply here and it would be an error to invoke it. The Project is not located in another state nor is subject to NEPA. Further, the exemption is inapplicable to emissions that would have a significant effect on the environment in this state, which plainly includes GHG emissions because of their global impact. It is axiomatic that emissions with a global impact have a local impact in California. GHG emissions in the middle of the Pacific Ocean are therefore equally impactful in California as if they occurred in the POLA itself. Thus, significant GHG emissions by a project under POLA's authority, have, by definition, a significant effect on the environment in this state, no matter where the point of emission occurs. E4SS-3

For this additional reason, the EIR and its Project Description must be revised to accurately describe the Project and analyze the impacts posed by Project-related OGVs operating beyond the state's overwater boundaries.

3. The EIR fails to fully analyze GHG emissions generated by OGVs.

Lead agencies are obligated by CEQA to make a good-faith effort to calculate and disclose the GHG emissions generated by a project.

Here, the EIR analyzed only a fraction of the GHG emissions associated with the transportation of GBFS from overseas ports to the Project site. Rather than calculating emissions generated over the course of the entire voyage, the EIR only calculated GHG emissions from the state's "overwater boundary, approximately 178 nautical miles from the [POLA]." (EIR, p. 3.5-14.) The EIR calculated that such near-shore GHG emissions from OGVs would be 2,423 metric tons ("MT") annually by 2027. (EIR, p. 3.5-21.) Even by this partial measure, GHG emissions are prominent, totaling 11 percent of the GHGs generated by the entire Project annually during the operational phase. (EIR, pp. 3.5-21-22.) Standing alone, these OGV emissions comprise 24 percent of the 10,000 MT threshold of significance. E4SS-4

The failure to analyze GHG emissions generated by OGVs farther out than 178 nautical miles resulted in a massive underestimate of the actual GHGs generated by the Project. While the EIR neglected to specify any potential ports of origin for OGVs arriving from Asia or Mexico, public data indicates that China is the largest worldwide producer of GBFS[2], making China a probable source for Asian imports. An OGV trip from Beijing to the POLA is approximately 7,500 miles. For OGVs originating in Mexico, the nearest major port is Manzanillo, which is approximately 1,400 miles from the POLA. Thus, it can be reasonably assumed that the Project analyzed only approximately 2.4 percent (178/7,500) of GHG emissions generated by OGVs originating from China, and 12.7 (178/1,400) percent of GHG emissions for OGVs originating in Mexico. It is clear from this that GHG emissions generated by voyages from either point of origin would, standing alone, exceed the 10,000 MT threshold of significance.

The EIR attempts to excuse the lack of analysis by suggesting that any effort to calculate emissions generated beyond California's overwater boundary would be speculative. The EIR states:

[2] See https://www.chemanalyst.com/industry-report/granulated-ground-blast-furnace-slag-ggbfs-market," accessed Nov. 26, 2023.

> This document acknowledges that Project-related GHG emissions would extend beyond state borders. However, origin and destination data for out-of-state emissions over the life of the proposed Project or an alternative do not exist and would be speculative on a project-specific level. Therefore, estimation of out-of-state GHG emissions is not required under CEQA.

(EIR, p. 3.5-17.)

It is well within POLA's ability, however, to make a reasonable estimate of the GHG emissions generated by OGVs from ports of origin, without engaging in pure speculation. The EIR states that imports will originate from Asia or Mexico. That information alone allows a conservative estimate of the trip distances from possible ports of origin to POLA, which in turn allows for an estimate of GHG emissions generated by OGVs over the course of those trips. The EIR makes no effort to make this calculation or explain why such estimates are not possible. A good-faith estimate, even if imprecise, is far more in line with CEQA than arbitrarily assuming that OGVs materialize at the state's overwater boundary. E4SS-4

By all appearances, offshore OGV's transporting GBFS to the Project site will generate very significant GHG emissions, well in excess of the adopted threshold of significance. The EIR must make a "good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" those emissions. (Code of Regs., tit. 14, § 15064.4.) The EIR fails to do so and therefore must be revised to include this analysis.

4. The EIR is misleading by asserting that the Project will reduce GHG emissions.

The purpose of an EIR is to inform the public and responsible officials of the environmental consequences of their decisions. Key to this function is that the EIR does not mislead the public or decisionmakers with inaccurate information.

The EIR's failure to disclose the full extent of the GHG impacts is striking because the EIR characterizes the Project as one that will reduce GHG emissions. The EIR introduces the Project by reciting that the combustion of carbon-based fuels for cement production is responsible for approximately eight percent of worldwide carbon dioxide emissions and two percent of California's emissions. (EIR, p. 3.5-3.) The EIR goes on to say that, by importing 800,000 tons of GBFS annually over a 30-year period, the Project will replace up to 12 percent of the cement produced annually in Southern California and reduce GHG emissions associated with cement consumption in the state. (EIR, p. 3.5-3, 20.) E4SS-5

Indeed, the stated purpose of the Project, according to the EIR, is "to help the State of California meet its net-zero emissions target for the cement industry" and "further the principles and goals of [regional policies] related to GHG emissions." (EIR, pp. 2-2, 3.5-11; see also p. 3.15-23.)

These statements are misleading in the absence of a complete inventory of all GHG emissions. It is simply not possible for the EIR to conclude that the Project will reduce GHG emissions without evidence of the Project's complete impact. By touting the environmental benefits of the Project without disclosing all of the facts – and indeed, on a record that leaves

open the possibility that importing GBFS will significantly increase GHG emissions – the EIR is misleading. E4SS-5

5. Alternative 3 is not a valid Project alternative.

One Project alternative, Alternative 3, describes a portland cement import and distribution facility. This is not a legal Project alternative because it does not meet any Project objectives and describes an entirely different project than the one proposed. The EIR must be revised to delete Alternative 3.

A project description must identify a project's "objectives," which in turn guide the selection of project alternatives. (Code of Regs., tit. 14, § 15124(b).) The alternatives selected in the EIR must "feasibly attain most of the basic objectives of the project." (Code of Regs., tit. 14, § 15126.6(a).)

Here, the Project's purpose is to supply an alternative to traditional portland cement. The Project would produce a low-carbon "binder" that is "a partial substitute" to portland cement that requires 14 percent less energy to make and would help California to meet its net-zero emissions target for the cement industry. (EIR, pp. 2-1, 2-2.) In line with this purpose, the EIR identifies the following "Project Objectives":

- Provide necessary raw material import capacity for an environmentally sustainable product;
- Establish a processing facility to produce the binder at a deep-water berth in Southern California, with permanent local manufacturing jobs, that is:
  - Capable of adapting to changes in raw material sources in order to maintain a steady supply of product;
  - Capable of providing storage capacity for the rapid unloading of bulk ships delivering raw materials and for loading product on bulk tanker trucks; and
  - Located near the center of the Southern California market to reduce the traffic burden, road wear, and energy requirements associated with truck transport of product.
- Facilitate the future development of improved low-carbon, high-performance binders

E4SS-6

(EIR, p. 2-3.)

Alternative 3 does not advance **<u>any</u>** of these objectives. Alternative 3 essentially would construct an import and distribution facility for 775,000 MT per year of portland cement that is produced overseas and imported to the Project site. (EIR, p. 2-24.) By doing so, the EIR is frank that the environmental benefits of the Project would not be realized. (EIR, pp. 2-24, 2-

25, 5-3.) While the EIR states that some imports may include low-carbon binders, the EIR is similarly frank that traditional portland cement would be the dominant import:

> The most profitable operating scenario for a cementitious import terminal owned by a business not operating a cement plant in California would be to import Portland cement, not GGBFS, fly ash, or natural pozzolan.

(EIR, p. 2-24.)

Because Alternative 3 fails to meet any of the Project Objectives, it does not meet the criteria under CEQA for consideration as an alternative, which require that an alternative "feasibly attain most of the basic objectives of the project." (Code of Regs., tit. 14, § 15126.6(a).) Indeed, the EIR indicates that Alternative 3 would actually impede and frustrate achievement of the Project Objectives because it would help shift GHG production to overseas locations where it might avoid CEQA review. As such, Alternative 3 is incompatible with the Project's fundamental purpose and would change the basic nature of the project from one that is assertedly environmentally beneficial to one that simply maintains the status quo. E4SS-6

Properly viewed, Alternative 3 is not a legal Project alternative, but describes a different project altogether that has fundamentally different characteristics and would achieve different purposes. Accordingly, the EIR must be revised to delete Alternative 3 and to reconsider a reasonable range of alternatives.

6. The EIR fails to analyze the Project's potential water quality impacts.

The EIR fails to include any discussion of water quality impacts. Such a discussion is expected and customary for an industrial project that includes handling fine particulate matter in immediate proximity to a sensitive waterway with attendant water quality risks, particularly in a case such as this involving potentially hazardous materials. The EIR must be revised to include this analysis.

An EIR must identify and describe a proposed project's potentially significant effects on the environment. (Pub. Resources Code, § 21100, subd. (b).; Code of Regs., tit. 14, § 15126.2(a).) A significant effect is a "substantial, or potentially substantial, adverse change in the environment." (Pub. Resources Code, § 21068.) The "environment" consists of the physical conditions "which exist within the area which will be affected by a proposed project," including the "water." (Pub. Resources Code, § 21060.5.) E4SS-7

To guide the analysis of water impacts, Appendix G to the CEQA Guidelines contains an environmental checklist which (under the heading of "Hydrology and Water Quality") instructs lead agencies to analyze whether a project may, among other things, "[v]iolate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality."

The EIR did not include such an assessment. The EIR instead determined that no analysis of water quality was necessary, apparently because the Notice of Preparation ("NOP") prepared for the Project did not generate any public comments requesting such an analysis.

(EIR, p. ES-8.) As a result, the EIR concludes that the Project has no potential for an adverse change to water quality that warrants consideration.

This conclusion overlooks key facts.

At the outset, the Greater Los Angeles and Long Beach Harbor ("Harbor") is considered especially sensitive to water pollution, and regulatory agencies have adopted measures to protect water quality and protect beneficial uses. Specifically:

- The L.A. Regional Water Quality Control Board ("LARWQCB") has adopted a Basin Plan which designates the existing and potential beneficial uses of the Harbor to include: Commercial/Sport Fishing; Marine Habitat; Rare, Threatened, or Endangered Species; and Shellfish Harvesting. (Basin Plan, Table 2-3, p. 2-29.)

- The LARWQCB has designated the Harbor as "impaired" under Section 303(d) of the Clean Water Act (see 33 U.S.C., § 1313(d)) for Copper, Dichlorodiphenyltrichloroethane (DDT), Polychlorinated Biphenyls (PCBs), Toxicity, Zinc, Benthic Community Effects, Benzo(a)pyrene, and Chrysene (C1-C4). (See 2020–2022 Integrated 303(d) List of Impaired Water Bodies.)

- To address this impairment, the Basin Plan incorporates Total Maximum Daily Loads ("TMDLs") for the Harbor to, among other things, a "remediat[e] contaminated sediment and contro[l] the sediment loading and accumulation of contaminated sediment in the Harbor." (See Resolution No. R11-008 (May 5, 2011), Att. A, at p. 2.)

- The Basin Plan and California Toxics Rule ("CTR") (see 40 C.F.R. 131.38) set forth water quality standards for storm water discharges containing pollutants not addressed by the TMDL, including: arsenic, beryllium, cadmium, hexavalent chromium, nickel, and mercury. (See 65 FR 31681, 31712 (May 18, 2000); 40 C.F.R. § 131.2; see also Basin Plan, at p. 3-38).

E4SS-7

Against this backdrop, GBFS (and likely GGBFS) presents water-quality risks that threaten the Harbor. The Project Description describes a single laboratory sample of GBFS and the heavy metals found in the sample. (EIR, p. 2-9.) The results showed elevated concentrations of antimony, barium, beryllium, chromium, selenium, and vanadium. (EIR, p. 2-10.) Such metals are potentially toxic, which would be conveyed from OGVs over the Harbor and placed in open stockpiles in close proximity to the waterway. In light of the TMDL, and the fact that the Harbor is already impaired for toxicity, the EIR should have included an analysis of the water-quality risk posed by this material.

Further, the laboratory sample described in the EIR represents a single data point of unknown origin. The EIR states that the applicant "procured" the data, without identifying the source of the GBFS tested, and the EIR offers no assurance that the sample is representative of GBFS to be imported to the Project. To the contrary, the EIR acknowledges that "the chemical composition of GBFS varies somewhat between sources and between shipments." (EIR, p. 2-9.) This data gap leaves the public and decisionmakers with no way of knowing whether the GBFS tested is representative of Project-related imports.

Also of concern is that the metals concentrations reported in the EIR's sample are far lower than the metals concentrations in GBFS tested in another publicly available study.[3] That study reported that GBFS was elevated in zinc (1,084 mg/kg) and had higher concentrations of most metals. The zinc data is especially striking because the EIR did not present data on zinc concentrations in GBFS, and the Harbor is "impaired" for zinc. The TMDL for the Harbor, also a "sediment target" for zinc in marine sediment, is 150 mg/kg. The zinc concentrations in the GBFS data noted above far exceed that target. These facts indicate that GBFS poses a specific risk of contamination to the Harbor by zinc and other metals which the EIR has not studied.

In a roundabout way, the EIR appears to recognize the risks to water presented by GBFS by including what are functionally mitigation measures, although they are not addressed as such or studied in any detail for their efficacy:

- The EIR states that conveyors will be covered to minimize the escape of fugitive particulates that could enter stormwater, and that the facility will water the raw material intake hoppers and equipment operating areas to reduce particulate matter escape. (EIR, pp. 2-20 – 2-21.)

- The EIR states that truck loading equipment will be designed to minimize the escape of particulates that could enter stormwater, and material that does enter the stormwater system will be captured and treated. (EIR, p. 2-21.)

- The EIR states that, to minimize impacts to surface water from increased runoff and/or contaminants, permanent stormwater control systems would be developed and constructed in accordance with the National Pollutant Discharge Elimination System (NPDES) Industrial General Permit (IGP). (EIR, p. 2-14.)

- The EIR states that the majority of the site, including stockpiles, material handling areas, areas under the conveyors, and the mill, silo and truck loading areas will be "covered by the IGP, "a comprehensive stormwater management approach would be implemented," and that "captured stormwater would be conveyed to a treatment system that would be designed to meet the specific discharge requirements outlined by the IGP." (EIR, p. 2-14.)

- The EIR states that stockpiles would be watered several times a day and areas near the stockpiles would be graded to collect and convey industrial and stormwater runoff into the storm drainage systems. (EIR, p. 2-20.)

- The EIR states that, due to its relatively soft and friable nature, gypsum can be broken into smaller particle sizes (i.e., dust) when handled with heavy equipment, which will be needed to be controlled by watering several times per day. (EIR, p. 2-10.)

A list of protective measures, however, cannot compensate for the absence of a stepwise environmental review.

E4SS-7

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[3] See, e.g., Sas, Gluchowski, et al., *Environmental and Geotechnical Assessment of the Steel Slags as a Material for Road Structure*, Nat. Library of Medicine 2015, accessed online on 11/28/23 at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5455508.)

In sum, the EIR failed to include any analysis of the risks posed by GBFS to Harbor water quality, in the face of data indicating that GBFS can have serious effects on water quality and potentially worsen the Harbor's existing impairment. The EIR also improperly attempts to rely on mitigation to protect water quality when the EIR has failed in the first place to properly evaluate the water-quality impacts. To the extent that the EIR attempts to defer the analysis to future permitting, this would improperly defer the CEQA review. The EIR must be revised to include a proper water quality analysis. E4SS-7

7. The EIR fails to consider the risks posed by known hazardous materials that will be excavated during construction.

Appendix G to the CEQA Guidelines instructs lead agencies to consider whether a project will "create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment." Applying this standard, the POLA has, for past projects, included in EIRs an analysis of "hazards and hazardous materials" if the project in question involved the excavation of soils contaminated by hazardous materials. (See, e.g., Al Larson Boat Shop Improvement Project Draft EIR, SCH # 2010091041 (Jan. 2012).)

Here, the EIR similarly discloses that the Project site has contaminated soil, and that construction will involve the excavation of such contaminated soil that presents potential risks to human health; so much so, in fact, that the Project requires certain contingency planning. In this regard, the EIR states that "soil and groundwater are known to be contaminated by heavy metals, petroleum hydrocarbons and volatile organic compounds," and "will be encountered during the course of construction." (EIR, pp. 2-13 – 2-14, 2-7.) To counter this risk, a "soil management plan" would be prepared to protect people working in proximity to contaminated soils, and to provide for the testing and, if needed, appropriate containment and disposal, of excavated soils. (EIR, p. 2-13 – 2-14.) E4SS-8

The EIR does not reveal what types of contaminants are present at the Project site, or their concentrations, or their potential threat to human health of the environment. This information is normally contained in an EIR's "hazards" discussion, which is not included in the EIR. What is known is that some amount of contaminated soil exists which warrants a soil management plan to protect human health and/or the environment. On this record, it is not possible for the EIR to conclude that there is no potentially significant impact to study. The EIR should include a "hazards" section to analyze the hazardous materials risks.

8. The air quality analysis omits critical data and employs flawed methods.

As stated previously, an EIR must disclose a project's potentially significant direct and indirect environmental impacts. (Pub. Resources Code, § 21065.) Here, the EIR contains an air quality analysis which appears to have significantly underestimated the air quality impacts of the Project. Of particular concern, our expert review indicates that the EIR omits air emissions calculations from the technical appendices that would customarily be included and which are necessary for reviewers to understand and verify results reached in the EIR. The EIR and appendices must be revised in order to provide the public and decision makers with a clear picture of the Project's true air emissions and resulting health impacts. E4SS-9

According to the EIR and technical appendices, the Project would have significant and unavoidable air quality impacts due to the emissions of nitrogen oxides (NO_X) generated mainly by OGVs. (EIR, p. 3.1-29-31.) The Project's emissions also exceed the South Coast Air Quality Management District's threshold for GHG emissions. (EIR, 3.5-18-19.) Of perhaps the greatest concern, however, is that the Project comes very close to exceeding the threshold of significance for individual cancer risk from toxic air contaminants. The EIR calculated the individual cancer risk for the Project at 8.8 out of one million, which is just below the threshold of significance of 10 out of one million. (EIR, p. 3.1-38.)

It is highly likely, however, that the Project emissions are significantly greater than disclosed in the EIR. The EIR's air quality analysis suffers from numerous significant flaws that serve to underestimate the Project's emissions. The defects arise in three main areas:

- **The EIR and its appendices omit critical data that reviewers need to verify the assumptions made**. The omissions include emissions data for toxic air contaminants; emissions calculations for certain stationary emission units; VOC emissions for grinding aids; emissions data for harbor craft; supporting data for plume rise assumptions; vehicle emission contributions for toxic air contaminants; support for an exclusion of fugitive dust from the health risk assessment. Without this information, it is impossible to validity or accuracy of the EIR's analysis.

- **The EIR relies on inconsistent and flawed methodologies**. The EIR: relies on incorrect emissions factors to calculate electricity use; uses flawed methods to evaluate particulate emissions; uses incorrect emissions factors to assess paved and unpaved road travel; uses unsupported emission factors for the dryer that likely underreports NO_X and CO; fails to follow federal standards to assess $PM_{2.5}$ emissions; inaccurately characterizes haul road emissions; fails to use accurate meteorological data; and fails to follow EPA guidance to evaluate background pollutant concentrations.

- **Material discrepancies and inconsistencies exist among the Project Description, the EIR's air quality discussion, and EIR appendices**. These include: discrepancies in the emissions calculations for harbor craft and OGVs, which may result in underreporting of NO_X emissions; use of erroneous heat limits for the dryer; inconsistent gas usage for the dryer; discrepancies in the analysis of road dust from vehicle travel; inconsistencies in the level of stockpile activity; inconsistencies between the amount of fuel used and the hours of equipment use; inconsistencies in the release temperature for the grinding dryer/mill exhaust; inconsistencies between the Project Description and the temporal distribution of emissions; inconsistency between the heavy metals listed for GBFS and gypsum; inaccuracy in the reference exposure levels in the appendices.

These are material omissions and errors in the EIR's methodology. Once the underreporting of emissions is corrected, the individual cancer risk appears likely to exceed the threshold of significance.

These defects are discussed in further detail in the following subsections, A - V.

E4SS-9

A. There is a discrepancy between the source of GWPs identified in the EIR and Appendix B.

EIR Chapter 3.5 provides an overview of greenhouse gas (GHG) emissions from construction and operation of the Proposed Project and discusses the impacts and associated mitigation measures to reduce said impacts. Chapter 3.5 discusses the various GHG regulations and plans (federal, state, and local) that apply to the Proposed Project as well as the methodologies used to calculate GHG emissions from the various sources. Specific data used in the GHG calculations are provided in Appendix B1. As discussed below, the EIR contains discrepancies or inconsistencies with its supporting technical analyses and uses incorrect data that underreport the Proposed Project's GHG impacts and prevent the public from verifying the conclusions of the EIR.

E4SS-10

EIR Section 3.5.3 lists the global warming potentials (GWPs) for CH_4 and N_2O as 27 and 273, respectively, citing the Intergovernmental Panel on Climate Change (IPCC). EIR Section 3.5.6.1 references the same IPCC document but does not list what GWPs were used. The emission calculations provided in Appendix B1 do not provide the GWPs used, with the exception of the dryer (on page B1-110). Additionally, according to Section 5.5.1 of Appendix B1, the GWPs provided for CH_4 and N_2O from the dryer are from SCAQMD's 400-CEQA Greenhouse Gas Combustion Emission Estimator (25 and 298, respectively), which does not align with EIR Section 3.5.3.

In summary, there is a discrepancy between the source of GWPs identified in the EIR and Appendix B1. This discrepancy, combined with Appendix B1's failure to provide the GWPs used, except for the dryer, make it impossible for the public to verify the data and conclusions contained in the EIR.

B. The EIR uses inaccurate emission factors that underreport GHG emissions.

EIR Section 3.5.5 states that GHG emissions from electricity consumption were estimated using average emission factors for power generated in California as provided by the USEPA eGRID database. These emission factors are an average of all the electricity utility providers within California and not for the Los Angeles Department of Water and Power (LADWP) specifically. The CalEEMod User Guide, Appendix G, Table G-3 provides CO2, CH4, and N2O emission factors by utility by year, and these emission factors are considerably higher than the values provided through eGRID. [4] Additionally, based on LADWP's Power Content Labels submitted to CEC for 2020[5] and 2021, [6] LADWP's GHG emissions intensity is higher than the California average utility.

E4SS-11

[4] https://www.caleemod.com/user-guide, Accessed November 27, 2023.

[5] https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/annual-power-content-1, Accessed November 27, 2023.

[6] https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label/annual-power-content-2, Accessed November 27, 2023.

In summary, the EIR's selection of GHG emission factors from statewide electricity consumption rather than more localized LADWP electricity consumption is inaccurate and underreports the Proposed Project's GHG emissions, as use of the LADWP's emission factors would result in higher GHG emissions. E4SS-11

C. The EIR fails to disclose ATCs from construction and operation of the Project.

Appendix B1 provides the technical backup for the analysis in EIR Chapters 3.1 and 3.5. As discussed below, the EIR contains discrepancies or inconsistencies with the supporting analysis, uses incorrect or unsubstantiated data, and fails to properly disclose emissions that both underreport the Proposed Project's Air Quality and GHG impacts and prevent the public from verifying the conclusion of the EIR.

Appendix B1 describes the regulatory background, methods, and results of the criteria pollutant and greenhouse gas emissions associated with the construction and operation of the Proposed Project. TAC emissions are only calculated for the dryer (see Page B1-110); per Appendix B3, Section 2.0 it is noted that TAC emissions are expected from numerous emission sources including bulk vessels, tugboats, off-road equipment, heavy duty trucks, dryer combustion, fugitive dust from material handling, etc. E4SS-12

In summary, Appendix B1 fails to disclose emissions of TACs from construction and operation of the Proposed Project. The failure to include this data makes it impossible for the public to verify whether the input values to the HRA are accurate or whether they underreport human health risk.

D. The EIR uses inconsistent and flawed methodologies to determine emission factors for harbor craft emissions.

Section 4.1 and Section 5.2 cite CARB's 2021 update to the Commercial Harbor Craft Emissions Inventory as the basis for commercial harbor craft (CHC) emission factors. Page B1-60 of Appendix B1 uses a conversion factor of 89% to convert PM10 emissions into PM2.5 emissions, citing SCAQMD's Final Methodology to Calculate PM2.5 and PM2.5 Significances Thresholds (2006).[7] Page B1-105 of Appendix B1 uses a conversion factor of 92% to convert DPM/PM10 emissions into PM2.5 emissions, citing CARB's OFFROAD model. However, the 2021 Commercial Harbor Craft Emissions Inventory states that a conversion factor of 95.6% is appropriate based upon the latest CARB speciation profile data.[8] E4SS-13

[7] https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf, Accessed November 27, 2023.

[8] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2021/chc2021/apph.pdf, Accessed November 27, 2023.

Section 4.1 also states that the CHC engine characteristics were chosen based upon the Port of Los Angeles (POLA) 2021 emissions inventory. [9] The HC Characteristics table (average MY, average HP, and load factor), and Correction Factors and Load Factors tables (for criteria pollutants from diesel combustion and engine load) on Page B1-60 of Appendix B1 do not align with the POLA 2021 emissions inventory[10] (Table 4.1 and Table 4.2) or methodology report (Table 3.4 and Table 3.1), respectively. [11]

Section 5.2 also states that the CHC engine characteristics were chosen based upon the POLA 2021 emissions inventory. The Correction Factors table (for criteria pollutants from diesel combustion) and characteristics table (average MY, average HP, and load factor) on Page B1-106 of Appendix B1 do not align with the POLA 2021 emissions inventory methodology report.

In summary, Appendix B1 uses inconsistent and flawed methodologies to determine emission factors for harbor craft PM2.5 emissions. There is also a discrepancy between the POLA 2021 emissions inventory and methodology report and actual data inputs for CHC engine characteristics. The inconsistent and flawed methodologies and data discrepancies make it impossible for the public to verify the data and conclusions contained in the EIR.

E4SS-13

E. The EIR uses incorrect emission factors for road travel.

The emission factor calculation for onsite paved and unpaved road travel at the project site uses a mean vehicle weight of 13.8 tons (Page B1-56) for construction phase emissions. It is noted that this is "…estimated by the number of trips on site for the different vehicles classes … and their approximate weight." This value should be a weighted average of vehicle weight and distance traveled; however, given that the majority of the trips consist of LDA (2.1 tons weight) and LDT1 (3 tons weight), the value utilized is not representative.

AP-42 Chapter 13.2.1, Section 13.2.1.3 implies that the equation used to calculate the emission factor for paved roadway travel should be a weighted average. The EIR did not do this, and thus used the incorrect emission factor calculation for onsite paved and unpaved road travel.

E4SS-14

F. There is a discrepancy between the EIR and the 2021 POLA Emissions Inventory.

E4SS-15

[9] https://kentico.portoflosangeles.org/getmedia/f26839cd-54cd-4da9-92b7-a34094ee75a8/2021_air_emissions_inventory, Accessed November 27, 2023.

[10] Ibid.

[11] The Port of LA 2021 Emissions Inventory is located here: https://kentico.portoflosangeles.org/getmedia/ad5ec383-8dc6-4652-aeod-81b6ea4c7819/SPBP_Emissions_Inventory_Methodology_v3a, Accessed November 27, 2023.

The EIR references the POLA 2021 Emissions Inventory[12] for various assumptions used in harbor craft emissions calculations and vessel characteristics of bulk OGVs under the Product Import Terminal Alternative (Alternative 3). Under Section 5.1.1 of Appendix B1 and in Chapter 3.1.5.1, the EIR notes the distribution of bulk OGVs vessels by engine tier is expected to be 50% Tier 2 and 50% Tier 3 for the Proposed and Reduced Project, which is based on information provided by Orcem's vessel fleet provider.[13] However, Table 3.10: 2021 Percent of OGV Activity by Main Engine Tier and Vessel Type, in the Port of Los Angeles 2021 Emissions Inventory states that bulk OGVs were 42% Tier 1 engines and 59% Tier 2 engines (0% Tier 3 engines). Under the Product Import Terminal Alternative (Alternative 3), the EIR assumes the distribution of vessels by tier is that of the bulk vessel fleet from the 2021 Emissions Inventory (42% Tier 1 and 59% Tier 2). The NOx emission factor decreases by 79% between Tier 3 and Tier 1 engines for slow speed diesel OGV main engines (see page B1-88 of Appendix B1). E4SS-15

The EIR does not provide evidence to support the claim that OGV engines would be 50% Tier 2 and 50% Tier 3 beyond the statement that it based on information provided by Orcem's vessel fleet provider.

In summary, there is a discrepancy between the 2021 POLA Emissions Inventory and the EIR's selection of OGV engine tier under the Proposed and Reduced Project. The EIR may significantly underreport NOx emissions by relying on unsupported and not yet achieved assumptions concerning the tiers of OGV engines that call at the Port. The use of the POLA 2021 Emissions Inventory would result in significant NOx increases attributed to the Proposed Project.

G. The EIR omits emission calculation results from numerous emission unit tables.

Emission calculation results are omitted from a number of emission unit tables (i.e., Emissions from Storage and Loading Silos – Summary [page B1-109], Emissions From Fuel Combustion at the Dryer [page B1-110], Emissions from Grinding Mill [page B1-111], Emissions from Material Handling of GBFS and Gypsum – Summary [page B1-112]). E4SS-16

The failure to provide emission calculation results makes it impossible for the public to verify the accuracy of the analysis and conclusions in the EIR.

H. The EIR may underreport NO_x and CO emissions.

Chapter 3.1.3 and Section 2.4 of Appendix B reference that the dryer is subject to SCAQMD Rule 1147.1, which requires that subject dryers achieve concentration limits of 30 ppmv NOx at 3% oxygen, dry and 1,000 ppmv CO at 3% oxygen, dry. E4SS-17

Page B1-110 of Appendix B1 presents the emissions calculations for the dryer. The calculations assume a NOx emission factor of 0.020 lb/MMBtu (21 lb/MMscf) citing phone

[12] See footnote 10.

[13] Further, in Chapter 3.1.5.1, Page 3.1-32, Orcem states they "…cannot affect or control the Tier level of the third-party vessel fleet that would call at Berth 191. Based on this, there is no current feasible mitigation for these sources for which the Proposed Project can claim additional reduction credits".

correspondence with Ecocem, Coen, Thyssenkrupp, and Bay City Boilers on October 4, 2022. The calculations assume a CO emission factor of 35 lb/MMscf based on SCAQMD default emission factors for natural gas/other equipment. The NOx and CO emission factors of 21 lb/MMscf and 35 lb/MMscf equate to approximately 16.5 ppmv NOx at 3% oxygen, dry and 44.5 ppmv CO at 3% oxygen, dry. A recent Best Available Control Technology (BACT) determination for a similar aggregate dryer unit[14] established BACT as 33 ppmv NOx at 3% oxygen, dry and showed source test results with an average of approximately 29 ppmv NOx and 659 ppmv CO. This recent BACT determination demonstrates results nearly 2x higher for NOx and 15x higher for CO than the emission factors used in NOx and CO combustion emissions for the dryer.

E4SS-17

The emission factors used in the Proposed Project are also substantially lower than the Rule 1147.1[15] limits of 30 ppmv NOx and 1,000 ppmv CO. SCAQMD's draft staff report for Rule 1147.1, which provides background on the rule development and pollution control technologies, references that a burner manufacturer cited achieving 25 ppmv NOx and 400 ppmv CO with ultra-low NOx burners without selective catalytic reduction would be achievable. These reference values are also substantially higher than those used in the EIR.

In summary, the EIR may significantly underreport the Proposed Project's NOx and CO emissions by using unsupported emissions factors based solely on either the manufacturers verbal representations or default emission factors.

I. The EIR uses erroneous and inconsistent dryer emissions.

Emission factors from fuel combustion emissions from the dyer (lb/MMBtu) are included in Page B1-110 of Appendix B1 as well as the hourly maximum rated heat input capacity (36 MMBtu/hr), the monthly proposed heat limit (11,000 MMBtu/month), and the maximum proposed annual heat limit (195,000 MMBtu/year) once fully operational in calendar year 2027. The proposed fuel consumption for the dryer in calendar years 2025 (97,500 MMBtu/year) and 2027/2049 (195,000 MMBtu/year) is also provided in Table 3.1-3 of Chapter 3.1. However, Table 3.3-4 in Chapter 3.3 shows the dryer using 93,668,400 Btu in calendar year 2027. Pages B1-125 through B1-140 contain the summary of the emissions calculation results used in the air dispersion modeling.

E4SS-18

The monthly proposed heat input limit of 11,000 MMBtu/month is erroneous since the dryer cannot comply with this limit and reach the proposed annual heat input limit of 195,000 MMBtu/hr.

[14] The referenced September 2, 2022 BACT Determination guidance document is located here: http://www.aqmd.gov/docs/default-source/bact/bact-guidelines/bact-guidelines-2022/part-b---granite-construction_584656_rotarydryer.pdf?sfvrsn=8

[15] SCAQMD Draft 1147.1 staff report is located here: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/pr-1147.1/pr_1147_1_dsr_final_clean.pdf?sfvrsn=6

The dryer natural gas usage shown in Table 3.1-3 and Table 3.3-4 is also inconsistent. The lower value shown in Table 3.3-4 does not align with the operational assumptions of the Proposed Project.

As shown on Page B1-134 of Appendix B1, annual dryer combustion emissions from the Proposed Project for calendar years 2025, 2027, and 2049 incorrectly use natural gas usage values in Table 3.3-4 as the basis for the calculation and input to dispersion modeling.[16] E4SS-18

The erroneous inputs, discrepancies, and inconsistencies in Appendix B1 related to dryer fuel combustion emissions likely results in underreporting of all Proposed Project annual criteria pollutant and TAC emissions.

J. The EIR does not address VOC emissions from the use of grinding aids.

Section 5.2.2 of Appendix B and Chapter 3.1.5.1 describe the generation of PM10 and PM2.5 emissions from the electric grinding mill. According to Chapter 2.5.1, GBFS and gypsum from the stockpiles would be metered onto a common belt and conveyed to the mill to be ground together into the final GGBFS product. Grinding aids, which typically include organic compounds, are also typically used at the mill to increase grinding efficiency and reduce energy consumption. E4SS-19

The Proposed Project does not address or take into account VOC emissions from the use of grinding aid that will likely be used at the mill, resulting in a potential underreporting of air quality impacts.

K. The EIR underreports entrained road dust emissions.

Sections 4.2 and 4.3 of Appendix B describe the methodology to estimate entrained road dust construction emissions from paved roads involving heavy-duty diesel trucks for hauling and delivering materials/ equipment to the constructions site and worker vehicles. Sections 5.3 and 5.4 of Appendix B describe the methodology to estimate entrained road dust emissions from paved roads during the operation of the Proposed Project involving delivery/customer heavy duty trucks and worker vehicles. Entrained road dust emissions from paved roads are calculated as a function of a constant parameter, road surface silt loading, average weight of the vehicles traveling the road, time in the averaging period (one year), and number of precipitation days in the year. E4SS-20

There is a discrepancy in the EIR's methodology for estimating entrained road dust construction emissions compared to estimating the entrained road dust operation emissions. The EIR's failure to consider the road surface silt loading specific to LA & Orange County, fewer

[16] For example, the CO emission factor for dryer combustion is currently presented as 0.033 lb/MMBtu on Page B1-110. Using the annual heat input of 195,000 MMBtu from Appendix B1 and Chapter 3.1, annual CO emissions are estimated at 6,435 lbs/yr or 3.22 tons/yr. Using a heat input of 93,668 MMBtu from Table 3.3-4, annual CO emissions for calendar years 2027/2049 are estimated at 3,091 lbs/yr or 1.55 tons/yr. Meanwhile, the annual ton/yr CO result presented on Page B1-134 for Proposed Project calendar year 2027/2049 is 1.56 tons/yr, which aligns with using the incorrect natural gas usage value of 93,668 MMBtu/year. Emissions in calendar year 2025 appear to be half of those in calendar years 2027 and 2049.

rainfall days per day, and heavier average vehicle weight for onsite vehicles traveling the road from the delivery/customer heavy duty trucks, like it did for construction emissions, underreports the Proposed Project's onsite entrained road dust emissions during Project operations.

E4SS-20

L. The EIR underreports stockpile emissions.

Sections 4.5 and 5.5.6 of Appendix B1 describe Orcem's methodology for calculating PM10 and PM2.5 emissions from storage piles due to wind erosion. The sections and corresponding calculations use the methodology described in AP-42, Chapter 13.2.5[17] along with actual wind speed data from nearby meteorology stations and projected storage pile dimensions. Based on the guidance provided by AP-42, Chapter 13.2.5, this methodology applies to (1) "nonhomogeneous surfaces impregnated with nonerodable elements (particles larger than approximately 1 centimeter in diameter)" (i.e., "surfaces characterized by finite availability of erodible material") and (2) storage piles with intermittent disturbance events. GBFS is characterized as having a size and structure similar to sand (per Chapter 2.5.1 of the EIR); as such, GBFS does not meet criterion (1) outlined in the referenced AP-42 section. Sand-sized materials are characterized by the Western Regional Air Partnership (WRAP) as "an unlimited reservoir of erodible material". [18] Additionally, per the operating schedule on Page B1-37 of the EIR, the stockpiles would be disturbed on average of 7,560 hours per year (aligning with mill intake). As such, it is not representative to call the operation of these stockpiles "intermittent" and the stockpiles do not meet criterion (2) outlined in AP-42 Chapter 13.2.5. Finally, the calculations on page B1-114 imply that there are two stockpile disturbances each month, which under-represent emissions given that front end loaders will be used to continuously transport GBFS and gypsum from storage piles to process hoppers.

E4SS-21

There is a discrepancy between the EIR's project description, which indicates that continuous stockpile management activities (use of front end loaders and an excavator) is required, compared to the twice monthly assumption, and associated stockpile emissions, in Appendix B1. Because of the described nature of the Proposed Project's operations, the emissions methodology selected for analysis is inaccurate and likely underreports the Proposed Project's actual stockpile emissions.

M. The EIR underreports front end loader and excavator emissions.

Chapter 3.1.4.2 mentions that front end loaders and excavators will be used to transport materials between storage piles and the process hoppers. Appendix B1, Table B1-5 provides the average front end loader and excavator operating hours. Based on data from these two tables, the front end loader and excavator would aggregately operate 9,100

E4SS-22

[17] https://www.epa.gov/sites/default/files/2020-10/documents/13.2.5_industrial_wind_erosion.pdf, accessed November 28, 2023.

[18] Chapter 9, https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf, accessed November 28, 2023.

hours/yr.[19] Table 3.3-4 from Chapter 3.3 estimates a total of 8,001 gallons of diesel fuel would be consumed per year by the offroad equipment, which includes the front end loader and the excavator. While Table 3.3-4 states that energy calculations are available in Section 6 of Appendix B1, calculation details for diesel consumption were not provided. Assuming 8,001 gallons of diesel fuel are consumed per year, the fuel consumption rate for the offroad equipment would be less than one gallon per hour, which seems extremely low for industrial offroad equipment.

E4SS-22

In summary, there is an inconsistency between the amount of fuel used and the hours of equipment use, which likely leads to the EIR underreporting the Proposed Project's criteria pollutant and TAC emissions. The EIR also fails to provide calculations demonstrating that the identified amount of fuel is sufficient for the hours needed to work, making it impossible for the public to verify the data and conclusions contained in the EIR.

N. The EIR contains numerous assumptions or conclusions that are deficient.

Appendix B2 of the EIR describes the regulatory background, methods, and results of the air dispersion modeling analysis of specific criteria pollutants associated with the proposed project and project alternatives. The air dispersion modeling analysis for the EIR was conducted for pollutants whose maximum daily on-site emissions were greater than the localized significance threshold (LST) for a 5-acre project within Source Receptor Area (SRA) 4 including a 25-meter boundary distance. NO_2, PM_{10}, and $PM_{2.5}$ exceeded their respective LSTs and were modeled. CO was not modeled as it was below its LST and no other pollutants were considered in the analysis (e.g., SO_2). Modeling was conducted for the following averaging periods:

- 1-hr and Annual NO2
  - 1-hr NO2 was modeled against both the California AAQS and the federal NAAQS.
- 24-hr and Annual PM10
  - PM10 was only modeled against the state standards and as discussed below exceeded the significance thresholds for both averaging periods.
  - A federal NAAQS exists for 24-hr PM10.
- 24-hr PM2.5
  - PM2.5 was only modeled against the state standard and as discussed below exceeded the significance thresholds.
  - Federal NAAQS exists for 24-hr and annual PM2.5.
    - Annual and 24-hr PM2.5 impacts were not considered against the Federal NAAQS in this analysis.

E4SS-23

Below is a summary of notable assumptions or conclusions in the EIR that are deficient.

i. The EIR fails to justify harbor craft emission assumptions.

Per Section 1.0, page B2-1 of Appendix B2: "For this analysis, only 10 percent of HC emissions were categorized as onsite emissions as the rest were assumed to take place during transit away from site."

[19] Assumes the front end loader operates 7,644 hours per year and the excavator operates 1,456 hours per year.

It is unclear the basis for this assumption. The maximum air quality impacts occur in the general vicinity of the site boundary and therefore a conservative assumption would be to include more Harbor Craft (HC) emissions on-site.

The EIR fails to provide any justification for the assumption that only 10 percent of HC emissions occur on-site. Without sufficient justification for this assumption, it is impossible for the public to verify the accuracy of the data and conclusions contained in the EIR.

ii. The EIR fails to address federal NAAQS standards.

Per Section 1.0, page B2-2 of Appendix B2:

> NO2, PM10, and PM2.5 were modeled for the Proposed Project, Reduced Project Alternative (Alternative 2), and Product Import Terminal Project Alternative (Alternative 3) scenarios. The predicted ground-level concentrations were compared to the relevant SCAQMD air quality significance thresholds to determine localized ambient air quality impacts.

The predicted ground-level concentrations are shown in Tables B2-7 through B2-12 for the proposed project and alternatives. All of these Tables show that the project and alternatives will exceed the significance threshold for PM10 and PM2.5, except for 24-hr PM2.5, 2025 impacts from the reduced project alternative (Alternative 2). As stated, only significance modeling was conducted for PM10 and PM2.5 and comparison to the federal standards was not evaluated. Accordingly, the EIR failed to address the federal NAAQS standards for annual $PM_{2.5}$ emissions.

E4SS-23

iii. The EIR failed to analyze light duty vehicle impacts.

Per Section 2.2, page B2-4 of Appendix B2: "Since there are only 20 facility workers during operation and are likely to be working in shifts, worker gasoline light duty vehicles were considered de minimis sources and were not modeled with the operations."

The EIR assumes that worker gasoline light duty vehicles are de minimis and not modeled. Emissions from these light duty vehicles are expected to be minimal.

It is unclear the basis for this assumption. The maximum air quality impacts occur in the general vicinity of the site boundary and therefore a conservative assumption would be to include more Harbor Craft (HC) emissions on-site.

Given the proximity of the roadways to the maximum air quality impacts and the fact the PM10/PM2.5 significance thresholds are exceeded, the light duty vehicle impacts should be included to fully understand the extent to which the project or project alternatives exceed the significance thresholds.

iv. The EIR inaccurately identifies haul road emissions.

Per Section 3.1.2, page B2-5 of Appendix B2:

> Ground Granulated Blast Furnace Slag (GGBFS) and gypsum trucks idling on-site and driving on-site were modeled as area sources. Trucks driving off-site and gypsum trucks driving on-site were modeled as a series of contiguous line sources along the primary travel routes. Truck emission sources include engine exhaust, tire wear, brake wear, and road dust. Off-site travel routes were provided by the Port and are shown in Figure B2-2…Particulate emissions associated with

material transport to silos, silo vents, and loading chutes were modeled as point sources ….

The U.S. EPA Haul Road Workgroup Memorandum for development of dispersion parameters for haul roads is referenced in Section 3.1.2, Table B2-3, on page B2-7 of Appendix B for the development of dispersion parameters. [20] The EPA guidance provides a general recommendation that modeling of haul roads should be done as adjacent volume sources rather than a series of contiguous line sources. The workgroup concludes that the volume source representation is "reasonable, can be technically supported, and provides a level of conservativeness given the large amount of uncertainty associated with characterizing and simulating dispersion of fugitive emissions resulting from haul road traffic.". For receptors that fall within a volume source's exclusion zone, the workgroup recommends reducing the width of plume dimensions enough so that the receptor is outside the exclusion zone. If receptors are located within the source dimensions, the workgroup recommends area sources. Based on the guidance referenced in the EIR, volume sources are more appropriate for the purposes of modeling fugitive dust associated with haul road traffic. If a receptor falls within the volume source's dimensions, area sources are appropriate. It is noted that per Section 3.3.2.8 of the AERMOD User Guide, line sources yield identical results to area sources for equivalent source definitions, therefore the use of a line source in lieu of an area source is appropriate when a volume source cannot be used. [21] E4SS-23

Based on the guidance referenced in the EIR, the analysis inaccurately identifies haul road emissions as line sources, rather than volume sources, for purposes of modeling fugitive dust associated with haul road traffic.

v. The EIR contains discrepancies in parameters for modeled sources.

Table B2-3, in Section 3.1.2, on page B2-7 of the EIR shows the source parameters for the modeled sources. The following discrepancies were observed.

The release temperature for the Grinding Dryer/Mill Exhaust is lower (326.6 Kelvin [K]) than the baghouse point sources for Transport to Silos, Storage Silo Vents, Outload Silo Vents, and the Loading Chutes (373.15 K).

The release temperature should be at its highest at the Grinding Dryer/Mill Exhaust and should decrease at the baghouse point sources. This clear error in the source parameters will have an impact on the results of the analysis.

In addition, the release height for the Transport to Silos is 0 meters for the baghouse. It is unlikely that the release height for the Transport to Silos would be zero; this error will impact the results of the analysis.

[20] USEPA 2012. Haul Road Workgroup Final Report Submission to EPA-OAQPS" Memorandum from Tyler Fox to Regional Office Modeling Contacts. March 2. https://www.epa.gov/sites/default/files/2020-10/documents/haul_road_workgroupfinal_report_package-20120302.pdf.

[21] U.S. EPA 2023. User's Guide for the AMS/EPA Regulatory Model (AERMOD). https://gaftp.epa.gov/Air/aqmg/SCRAM/models/preferred/aermod/aermod_userguide.pdf

vi. The EIR fails to include data supporting the release height associated with plume rise.

Footnote a of Table B2-3 indicates:

> The release height for point sources in this table represents the actual release height of the exhaust above ground (or water, in the case of an at-berth vessel). AERMOD then accounts for additional plume rise due to the upward momentum and buoyancy of the stack exhaust gas, based on the exit velocity, exit temperature, and stack diameter. By contrast, AERMOD does not calculate any additional plume rise for volume, area, and line sources. Therefore, the release heights presented in this table for volume, area, and line sources have been adjusted higher than the actual exhaust release heights for ships in transit, ships maneuvering, and tugboats to account for a nominal amount of plume rise due to upward momentum and buoyancy of the exhaust gas.

The EIR fails to include any data supporting the basis of the release height associated with the plume rise. Without this data, it is impossible for the public to verify the data and conclusions contained in the EIR.

vii. The EIR fails to use current meteorological data.

Per Section 3.1.3, page B2-11 of the EIR:

E4SS-23

> For this dispersion analysis, the meteorological data collected at the Wilmington Community Station, located at Saints Peter and Paul School (SPPS) from 2012 to 2016 was used for dispersion modeling. SPPS is located about 1.2 miles north-northwest of the Berths 191-194 terminal and is considered the most representative meteorological station for the terminal in accordance with an analysis conducted by POLA and POLB in 2010 (LAHD 2010)

The Guideline on Air Quality Models (the Guideline) contains the EPA's specifications for completion of air dispersion modeling analyses for regulatory purposes.[22] EPA stresses that meteorological data should be adequately representative and may be site specific or from a nearby national weather service (NWS) station. If nearby NWS data are used, a five-year period must be utilized or if site specific data are used, a period of at least one year must be utilized, with added years of site-specific data (up to five years) used if available. In Section 8.4.1 of the Guideline, EPA provides criteria for evaluation of the representativeness of meteorological data for the project site. According to the Guideline, the representativeness of a particular observation site should be evaluated with respect to four factors:

1. The proximity of the meteorological monitoring site to the area under consideration;
2. The complexity of the terrain;
3. The exposure of the meteorological monitoring site; and

[22] Guideline on Air Quality Models per FR 5204 Vol. 82 No. 10 https://www.epa.gov/sites/default/files/2020-09/documents/appw_17.pdf

4. The period of time during which data are collected.

These criteria are evaluated on a combined basis with no one criteria being weighted most strongly and with no bright line thresholds to assess representativeness. A typical representativeness analysis provides information relating to these four factors to build justification that a particular set of meteorological data is representative for a project location. However, the analysis presented in Appendix B2 does not address these criteria and rather relies on an analysis conducted in 2010. Additionally, the site uses older meteorological data from 2012-2016 rather than more up to date data consistent with the background concentration period.

POLA operates a network of air quality and meteorological stations within the Project vicinity including the chosen Wilmington Community Station (see figure below). [23]

Figure 1. Air Quality and Meteorological Stations within Project Vicinity



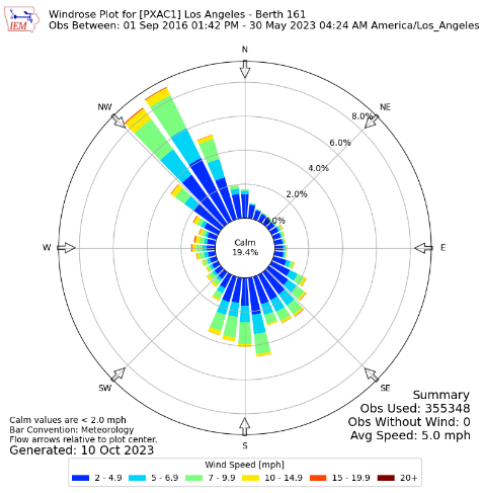
E4SS-23

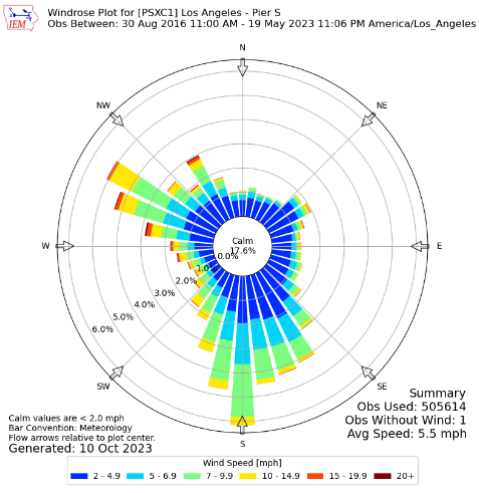
[23]POLA. Monitoring Air Quality in L.A. Harbor. https://www.portoflosangeles.org/environment/air-quality/air-quality-monitoring

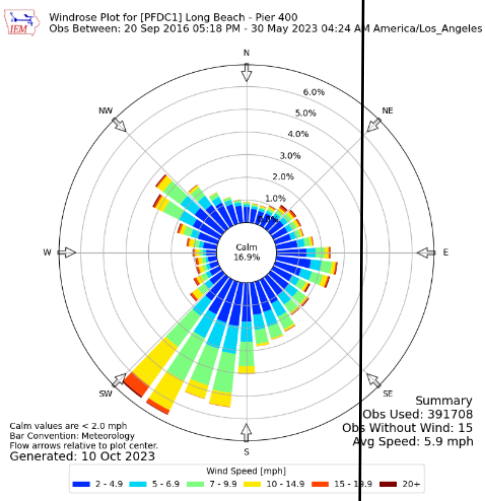
Wind roses from the Iowa State University Iowa Environmental Mesonet sites suggest that the wind conditions are complex in the area (see figures below).[24]



E4SS-23







The current meteorological data availability, quality, completeness, and representativeness used in the EIR should be re-evaluated, consistent with 40 Code of Federal

[24] Iowa State University. Iowa Environmental Mesonet. https://mesonet.agron.iastate.edu/sites/locate.php?network=CA_DCP

Regulations (CFR) 51, Appendix W, Section 8.4. The evaluation should include a discussion on why other nearby stations are not representative. Citing a 13-year-old meteorological data determination without a technical basis or considering more recent data and EPA requirements is a deficiency in the EIR.

viii. There is a discrepancy in the temporal distributions in Appendix B2, Table B2-4.

Section 3.1.5, Table B2-4, on page B2-12 of the EIR includes temporal distributions of emissions that assumes no operation on the trucks and related loading equipment from 3 PM to 10 PM with operations occurring Monday through Friday. Operations start at 1% utilization at 10 PM and move up to 8% utilization by 4 AM. Then from 4 AM to 12 PM the utilization remains at 8% before dropping back to 0% utilization at 3 PM until 10 PM. It is unclear what the basis of these operations are and it was only stated that these were the assumed operational times.

There is a discrepancy between the EIR's Project Description and the temporal distributions in Table B2-4 because the Project Description states that the facility would operate 24 hours per day, 7 days per week. The discrepancy leads to an inaccurate analysis of temporal distribution of emissions.

ix. The analysis fails to review ambient background concentration representativeness against EPA guidance and fails to analyze for PM_{10} and $PM_{2.5}$ concentrations for comparison with federal NAAQS.

E4SS-23

Per Section 3.2.1, on page B2-16 of Appendix B2: "Ambient background concentrations were obtained from the Wilmington Community Station using the most recent 3-year period of recorded data publicly available (2020 through 2022)."

There is no basis for the representativeness of the Wilmington Community Station monitor is presented in the EIR. Section 8.3.3 of the Guideline presents recommendations for establishing background for air quality impact assessments with multiple sources believed to have a significant concentration gradient in the vicinity of the facility being evaluated. Estimated emissions from nearby sources are recommended in the Guideline to be included directly in the dispersion modeling analysis. The portion of the background attributable to natural, minor, or unidentified sources are added to the total modeled concentration using air quality data collected in the vicinity of the primary source as described in Section 8.3.2 of the Guideline. Two options are presented for using monitored background data: (1) background data collected in the vicinity of the primary source (excluding values when the source in question impacts the monitor) and (2) using a regional site if no monitors are located in the vicinity of the primary source as long as the regional monitor is impacted by similar natural and distant (unidentified) manmade sources. The POLA operates four ambient monitoring stations within the Project Vicinity. The Signal Hill monitor exists just north-northeast of the project site and contains data from 2020-2023. Justification on the representativeness of the Wilmington Community Station monitor is not provided.

In summary, the analysis fails to review ambient background concentration representativeness against EPA guidance to ensure that it captures nearby sources, the portion of background attributable to natural, minor, or unidentified sources. Furthermore, the

analysis fails to analyze for PM10 and PM2.5 background concentrations for comparison with the federal NAAQS. An argument on why the Wilmington Community Station monitor is the most representative monitor in the area should be presented. Other nearby SCAQMD monitoring stations (i.e., Signal Hill, AQS ID 06-037-4009) should be considered. Consistent with 40 CFR 51, Appendix W, Section 8.3, the representativeness analysis should consider nearby sources and unconstructed permitted sources to determine if the monitor captures ambient impacts from those sources. The sources not captured by the ambient monitor should be included in the modeling analysis and a discussion of why certain sources were excluded/included should be provided. Failure to include this evaluation or discussion makes it impossible for the public to verify the data and conclusions contained in the EIR. E4SS-23

O. The EIR fails to justify use of an 18-year-old personal communication for failing to use off-site driving emissions in the Health Risk Assessment.

Appendix B3 provides the methodology used for the health risk assessment (HRA) conducted to evaluate the potential health risks from TACs emitted by the Proposed Project and compares the results against the applicable significance thresholds. While a detailed description of the methodology and results is provided, the TAC emission calculations and modeling files are not included in the EIR.

Section 2.0, Page B3-4 references SCAQMD guidance from 2005. Per the references on page B3-49, the 2005 reference is a personal communication with J. Koizumi. There is no way of verifying this personal communication and if the guidance is still valid since it's been over 18 years. This 2005 reference is used to explain why off-site driving emissions during construction are not included. E4SS-24

In summary, the EIR fails to provide any justification for the use of an 18-year-old personal communication as the basis for failing to include off-site driving emissions in the HRA. Given that the project results in increased traffic during construction, failure to evaluate construction vehicle emissions to and from the highway results in underreporting of the Proposed Project's human health impacts.

P. The EIR's Health Risk Assessment fails to analyze fugitive dust from construction operations.

Section 2.0, Page B3-4 states that "onsite fugitive dust from earth moving activities, wind erosion, or road dust during construction are not included in the health risk per SCAQMD guidance." It is unclear if this guidance is from the personal communication back in 2005 or if it is from another SCAMQD guidance. In addition, the construction site is part of a heavily industrial area and has likely been exposed to toxics from the highway and from surrounding industrial operations. E4SS-25

Appendix B3 fails to provide any justification for its statement that SCAQMD guidance allows for fugitive dust from construction operations to be excluded from the HRA. Fugitive dust is a known source of TACs, including arsenic, nickel, and lead. Failure to include fugitive dust from construction operations in the HRA analysis thus underreports known, quantifiable risks to human health.

Q. The EIR's Health Risk Assessment fails to analyze TACs from construction and operation of the Project.

Section 2.0, Page B3-5 states that "worker gasoline light duty vehicles were considered de minimis sources and were not modeled since there would be only 26 facility workers during operations." Similar to the ambient air quality impacts in Appendix B2, the light duty vehicle impacts should be included given the proximity of the roadways to receptors.

Section 2.3, Table B3-1 includes the speciation profiles used to convert PM and VOCs to individual TACs; however, toxic emission calculations are not included in the EIR. Without providing calculations for the hourly and annual toxic emissions, it is not possible to verify that toxic emissions have been appropriately quantified for each source associated with the Project.

The EIR Appendix B1 and B3 fail to include emissions of TACs from construction and operation of the Proposed Project. Failure to include this data makes it impossible for the public to verify the data and conclusions in the EIR.

E4SS-26

R. The EIR uses the incorrect toxic emissions profile for the dryer.

Section 2.3, Table B3-1 references *CARB Profile 719: Natural Gas Internal Combustion Engines* as the profile used to estimate toxic emissions from dryer combustion. Instead, toxic emissions from dryer combustion would be better represented using *Table B-1: Default EF For Natural Gas Combustion (Lb/MMscf) for External Combustion Equipment (Boiler, Oven, Dryer, Furnace, Heater, Afterburner)* from Appendix B of SCAQMD's AB 2588 Quadrennial Air Toxics Emissions Inventory Reporting Procedures.[25]

E4SS-27

S. There is a discrepancy concerning the heavy metals in GBFS and gypsum and the TACs analyzed in the EIR.

Section 2.3, Page B3-10 identifies chlorine, manganese, selenium, and silica quartz as the only toxic air contaminants (TACs) present in the granulated blast furnace slag (GBFS). The EIR states that the toxic speciations for GBFS and gypsum are based on composition information from laboratory analyses for these materials provided by Orcem; however, documentation of these analyses was not provided. Moreover, EIR Chapter 2, Table 2-2, identifies the following concentrations of heavy metals in GBFS and Gypsum, that were not identified in Appendix B3: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, thallium, and vanadium. Due to the nature of its production as a byproduct of iron and steel production, other metals such as zinc and aluminum are also expected to be present in blast furnace slag.[26]

E4SS-28

[25] SCAQMD's AB2588 Quadrennial Air Toxics Emissions Inventory Reporting Procedures is located here: https://www.aqmd.gov/docs/default-source/planning/risk-assessment/quadrennial_atir_procedure.pdf

[26] Dzięcioł J, Radziemska M. Blast Furnace Slag, Post-Industrial Waste or Valuable Building Materials with Remediation Potential? Minerals. 2022; 12(4):478. https://doi.org/10.3390/min12040478

In summary, there is a discrepancy between the Project Description's identification of heavy metals in GBFS and gypsum and the TACs that are identified for analysis in EIR Appendix B3. Proper inclusion of the full list of TACs found in GBFS and gypsum in the EIR's analysis would significantly increase human health risks above those identified in the EIR's HRA. E4SS-28

T. It is unclear whether the Health Risk Assessment analyzed operation emissions of paved and unpaved fugitive road dust.

It is unclear whether operational emissions of paved and unpaved fugitive road dust were included as a part of the health risk assessment. While fugitive PM emissions from on-site paved and unpaved roads are discussed and quantified in Appendix B1, these sources are not discussed in the HRA in Appendix B3. Section 2.0 of Appendix B3 notes that truck emission sources include diesel engine exhaust, tire wear, brake ware, and fugitive dust emissions; however no toxic speciation profile is identified in Table B3-1 for road dust. E4SS-29

Fugitive dust is a known source of TACs, including arsenic, nickel, and lead and must be included in the analysis. Failure to include fugitive road dust emissions from operations would significantly underrepresent the human health risks analyzed in the HRA.

U. The disclosed health risk of 8.8 in 10 million is not accurate.

The Project's cancer risk at the maximally exposed individual (MEI) sensitive receptor is 8.8 in one million. The significance threshold for cancer risk at sensitive receptors is 10 in one million. While as calculated, the Project cancer risk at the MEI sensitive receptor is below the threshold of significance, as discussed above, several toxic air contaminants have been either underestimated or excluded entirely from the HRA. Accordingly, the HRA's conclusion is not accurate as it substantially underestimates the Project's potential health impacts as determined at the MEI sensitive receptor. E4SS-30

V. The Health Risk Assessment's reference exposure levels are not accurate.

Toluene chronic and acute inhalation reference exposure levels (RELs) provided in Table B3-4 are incorrect and, therefore, the HRA is not accurate. E4SS-31

In sum, the EIR's air quality analysis must be revised as recommended above. The analytical flaws must be cured, and the data and analysis made publicly available before the Project may be considered for approval.

9. The EIR fails to analyze water demand or use.

The EIR suggests that the Project will consume a significant amount of water during its operation but fails to include any discussion of quantitative water demands of the Project, or the water source which the Project will rely upon. The EIR needs to be revised to include this analysis. E4SS-32

In this regard, state law (SB 610) mandates that EIRs include an assessment of the adequacy of the proposed water supply for certain industrial projects. This analysis must include, to the extent reasonably possible, the impacts of providing water to the proposed project.

Here, the EIR alludes repeatedly to the water demands of the Project. The EIR states that the operator will water stockpiles several times per day, and hourly in high-traffic areas, to control fugitive dust. (EIR, pp. 2-10, 2-20.) The Project also will rely on watering raw material intake hoppers and equipment operating areas. (EIR, pp. 2-20, 2-21, 3.1-28.) Nowhere, however, does the EIR calculate the total amount of water that would be consumed by the Project on a daily or annual basis, nor disclose the source of that water. E4SS-32

In the absence of any analysis of water use or water supply, neither the decisionmakers nor the public have any idea of whether the water demands of the Project are significant, or whether the Project complies with SB 610 and other laws. The EIR must be revised to include this analysis.

10. The EIR fails to properly evaluate traffic impacts.

The EIR fails to adequately evaluate the Project's potentially significant increases in geometric hazards due to the Project's substantial increase on heavy truck trips.

The EIR notes that the project is within the City of Los Angeles and is subject to the City's adopted Los Angeles Department of Transportation ("LADOT") Transportation Assessment Guidelines ("Assessment Guidelines"), which presents a two-tiered screening threshold to evaluate the potential increase in hazards due to geometric design features. (EIR, p. 3.8-2.) While the Project does not trigger LADOT's initial screening criteria in some ways (for example, by proposing new driveways), it does trigger additional analysis under the Assessment Guideline's screening criteria associated with freeway queuing.

In relevant part, the EIR correctly notes that the Assessment Guidelines require further analysis of potential freeway queuing impacts if all of the following questions can be answered affirmatively: E4SS-33

> Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
>
> Would the land use project generate a net increase of 250 or more daily vehicle trips?
>
> Would the land use project add 25 or more trips to any off ramp in either the morning or afternoon peak hour?

(EIR, p. 3.8-6.)

With respect to the first question, the EIR states that the Project does not involve a discretionary action that would be under review by the Department of City Planning. This conclusory statement is wholly without substance and relies on an untenable argument that environmental analysis is determined by the jurisdictional entity with jurisdiction over the project and not the substance of the discretionary action being requested. Here, the Project requires discretionary action by the Los Angeles Harbor Department ("LAHD") associated with its issuance of a Coastal Development Permit, among other discretionary actions. (EIR, p. 1-11.) A Coastal Development Permit, by definition, is a discretionary planning approval designed to address the Project's compliance with the City's adopted Local Coastal Program. This is

substantively equivalent to review by the Department of City Planning. That LAHD is the reviewing entity, as opposed to the Department of City Planning, is irrelevant from a CEQA perspective. Viewed in this light, it is clear that the Project requires discretionary action by the LAHD, which is equivalent to review by the Department of City Planning. Therefore, the answer to the first screening question is "yes."

Turning to the second question, the EIR argues that the Project would only generate 52 daily automobile trips from the 26 onsite employees generated by project operations. This ignores, however, the additional 526 daily truck trips associated with the Project. (EIR, p. 3.8-15.) Unlike the VMT analysis under SB743, the evaluation of geometric hazards under CEQA does not exclude heavy truck trips from the necessary impact analysis, but instead focuses on statewide safety plans such as the Highway Safety Improvement Program, the Highway Safety Plan, and The Commercial Vehicle Safety Plan, which evaluate highway speed differential calculations and queuing impacts without respect to vehicle type. (Caltrans, 2023. Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance.) Therefore, when the 578 daily employee and truck trips are properly considered, the answer to the second screening question is "yes." E4SS-33

As to the third question, the EIR completely fails to address the Project's potential to generate 25 or more morning or afternoon freeway off ramp peak hour trips. Indeed, the EIR states that from 2027 and beyond, there will be 26 employees on site, most if not all of whom will travel during the morning and afternoon peak hours. (EIR, p. 2-16.) Given that all Project-related trips will utilize adjacent local freeways, it is reasonable to assume that the 25 peak hour trip threshold will be met. Therefore, the answer to the final screening question is also "yes."

In sum, the EIR inadequately analyzes the potentially significant increases in certain geometric hazards arising from the Project's contribution of heavy truck trips. The analysis must be completed and the EIR must be recirculated for further review and comment.

11. The cumulative impacts analysis is defective.

The EIR's analysis of cumulative impacts fails to provide meaningful analyses of the Project's impacts on a significant number of resources, and instead simply provides conclusory statements. As discussed below, these deficiencies fall short of the meaningful analysis required by CEQA. The EIR's discussion of cumulative impacts must therefore be revised to address these deficiencies.

The EIR reasons that the Project has no cumulative impact on any resource because individual impacts are below the individual thresholds of significance. For example, the EIR concludes that related projects would result in a significant cumulative air quality impact for PM_{10}, $PM_{2.5}$, NO_X, So_x, CO, and VOC, but the Project would not make a cumulatively considerable contribution to a significant cumulative impact simply because the Project's emissions are below the SCAQMD significance threshold for these criteria pollutants. (EIR, p. 4-14.) This flawed reasoning is used throughout the remainder of the analysis of cumulative impacts. (See, e.g., EIR, pp. 4-16 [stating that the Project's impacts on criteria pollutants would not be a significant cumulative impact because the Project's impacts are below the SCAQMD's significance threshold], 4-24 [concluding that the Project would minimize impacts E4SS-34

to critical habitat and therefore concludes that the Project would not have a cumulative impact on such habitat].)

The EIR must be revised to provide a proper analysis of the Project's potential cumulative impacts and cannot simply conclude that the Project will have no significant cumulative impact simply because it is below the significance threshold for individual impacts. It must determine whether the proposed project will have a significant cumulative impact even where the project individually has a less than significant impact on an individual resource.

The EIR also fails to properly analyze the Project's potentially significant cumulative impacts. The EIR falls short of this requirement with respect to the following inadequacies:

- The EIR states that marine biological resources in the Harbor continue to flourish and that the quality of marine habitat continues to improve. (EIR, p. 4-22.) The EIR provides no support for this statement yet goes on to conclude that impacts to special-status species as a result of marine habitat loss will not be cumulatively significant.

- The EIR states, without factual support, that a substantial increase in vessel activity for cumulative activities is not expected to increase. (EIR, p. 4-24.) This is the EIR's basis for concluding that the proposed project will not result in significant cumulative impacts to marine mammals.

- The EIR concludes, with no factual or evidentiary basis, that the proposed ground-disturbing activities that would occur during construction are sufficiently distant from the Vopak site and would therefore not make a cumulatively considerable contribution to a significant cumulative impact related to unstable soils. (EIR, p. 4-28.) The EIR fails to provide the threshold for a sufficient distance that is a necessary component of this analysis.

E4SS-34

CEQA requires a meaningful analysis of each potential cumulative impact relating to the Project. The EIR must be revised to provide a more meaningful analysis and harmonize the inconsistent statements within the EIR.

CONCLUSION

E4 Strategic Solutions appreciates the opportunity to comment on the Project and looks forward to a revised and recirculated EIR that addresses the issues raised above.

Sincerely,

Howard Berman
E4 Strategic Solutions

From:	Fernando Chavez
To:	Ceqacomments
Cc:	kat@3cotech.com; FuturePorts Staff; Tommy Faavae
Subject:	Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Tuesday, December 12, 2023 4:40:32 PM
Attachments:	Ecocem_Berth 191-194_2023_Support Letter.pdf

On behalf of FuturePorts, attached please find letter of support.

Thank you,

FUTUREPORTS

PO Box 15624
Long Beach CA 90815
Office: 310.982.1323
Email: info@futureports.org
www.futureports.org

December 12, 2023

Lisa Wunder
Interim Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731
ceqacomments@portla.org

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project (Proposed Project)

Dear Ms. Wunder:

On behalf of FuturePorts, I am writing in support of Ecocem's Low-Carbon Cement-Processing Facility Project located at Berth 191-194 at the Port of Los Angeles.

FuturePorts is a 501(c)(6) nonprofit advocacy coalition founded in 2005 to help coalesce the Southern California supply chain around the need to grow the ports while addressing the associated environmental, air quality, and quality of life issues. We believe that a vibrant and healthy economic and environmental future for the ports is vital to us all. FuturePorts envisions the modernization of Southern California's ports ensuring their competitiveness through the successful completion of their development programs that allow for economically viable and environmentally sustainable growth.

FuturePorts-1

The project is expected to create jobs in the Wilmington and San Pedro region and reduce CO2 emissions through Ecocem's low-carbon cement solution.

The project is expected to generate $100 million in construction expenditures in Los Angeles County, with total project expenditures reaching $150 million.

Once operational, the project is projected to contribute over $100 million annually to the total economic output in Los Angeles County.

The project will provide over 700,000 tons of low-carbon cement, significantly contributing to California's goal of achieving net-zero GHG emissions in the cement sector by 2045.

FUTUREPORTS

PO Box 15624
Long Beach CA 90815
Office: 310.982.1323
Email: info@futureports.org
www.futureports.org

Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since production began in 2003.

Caltrans has projected a critical shortage of concrete construction materials in the future, making a secure supply of building material essential for Southern California.

Ecocem supports the local communities near their facilities by adding social value through employment, charitable donations, and volunteering activities. They have already initiated similar support in the Wilmington and San Pedro communities, contributing to their resilience.

Ecocem has been a great community partner and we look forward to their continued presence in the Wilmington and San Pedro communities.

FuturePorts-1 cont'd

Thank you for your attention to this matter.

Sincerely,

Kat Janowicz
Board Chair
FuturePorts

From: Henry Rogers
To: Cegacomments
Subject: Letter of Support for Orcem Low-Carbon Cement Processing Facility Project
Date: Tuesday, October 24, 2023 11:01:11 AM
Attachments: image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
Draft Letter of Support_ECOCEM (002).pdf

Greetings,

Enclosed, please find an updated letter from the Harbor Association of Industry and Commerce (HAIC) expressing our support for the Orcem Low-Carbon Cement Processing Facility Project proposed for Berths 191-194 in the Port of Los Angeles.

As advocates for sustainable and responsible growth in the harbor community, we believe this project aligns with the broader objectives of the Port and the State's commitment to reducing emissions. We've taken the time to review the Draft Environmental Impact Report (DEIR) and are optimistic about the environmental benefits this project promises, especially in promoting sustainability in construction.

We appreciate the thoroughness of the DEIR in identifying potential impacts and the proposed mitigation measures. We trust that the Harbor Department will give due consideration to our feedback and the broader implications of this project for our community.

Thank you for your continued dedication to sustainable development in the Port of Los Angeles. We look forward to further collaboration and discussions on this and other initiatives.

_____

HARBOR ASSOCIATION OF INDUSTRY & COMMERCE

Henry Rogers
Executive Director
HAIC

5623553825
henry@greypinegroup.com
www.harborassn.com

HARBOR ASSOCIATION
OF INDUSTRY & COMMERCE

October 23, 2023

Los Angeles Harbor Department
425 S. Palos Verdes St.
San Pedro, CA 90731

Re: Support for Orcem Low-Carbon Cement Processing Facility Project (Proposed Project)

To Whom It May Concern:

On behalf of the Harbor Association of Industry and Commerce (HAIC), I am writing to express our support for the Orcem Low-Carbon Cement Processing Facility Project proposed for Berths 191-194 in the Port of Los Angeles.

As an organization representing businesses and stakeholders in the harbor community, we appreciate the opportunity to review the Draft Environmental Impact Report (DEIR) for this project. We believe the goal of providing a supplementary cementing material with a lower carbon footprint than traditional Portland cement aligns with the Port's objectives and the State's emissions targets.

While the DEIR identifies potential impacts in areas like air quality and noise, it also lays out mitigation measures and project alternatives to reduce impacts.

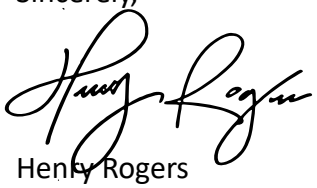
HAIC-1

On balance, we believe this project will bring needed environmental benefits that support sustainability in construction. The production of lower-carbon cement substitutes will help reduce the carbon footprint of development projects across Southern California.

HAIC-1 cont'd

HAIC supports efforts to grow the Port sustainably and responsibly. We look forward to working with the Harbor Department as you consider this climate-friendly infrastructure project.

Sincerely,



Henry Rogers

Executive Director

Harbor Association of Industry and Commerce

From:	Bertha Mardueno
To:	Ceqacomments
Cc:	Tommy Faavae
Subject:	Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Tuesday, October 31, 2023 11:15:44 AM
Attachments:	Support Berth 191 -194.pdf
Importance:	High

Please see attached.

Best,

Bertha C. Mardueño
Executive Assistant
IBEW Local #11
297 North Marengo Avenue
Pasadena, CA 91101
Direct Line: 626-425-9551

IBEW Local Union Number 11

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS, AFL-CIO

JOEL BARTON – BUSINESS MANAGER / FINANCIAL SECRETARY

Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731
ceqacomments@portla.org

November 1, 2023

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project

To Whom It May Concern:

On behalf of the IBEW Local 11, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project.

IBEW Local 11 represents more than 11,000 members in Los Angeles County with the vast majority in the Los Angeles area.

The project will create jobs in the Wilmington and San Pedro region and will provide environmental benefits by reducing CO2 emissions through Ecocem's low-carbon cement solution.

The project will produce construction expenditures within Los Angeles County of $100 million, while total project expenditures will reach $150 million.

Once in operation the project will contribute over $100 million in total economic output annually within Los Angeles County.

IBEW-1

The project will provide over 700,000 tons of the leading low-carbon cement material, making a large contribution to California's mandate for the cement sector in California to achieve net-zero GHG emissions by 2045.

Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since it first started production in 2003.

The project provides a secure supply of building material that is essential for Southern California. CalTrans has projected that concrete construction will be in critically short supply in the future.

Ecocem supports their local communities near their facilities and contributes to their resilience by adding social value through employment, charitable donations, volunteering activities, and has already initiated similar support in the Wilmington and San Pedro communities.

Ecocem has been a great community partner, and we look forward to their continued presence in the Wilmington and San Pedro communities.

Sincerely,

Joel Barton

Joel Barton
Business Manager

JB/TFbcm opeiu#537 afl-cio

From: Bruce Falk
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date: Thursday, December 7, 2023 2:13:43 PM

Good afternoon,

We are contacting you on behalf of, Boatswayne. We have been doing business with Wayne Ettel from Boatswayne since 2009. Mr. Ettel has played a huge role in helping many boat owners repair their old boats in the Los Angeles Harbor. The Port of LA, will be at a great loss without Wayne Ettel's business location. He is one of the few remaining experts in his field. ASM-1

Please consider the economic ramifications.

Thank you!
Kind regards.
Bruce Falk
Action Sales & Metal Co., Inc.
310-549-5666
bruce@actionsalesmetal.com
www.actionsalesmetal.com

From:	Bruce Heyman
To:	Ceqacomments
Subject:	Reference: Berth 191-194 (Ecocem) Low Carbon Cement Processing Facility Project
Date:	Saturday, December 9, 2023 10:22:53 AM
Attachments:	LAMI ECOCEM CEQUA 12.8.2023.pdf

Hello,
Please find comments on the above referenced project.
Respectfully,
Bruce

--

Captain Bruce Heyman
Executive Director
PLEASE Support our Long Beach Gives Campaign,
if you can. THANK YOU!
Los Angeles Maritime Institute (LAMI)
Children's Maritime Institute (CMI)
TopSail Youth Program
Celebrating our 31st year!
Berth 73, Suite 2 | San Pedro, CA 90731
T 310.833.6055 | **C** 949.289.8400
F 310.548.2055 | **W** www.lamitopsail.org

Los Angeles Maritime Institute
Berth 73, Suite 2
San Pedro, CA 90731
310.833.6055 | LAMItopSail.org

Children's Maritime Institute
429 Shoreline Village Drive #D
Long Beach, CA 90802
310.548.2903 | AmericanPrideCMI.org

December 8, 2023

Director of Environmental Management
Los Angeles Harbor Department
425 Palos Verdes Street
San Pedro, CA 90731
cequacomments@portla.org

Reference: Berth 191-194 (Ecocem) Low Carbon Cement Processing Facility Project

Thank you for the opportunity to augment my verbal testimony which occurred on November 1st, 2023 with these written comments. At the time the verbal comments were made I was unaware that, when approved, this project would displace the last vestige of wooden boat repair in the Ports of Los Angeles and Long Beach. We remain supportive of the project overall and we welcome the new jobs and improved environmental factors afforded by the lower carbon cement. We also understand the value of being able to bring materials to the facility via ships and hence the value of locating the plant at the water's edge.

However, we are requesting consideration be given for the ability of the wooden boat facility to either be allowed to co-exist on the subject property or be relocated to another suitable area with in the Port Complex. The skills possessed by the highly skilled workers at the existing facility are vital to the wooden boat industry. LAMI operates four tall ships in the Ports of LA and LB. *Irving Johnson* and *Exy Johnson* are the official Tall Ships and Tall Ship Ambassadors of the City of Los Angeles. They were both built at the foot of 6th street by experts that are becoming harder and harder to find. The fact that two of our vessels are octogenarians and the Brigantines are now 20 years old means that they require constant skilled maintenance. LAMI-1

Unfortunately, the vast majority of vessels today are made of something other than wood; fiber glass, steel, aluminum, and even ferrocement. With the loss of Gambol Shipyard and the fact that Al Larson's Boat Shop is fully impacted we are forced to bring our vessel to Chula Vista for haul out. While San Diego can provide a competent place for hauling out the vessel, they in general do not have the expertise that are required to do the complicated work to maintain wooden boats.

Our nation has two areas where a critical mass of wooden boat maintenance/ reconstruction skills can be found; Mystic Seaport in Connecticut and Port Townsend in the state of Washington. Obviously, neither are particularly easily accessible. I'm asking you to consider finding a way to allow what we have with the existing tenant, Marine Preservation Trust, to survive and thrive in the Port of Los Angeles. It is a business that

Los Angeles Maritime Institute
Berth 73, Suite 2
San Pedro, CA 90731
310.833.6055 | LAMItopSail.org

Children's Maritime Institute
429 Shoreline Village Drive #D
Long Beach, CA 90802
310.548.2903 | AmericanPrideCMI.org

also provides for excellent middle class jobs and much needed support for the wooden boat community of Southern California.

Again, thank you for the opportunity to raise what I believe is an important issue. I'm happy to answer any questions you may have. Thank you for your consideration.

LAMI-1 cont'd



Bruce Heyman
Executive Director
Los Angeles Maritime Institute
Berth 73, Suite 2
San Pedro, CA 90731
Director@LAMITopSail.org
O: (310) 833-6055
C: (949) 289-8400

From:	pat nave
To:	Ceqacomments
Cc:	Ray; Victor Christensen; Thomas Norman
Subject:	Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Monday, December 11, 2023 7:56:51 PM
Attachments:	Ecocem DEIR comment letter NWSNC.docx

Please find attached the comment on the Ecocem project DEIR adopted tonight by the Northwest San Pedro Neighborhood Council at its regularly schedule monthly meeting.

They asked me to submit the attached comment letter on their behalf as they are still in session and wanted to be sure their comment was filed on time. The attachment is identical to the agenda item file on the matter.

Please acknowledge receipt of the letter by email to Ray Regalado and Victor Christiansen, President and Secretary of the Council respectively, and Dr. Tom Norman, chair of the Port Committee.

December 11, 2023

Ms. Lisa Wunder
Interim Director
Environmental Division
Port of Los Angeles

Via: ceqacomments@portla.org

Dear Ms. Wunder,

Thanks you for the opportunity to comment on the Ecocem project DEIR.

As outlined herein, the Northwest San Pedro Neighborhood Council voted that the "no project" alternative is the only feasible alternative due to the air quality, health risks, and traffic impacts. At the same time, we voted that a modification of Alternatives 2 and 3 to provide for import and throughput of the raw granulated blast furnace slag via rail car addresses those impacts and could be environmentally acceptable. NWSPNC-1

THE "NO PROJECT" ALTERNATIVE

Granulated blast furnace slag [GBFS] is similar to sand. Ecocem proposes to grind the product into a very fine dust material similar to the cement used in concrete, and loading it onto trucks for distribution throughout southern California.

The import, grinding, storage, truck loading and truck transport of the very fine product produces considerable PM 10's [particles smaller than 10 microns in size] and PM 2.5's [smaller than 2.5 microns in size]. Particles that small can lodge in the lungs and can even pass cell walls in the lungs and lodge in the brain. NWSPNC-2

Table 3.1-13 in the DEIR shows the levels of the particle emissions for the years 2025, 2027, and 2049, and compares them with the AQMD threshold limits. **These are the predicted emissions after all feasible mitigations are applied and are for the project itself without including any ambient levels.** The predictions are based on what the levels would be at the property line. Predictions for what they would be in the surrounding area, from trucks and product dust for example, are not computed.

Table 3.1-13: Maximum Localized Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations — Proposed Project Operation

Pollutant	Averaging Time	Analysis Years	Ground-Level Concentration (µg/m³) [a,d]	SCAQMD Threshold (µg/m³)[b]	Concentration above Threshold?
PM_{10}	24-hour	2025	**10.9**	2.5	**Yes**
		2027	**21.6**	2.5	**Yes**
		2049	**21.5**	2.5	**Yes**
	Annual	2025[c]	**1.6**	1	**Yes**
		2027	**7.0**	1	**Yes**
		2049	**7.0**	1	**Yes**
$PM_{2.5}$	24-hour	2025	**3.3**	2.5	**Yes**
		2027	**6.6**	2.5	**Yes**
		2049	**6.6**	2.5	**Yes**

Notes:
[a] Exceedances of the thresholds are indicated in **bold**.
[b] Because the thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds, background concentrations are not added to the Maximum Modeled Project Concentration.
[c] 2025 annual average concentrations include construction impacts from January 2025 through July 2025 and operational impacts from August 2025 through December 2025.
[d] 24-hr concentrations were evaluated for off-site locations where persons may be exposed to the emissions from project activities, based on SCAQMD's Final Localized Significance Threshold Methodology (SCAQMD 2008). Commercial and industrial land uses were conservatively included for all averaging times.

NWSPNC-2 cont'd

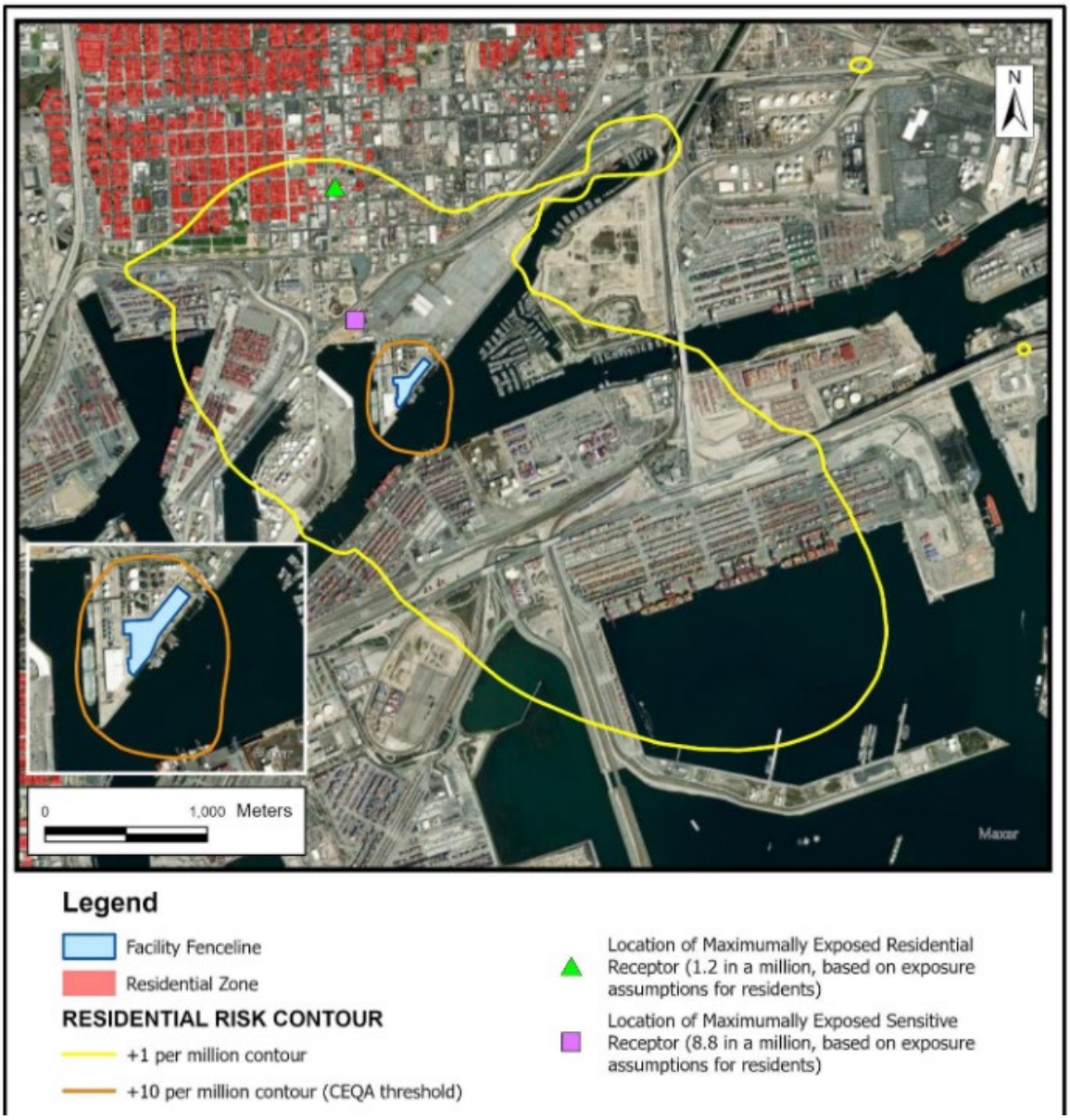
These emissions exceed the threshold standards by 60% up to 864%. This alone is sufficient to require a finding that the "no project" alternative is the only feasible alternative. There are a few others.

Health risks are also a concern. CEGA does not require evaluating health risks unless they exceed more than 10 per million cancer cases. The DEIR found no cancer risk requiring an assessment. However, Figure 3.1–2 in the DEIR shows two risk outlines, one encompassing the project site as well as the adjacent Vopak terminal and another encompassing numerous residences in Wilmington, at least four terminals in the Port, plus the adjacent marinas. Given the claim that the project does not exceed the CEQA impact requirement, this should be

NWSPNC-3

clarified. The DEIR also ignores the considerable data available that shows various important

Figure 3.1-2: Isopleths of 30-Year Residential Cancer Risk – Proposed Project



NWSPNC-3 cont'd

pulmonary impacts, especially on workers and children, such as COPD and asthma. The identified air quality impacts alone are more than enough to indicate the “no project’ alternative should be selected as the only feasible alternative because, as the DEIR indicates, they cannot be mitigated to a level of insignificance.

There is also the impact of truck traffic. Large hopper trucks will be used to import gypsum to the site for use in the crushing process, and to transport finished products from the site to various locations, apparently mostly in Southern California. There will be approximately 66,000 truck trips per year, averaging 73 miles each trip, or about the distance from the site in Wilmington to San Bernardino. NWSPNC-4

Ecocem believes that CEQA does not require analysis of the environmental impact of these truck trips. They believe that analyzing the vehicle trips of their 26 employees is all that is are required, and included those trips, averaging 10miles each, in their DEIR.

They do address the truck transport issue but declare that it is for informational purposes only. See Section 3.8.6, starting at page 3.8-14. In doing so however, they counted each truck as if it were a regular vehicle and only calculated the impact of the level of service at intersections in and around Wilmington. This is called a "Level of Service" [LOS] analysis and they use it rather than the "Vehicle Miles Traveled" [VMT] method. The average one-way truck trip is estimated to be 73 miles, or 4,818,000 miles per year. Since they assert that VMT only applies to cars, not trucks, they don't analyze the VMT for trucks.

Each truck is 72 feet long, length occupied by 2 1/2 cars. If the trucks are counted as if they were 2 1/2 cars each, it would impact on numerous intersections in around the area, degrading them to a level of service requiring modification of those intersections. Further, the informational limitation ignores things like impact on the neighborhood of the 263 hopper trucks rolling through the neighborhoods each day, ignores the impact on the condition of the roadways of the very heavy trucks on the pavement, does not discuss the impact on the new Wilmington Waterfront Park currently under construction, the increase in accidents, and the like.

NWSPNC-4 cont'd

These are the impacts and omissions that indicate the "no project" alternative should be the preferred alternative. As a note, Ecocem points out that it was unable to secure a site in Long Beach or Port Hueneme, and we know from previous news reports that they were turned down in Vallejo as well. We strongly suggest that the comments in the following links, particularly those related to toxic chemicals in the GBFS product, be taken into consideration.

NWSPNC-5

https://web.archive.org/web/20220625160749/https://www.voicesofvallejo.com/not-so-harmless,

https://www.voicesofvallejo.com/fugitive-dust

We do believe that a modification of Alternatives 2 and 3 might result in an environmentally acceptable project.

Alternative 2 is for a reduced product alternative and Alternative 3 is for a finished product import terminal.

Alternative 2 lowers the volume of the project, reducing the ship calls from 24 per year to 23 per year, but retains the on-site crushing and processing operation and still would distribute the finished product by truck. This does not materially reduce the air quality and truck transport impacts.

NWSPNC-6

Alternative 3 is a product import terminal, where the slag would be processed before import, off-loaded and distributed it from the site. It does not really reduce much of the air quality impact and would have all the truck transport issues.

There is a combination/modification of Alternatives 2 and 3 that eliminates most if not all of the air quality impacts and truck transport impacts. That alternative would have the site used as an import terminal for the granulated blast furnace slag [GBFS] and transporting it out of the terminal area by rail car to a remote site where the GBFS could be processed and distributed as Ground Granulated Blast Furnace Slag [GGBFS].

Ecocem understands that raw product import and export via rail eliminates the truck transport and air quality issues, but says it is not feasible because it would require permits from others. Interestedly, they say that 20 rail cars per day would equal the 263 trucks per day that they hope to use.

Next door to the site is the Vopak terminal. Vopak has a rail line into the terminal as well as a fully enclosed and well-ventilated product storage barn, now unused but currently rented to Portland Cement Company.

Ecocem says that a rail line to its site would require extending the track that now runs through Vopak, would require road crossing agreements a double track would be needed to accommodate the 20 rail cars per day. This ignores the fact that the Port owns all the track in the Port, that the streets are not dedicated public streets, and the Pacific Harbor Lines is owned by the Port as well. The Port could easily construct an industrial sidetrack down Canal Street to the proposed terminal.

NWSPNC-6 cont'd

Under this proposed modification of Alternatives 2 and 3, the raw product would be imported through the site, loaded onto rail cars and transported to a more acceptable, non-waterfront grinding mill, then distributed throughout Southern California.

In summary, the Council believes that the no project alternative is the only reasonable and feasible option that meets the project objectives in the least environmentally impactful way and is the one that should be selected, as required by Cal. Code Regs. Title 14 Sec. 15126.6, Cal. PRC Secs. 21002, 21081. We also note that the project to manufacture GGBFS in the manner proposed by Ecocem requires use of waterfront property for a non-waterfront dependent use. The Port has traditionally rejected uses that are not waterfront dependent. Perhaps that is why this project was rejected by the Port of Long Beach, Vallejo and Port Hueneme.

We believe the Port should explore the rail transport option in greater depth. We propose, and are willing to participate in, a study group with Port staff and PHL staff to explore this option. Thank you for your consideration.

Sincerely,

Raymond Regalado

President
Northwest San Pedro Neighborhood Council

From: Margaret Hernandez
To: Cegacomments
Subject: Berths 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date: Thursday, November 2, 2023 12:05:01 PM
Attachments: 11 01 23 Ecocem Support Letter.docx

Please see the attached letter in support of the Ecocem cement facility in Wilmington.

Thank you for your time and consideration.

Margie Hernandez
Rotary Club of Wilmington

Rotary

Club of Wilmington, PO Box 8, Wilmington CA 90748-0008

November 1, 2023

Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project (Proposed Project)

Dear Port Staff:

On behalf of the Wilmington Rotary Club, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project. Our club has been serving the Wilmington community since 1928, and we depend on the support of the local business community to organize and execute projects to serve the citizens of Wilmington. Ecocem has developed a relationship with our club, and we appreciate their candor and support.

Ecocem will create jobs in the Wilmington and San Pedro region and will provide environmental benefits by reducing CO2 emissions through their low-carbon cement solution. In addition, it will create construction expenditures within Los Angeles County of $100 million, while total project expenditures will reach $150 million. RCW-1

Once operational, over $100 million in total economic output annually will be created within Los Angeles County. Also, Ecocem will provide over 700,000 tons of low-carbon cement material, making a large contribution to California's mandate for the cement sector in California to achieve net-zero GHG emissions by 2045. Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since 2003.

The Ecocem project provides a secure supply of building material that is essential for Southern California. CalTrans has projected that concrete construction will be in critically short supply in the future.

Ecocem supports local communities near their facilities by adding jobs, charitable donations, and volunteer opportunities. We look forward to working with Ecocem to sustain and support our activities for the benefit of the Wilmington community.

Sincerely,

Cristian Amaya
President
Rotary Club of Wilmington

From:	Elise Swanson
To:	Ceqacomments
Cc:	Fernando Chavez
Subject:	Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Monday, October 30, 2023 4:38:03 PM
Attachments:	Ecocem Support Letter 10 30 23.pdf

To Whom It May Concern:

On behalf of the San Pedro Chamber of Commerce, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project. The San Pedro Chamber of Commerce Economic Development and Policy Committee, and the Board of Directors have both received in depth presentations on the project and had the opportunity to ask questions and provide input. We truly appreciated the opportunity to engage with company representatives and officials.

Ecocem will create jobs in the Wilmington and San Pedro region and will provide environmental benefits by reducing CO2 emissions through Ecocem's low-carbon cement solution. The project will produce construction expenditures within Los Angeles County of $100 million, while total project expenditures will reach $150 million. Once in operation, the project will contribute over $100 million in total economic output annually within Los Angeles County.

The project will provide over 700,000 tons of the leading low-carbon cement material, making a large contribution to California's mandate for the cement sector in California to achieve net-zero GHG emissions by 2045. Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since it first started production in 2003.

The project provides a secure supply of building material that is essential for Southern California. CalTrans has projected that concrete construction will be in critically short supply in the future.

Ecocem supports their local communities near their facilities and contributes to their resilience by adding social value through employment, charitable donations, volunteering activities, and has already initiated similar support in the Wilmington and San Pedro communities.

Ecocem has been a great community partner, and we look forward to their continued presence in the Wilmington and San Pedro communities.

Sincerely,

Elise Swanson
San Pedro Chamber of Commerce
(310) 832-7272 office
(310) 590-6311 cell
sanpedrochamber.com

The San Pedro Chamber of Commerce is a non-profit 501 (c) (6) membership organization. The mission of the San Pedro Chamber of Commerce is to promote, support, and advocate the interests of the business community. Our vision is to make

San Pedro a better place to live, work, and visit.

October 30, 2023

Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project (Proposed Project)

To Whom It May Concern:

On behalf of the San Pedro Chamber of Commerce, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project. The San Pedro Chamber of Commerce Economic Development and Policy Committee, and the Board of Directors have both received in depth presentations on the project and had the opportunity to ask questions and provide input. We truly appreciated the opportunity to engage with company representatives and officials.

Ecocem will create jobs in the Wilmington and San Pedro region and will provide environmental benefits by reducing CO2 emissions through Ecocem's low-carbon cement solution. The project will produce construction expenditures within Los Angeles County of $100 million, while total project expenditures will reach $150 million. Once in operation, the project will contribute over $100 million in total economic output annually within Los Angeles County. SPCC-1

The project will provide over 700,000 tons of the leading low-carbon cement material, making a large contribution to California's mandate for the cement sector in California to achieve net-zero GHG emissions by 2045. Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since it first started production in 2003.

The project provides a secure supply of building material that is essential for Southern California. CalTrans has projected that concrete construction will be in critically short supply in the future.

Ecocem supports their local communities near their facilities and contributes to their resilience by adding social value through employment, charitable donations, volunteering activities, and has already initiated similar support in the Wilmington and San Pedro communities.

Ecocem has been a great community partner, and we look forward to their continued presence in the Wilmington and San Pedro communities.

Sincerely,

Elise Swanson
President/CEO
San Pedro Chamber of Commerce

From:	Henry Rogers
To:	Ceqacomments
Subject:	Joint Support for Ecocem"s Low-Carbon Cement-Processing Facility Project
Date:	Tuesday, December 12, 2023 9:28:24 PM
Attachments:	Berth 191-194 (Ecocem) SBACC.pdf Berth 191-194 (Ecocem) HAIC.pdf

Greetings,

The South Bay Association of Chambers of Commerce, in collaboration with the Harbor Association of Commerce, has formally expressed our support for the Ecocem Low-Carbon Cement-Processing Facility Project. This initiative represents a major step forward in environmental sustainability and economic growth for the Wilmington and San Pedro region.

Enclosed with this email, you will find our formal letters of support, detailing the substantial benefits of this project. These include job creation, substantial reduction in CO2 emissions, and a considerable economic impact estimated at over $100 million annually in Los Angeles County. SBACC-1

We believe that Ecocem's commitment to low-carbon solutions and community engagement aligns perfectly with our goals for sustainable development and economic prosperity in Southern California.

Thank you for considering our support for this pivotal project. We look forward to any further discussions or actions that this initiative may entail.

Best regards,

_____
Henry Rogers
Grey Pine Group
C: 562-355-3825
www.greypinegroup.com

From: Monica Diaz
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Tuesday, December 5, 2023 10:37:56 AM
Attachments: image002.png
image003.png
Ecocem_110923.pdf

To Whom it May Concern,

On behalf of the Wilmington Chamber of Commerce, please see attached letter of support for Ecocem's Low-Carbon Cement-Processing Facility Project located at Berths 191-194.

Please do not hesitate to reach out if anything additional is needed.

Thank You,

Monica

Monica Garcia Diaz
CEO/Executive Director
Wilmington Chamber of Commerce
O: 310-834-8586
www.wilmington-chamber.com

Monica Garcia-Diaz
Chief Executive Officer

Phone 310-834-8586
Web www.wilmington-chamber.com
Email Monica@Wilmington-Chamber.com
544 N. Avalon Blvd. Wilmington, CA 90744

544 N. Avalon Blvd., Ste. 104 Wilmington, CA 90744

November 8, 2023

Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project (Proposed Project)

To Whom It May Concern:

On behalf of the Wilmington Chamber of Commerce, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project.

The mission of the Wilmington Chamber of Commerce is to promote and support local businesses and improve the quality of life for the residents of Wilmington.

This project will create employment opportunities in the Wilmington and San Pedro region while championing environmental conservation by reducing CO2 emissions through Ecocem's innovative low-carbon cement solution.

The construction expenditure within Los Angeles County is estimated at $100 million, with the total project outlay reaching $150 million. Moreover, once operational, the project is projected to generate an annual economic output surpassing $100 million within Los Angeles County.

The project will yield over 700,000 tons of cutting-edge low-carbon cement material, significantly contributing to California's imperative for the cement sector to achieve net-zero greenhouse gas (GHG) emissions by 2045. Notably, Ecocem's low-carbon cement products have already curbed over 16 million tons of CO2 emissions since their inception in 2003.

Critical to Southern California's infrastructure, this project ensures a secure supply of essential building materials. CalTrans forecasts an impending shortage in concrete construction materials, making initiatives like this one pivotal for Southern California's future.

WCC-1

Ecocem is deeply invested in supporting local communities, fostering resilience through employment opportunities, charitable donations, volunteering initiatives, an already showcasing a commitment to the Wilmington and San Pedro communities.

As a longstanding community partner, Ecocem's dedication has been invaluable, and we eagerly anticipate their continued positive impact in the Wilmington and San Pedro regions.

WCC-1 cont'd

Sincerely,



Monica Garcia-Diaz

Chief Executive Officer/Executive Director

Wilmington Chamber of Commerce

www.wilmington-chamber.com

monica@wilmington-chamber.com

O: 310-834-8586

From: Wunder, Lisa
To: gina martinez; Ceqacomments; Moreno, Cecilia
Subject: RE: Orcem Project Comments
Date: Monday, December 11, 2023 11:21:11 AM

Hello Ms. Martinez,

Thank you for submitting the Wilmington Neighborhood Council's comment letter.

Lisa W.

From: gina martinez <wnc.gina@gmail.com>
Sent: Monday, December 11, 2023 10:35 AM
To: Wunder, Lisa <LWunder@portla.org>; Ceqacomments <Ceqacomments@portla.org>; Moreno, Cecilia <CMoreno@portla.org>
Subject: Orcem Project Comments

Ms Wunder,

Attached please find the comments submitted by the Wilmington Neighborhood Council with regards to the Orcem Project.

Kindest regards,

Gina Martinez
Chair, WIlmington Neighborhood Council

Wilmington Neighborhood Council
544 N. Avalon Blvd., Suite 103, Wilmington, CA 90744
(310) 720-4046 wilmingtonnc@empowerla.org
wilmingtonneighborhoodcouncil.com

Gina Martinez, Chair
Gayle Fleury, Co-Chair
Jaime Bedolla, Treasurer
Alicia Baltazar, Secretary
Trishie Salas, Parliamentarian

December 5, 2023

Community Impact Statement
Ecocem/Orcem
Berths 191-194

The Wilmington Neighborhood Council is extremely concerned with regard to the current project and have detailed those concerns below along with the itemizing numerous safety data concerns with regard to GBFSS. We are also alarmed that many of the actions taken by the Harbor Department do not in fact do anything to reduce air emissions. We know the port is aware of AB 671 and we are unable to comprehend why many of the projects being approved and proposed do not even address these issues or take into consideration how these projects effect port adjacent communities.

Concerns related to Ecocem/Orcem

1. Use of waterfront property for uses that are not water dependent.

Mixing with gypsum and grinding the product to size specifications does not require use of waterfront property. For years, the Port had to deal with particulate emissions from the coal facility at Kaiser Point and the export terminal on Terminal Island. This included Kaiser having to use a street sweeper full time on Port roads to clean up the spillage from truck transport to and from Kaiser Point. The potential for particulate air emissions in the proposed project, including the manufacturing aspect, can be done elsewhere. If it is done at Berth 191-194, it should be done indoors in covered structures with air scrubbers on all ventilation systems. WNC-1

2. Air quality, particulate emissions.

The project will have very large negative air emission impacts. The product will be suctioned out of bulk carriers, transported by conveyor to open storage piles, processed through a crushing plant where WNC-2

it will be mixed with gypsum that has been imported by truck, stored again in open storage piles, then loaded onto 18 wheeled semi-trucks and transported to other sites in the Southern California area. Each of these transfers plus the exhaust from the equipment used for operating the plant, will generate small particulates. Wind borne particles from the open storage are also a probability. All transfer and manufacturing points should include covered structures with air scrubbers on all ventilation systems.

WNC-2 cont'd

3. Truck traffic

The NOP stated that the project forecasts 35,000 truck trips per year, the DEIR now states 65,950 but those are one-way trips. In counting traffic, each in and out segment counts as a trip, so that means that the previously estimated will be 70,000 truck trips a year will now be 131,900 truck trips, each one going up or down Avalon Boulevard past the new Banning's Landing Park right onto Anaheim during the Vicent Thomas Bridge Closure with the new Anaheim road diet.

WNC-3

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> "… [the Office of Planning and Research] does not require vehicle miles traveled analysis of commercial truck in CEQA documents. Therefore, ***based on OPR verbal guidance, heavy duty truck trips are not included in this transportation analysis***, but are analyzed in other resource areas such as air quality, greenhouse gas emissions, noise and energy…." NOP, Page 61. [emphasis added]

How truck traffic impacts are analyzed is a major issue as one of our greatest concerns are the trucks and their emissions and how they affect our health. Although it is not "required" to be considered, a good steward of our community and waterways "should" consider how this effects the area.

4. Public Notification

This project is extremely close to Wilmington Waterfront Project. Inclement weather with high winds and rain can blow large amounts of the slag over to our new waterfront park and spill into our oceans affecting our marine life. Will the port or Orcem provide emergency safety showers, eye wash stations, or other protective measures should the general public become exposed at the park? Will there be signage at the park to advise of possible toxic exposure and to seek medical attention if they experience symptons like nausea and/or vomiting, trouble breathing, skin irritations etc.?

WNC-4

5. Open Storage of Granulated Blast Furnace Slag (GGBFS).

The DEIR states that there will be open storage of GGBFS. There are entire Safety Data Sheets on GGBFS (excerpts below). The DEIR states that this will just be stored out in open piles just a stones throw from our new Waterfront Development where families will be on a regular and daily basis allowed to blow open in the air free for all stakeholders to breathe in and free to flow into our oceans. Some of the concerns are listed on Safety Data Sheets as follows:

WNC-5

Safety Data Sheet Information (excerpts)

Hazard(s) Indentification

- Single Target Organ Toxicity (STOT) Repeat Exposure – 2
  May cause damage to lungs through prolonged or repeated exposure Precautions are not to breathe dusts or fumes.

First-aid Measures :

- Inhalation: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
- Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if you feel unwell.
- Skin Contact: If skin irritation occurs: Get medical advice/attention.
- Ingestion: Get medical advice/attention if you feel unwell. 4(b) Most Symptoms/Effects, Acute and Delayed (Chronic): Acute effects:
- Inhalation: Excessive exposure to high concentrations of dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract.
- Eye: Excessive exposure to high concentrations of dust may cause irritation to the eyes.
- Skin: Skin contact with dusts may cause irritation or dermatitis.
- Ingestion: Ingestion of dust may cause nausea and/or vomiting. Chronic Effects: Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any airborne particulate matter exposure.
- Persons with pre-existing skin disorders may be more susceptible to dermatitis.

Accidental Release

- Personal Precautions, Protective Equipment and Emergency Procedures: For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Personnel should be protected against contact with eyes and skin. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways.
- Methods and Materials for Containment and Clean Up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Handling and Storage

- Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Practice good housekeeping. Do not breathe metal fumes and/or dust. Emergency safety showers and eye wash stations should be present.

Exposure Controls

- Appropriate Engineering Controls: Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.
- Emergency eye wash stations and deluge safety showers should be available in the work area.
- Individual Protection Measures:
- Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions.
- • Eyes: Wear eye protection/face protection. A face shield should be used when appropriate to prevent contact with splashed materials. Chemical goggles, face shields or glasses should be worn to prevent eye contact. Contact lenses should not be worn where industrial exposure to this material is likely.
- Skin: Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves.
- Other protective equipment: An eyewash fountain and deluge shower should be readily available in the work area.

Ecological Information

- Ecotoxicity (aquatic & terrestrial): No data available for the product, Blast Furnace Slag as a whole. However, individual components of the product have been found to be toxic to the environment. The following may migrate into soil and groundwater and be ingested by wildlife. • Calcium Sulfide: EU RAR lists as Category 1 Very toxic to aquatic life with long lasting effects.

Stability and Reactivity

- Hazardous Decomposition Products: Hydrogen sulfide gas may be released when moist or wet when it is heated. Can react with water to form calcium hydroxide

WNC-5 cont'd

In our last correspondence on this matter we had suggested that Ecocem's alternatives should include construction of a railroad "industrial side-track" to the site. This would allow for closed hopper rail cars to transport the product from the terminal to other distribution points, such as cement mixing plants that are the likely delivery destinations for the product. Some of these other sites may well have industrial side-tracks of their own. ***If implemented, this one change would drastically reduce the number of truck trips required and may well eliminate them altogether.*** However, this option was not explored. WNC-6

We stated previously and still submit that no project at all is the best alternative. We do not agree that this Berth should be changed from a Liquid Bulk area to a Dry Bulk area as liquid bulk comes in containers protecting people and the environment at a higher degree than dry bulk. The only mitigation option would be a railroad track to the site with the gypsum stored in closed containers to be moved from the site. WNC-7

The port has just invested into the community of Wilmington with the new Waterfront project We wonder however why would they invest that much money into a project for the community and then allow a project of such toxicity and danger to be adjacent to it? WNC-8

Lastly, this project is not water dependent and the long held guideline that waterfront property should be reserved for water-dependent activities should be upheld. **Manufacturing/millling the product is not water dependent**. WNC-9

Thank you for your consideration. Sincerely,

Gina Martinez

Gina Martinez, Chair
Wilmington Neighborhood Council

Wilmington Neighborhood Council
544 N. Avalon Blvd., Suite 103, Wilmington, CA 90744
☎(310) 522-2013 ✉ wilmingtonnc@empowerla.org
wilmingtonneighborhoodcouncil.com

Gina Martinez, Chair
Gayle Fleury, Co-Chair
Jaime Bedolla, Treasurer
Alicia Baltazar, Secretary
Trishie Salas, Parliamentarian

December 05, 2023

Ms. Lisa Wunder
Interim Director
Environmental Division
Port of Los Angeles

Via: ceqacomments@portla.org

ADDITIONAL COMMENTS TO ORCEM PROJECT

Dear Ms. Wunder,

Thanks you for the opportunity to comment on the Ecocem project DEIR.

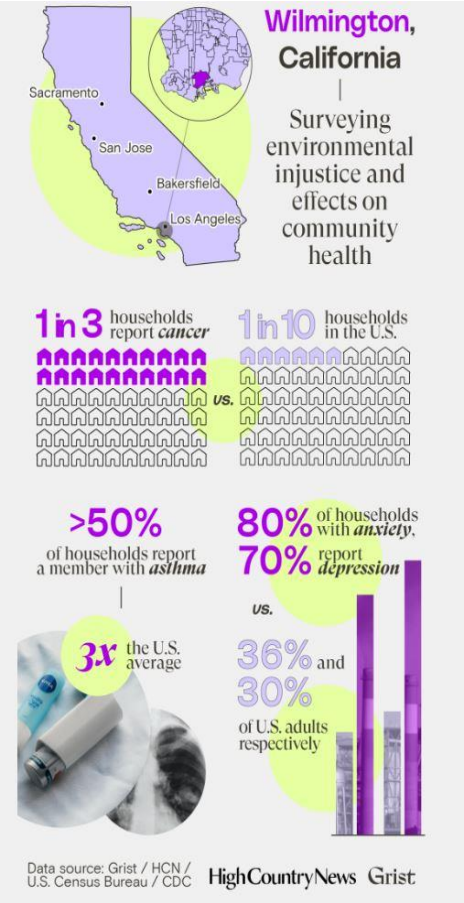
As outlined herein, the Wilmington Neighborhood Council voted to submit this additional letter/comments, add to our previously approved letter/CIS and voted to support the comments voted on by the Northwest San Pedro Neighborhood Council and agree that the "no project" alternative is the only feasible alternative due to the air quality, health risks, and traffic impacts. Although we agree with Northwest San Pedro's comments, at the same time, we voted that a modification of Alternatives 2 and 3 to provide for import and throughput of the raw granulated blast furnace slag via rail car addresses could possibly address impacts, we retain our position that the use of waterfront property should not be used for projects that are not water dependent . WNC-10

HEALTH CONCERNS

Cancer risk — predominantly from diesel exhaust spewed by trucks, ships and trains — is 98% higher in Wilmington than in the rest of the Los Angeles basin.

Industries in Wilmington and Carson reported emitting almost 1.7 million pounds of toxic air contaminants in 2020, including ammonia, hydrogen cyanide and benzene, which is a known cause of leukemia

In Wilmington, 664 people are at risk of contracting cancer of every million people exposed. (Risks exceeding 100 in a million are considered unacceptable.) Wilmington's cancer risk from air pollution ranks in the top 2% for the entire basin, which includes most of Los Angeles, Orange, San Bernardino and Riverside counties.

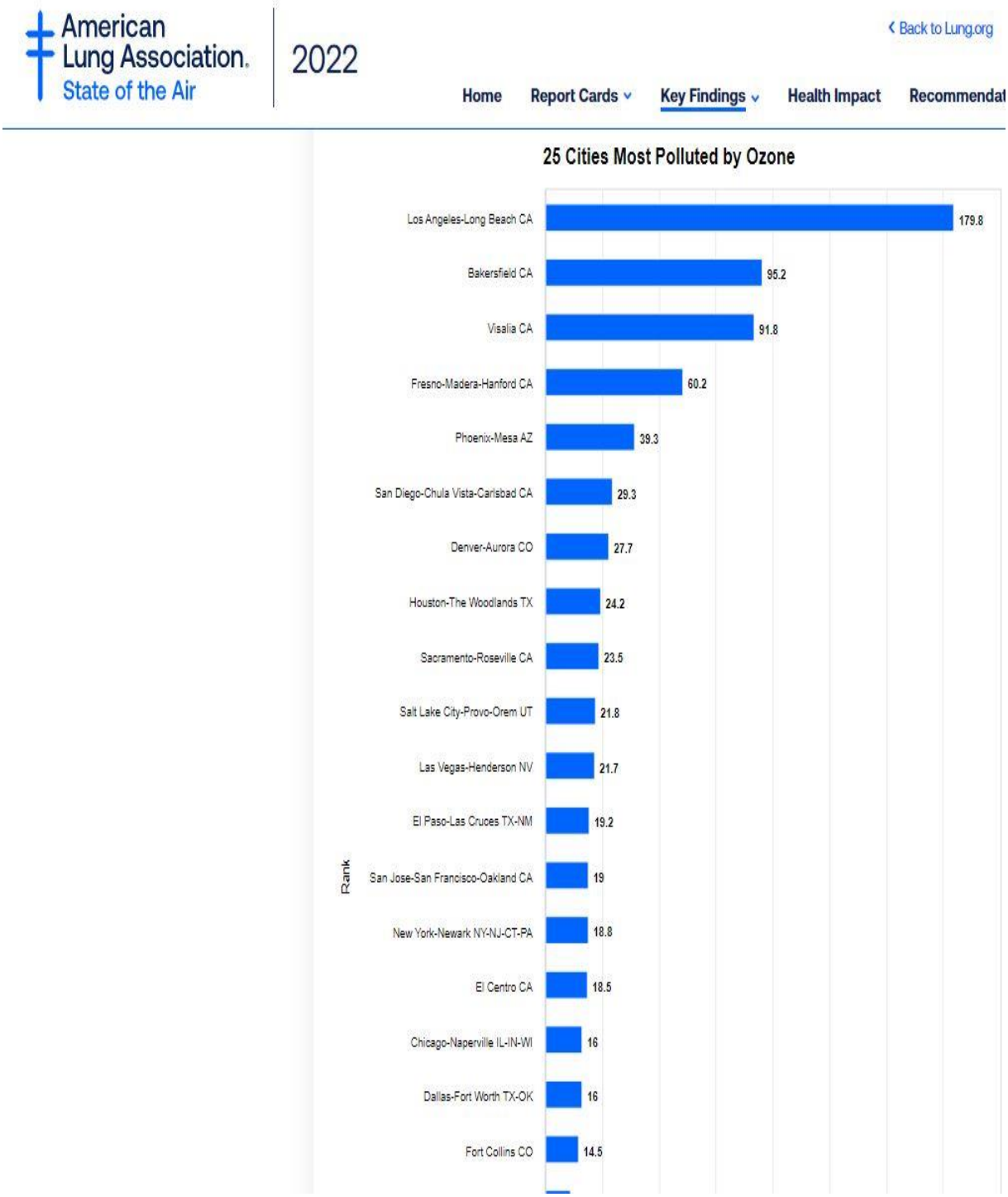


*** https://calmatters.org/environment/2022/02/california-environmental-justice-by-the-numbers**

Both the ports of Los Angeles and the Ports of Long Beach are constantly expanding their operations into our community. These operations have a direct impact on the health and environment of our community. The area between Los Angeles and Long Beach (Wilmington)

WNC-11

is the most polluted community in the country. The Port should only be approving projects that are water dependent and not approving projects that will most certainly degrade the quality of life of our residents and marine life.



WNC-11

THE "NO PROJECT" ALTERNATIVE

Granulated blast furnace slag [GBFS] is similar to sand. Ecocem proposes to grind the product into a very fine dust material similar to the cement used in concrete, and loading it onto trucks for distribution throughout southern California.

The import, grinding, storage, truck loading and truck transport of the very fine product produces considerable PM 10's [particles smaller than 10 microns in size] and PM 2.5's [smaller than 2.5 microns in size]. Particles that small can lodge in the lungs and can even pass cell walls in the lungs and lodge in the brain.

Table 3.1-13 in the DEIR shows the levels of the particle emissions for the years 2025, 2027, and 2049, and compares them with the AQMD threshold limits. **These are the predicted emissions after all feasible mitigations are applied and are for the project itself without including any ambient levels.** The predictions are based on what the levels would be at the property line. Predictions for what they would be in the surrounding area, from trucks and product dust for example, are not computed.

WNC-12

Table 3.1-13: Maximum Localized Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations — Proposed Project Operation

Pollutant	Averaging Time	Analysis Years	Ground-Level Concentration (µg/m³) [a,d]	SCAQMD Threshold (µg/m³)[b]	Concentration above Threshold?
PM_{10}	24-hour	2025	**10.9**	2.5	**Yes**
		2027	**21.6**	2.5	**Yes**
		2049	**21.5**	2.5	**Yes**
	Annual	2025[c]	**1.6**	1	**Yes**
		2027	**7.0**	1	**Yes**
		2049	**7.0**	1	**Yes**
$PM_{2.5}$	24-hour	2025	**3.3**	2.5	**Yes**
		2027	**6.6**	2.5	**Yes**
		2049	**6.6**	2.5	**Yes**

Notes:
[a] Exceedances of the thresholds are indicated in **bold**.
[b] Because the thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds, background concentrations are not added to the Maximum Modeled Project Concentration.
[c] 2025 annual average concentrations include construction impacts from January 2025 through July 2025 and operational impacts from August 2025 through December 2025.
[d] 24-hr concentrations were evaluated for off-site locations where persons may be exposed to the emissions from project activities, based on SCAQMD's Final Localized Significance Threshold Methodology (SCAQMD 2008). Commercial and industrial land uses were conservatively included for all averaging times.

These emissions exceed the threshold standards by 60% up to 864%. This alone is sufficient to require a finding that the "no project" alternative is the only feasible alternative. There are a few others.

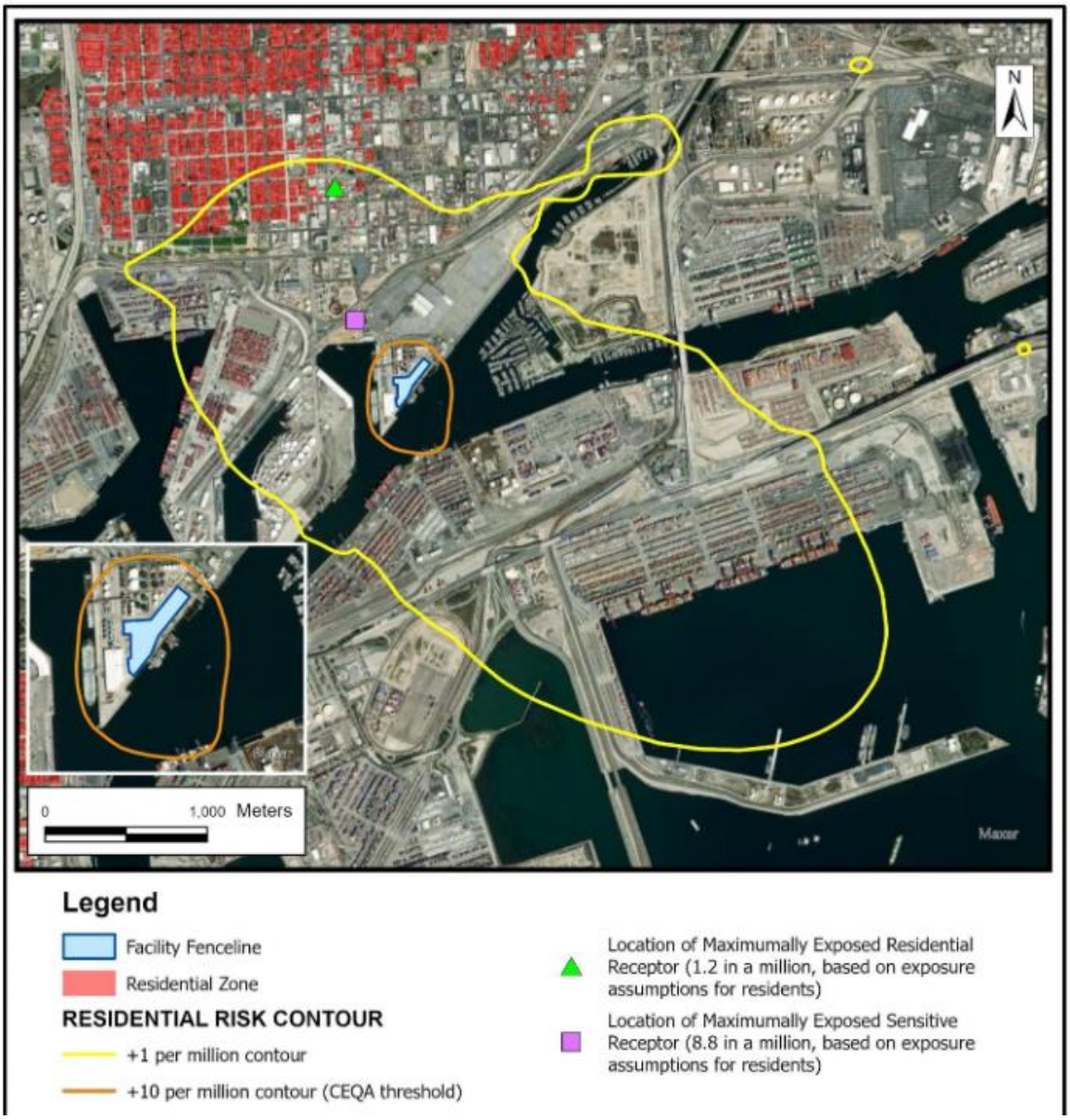
Health risks are also a concern. CEGA does not require evaluating health risks unless they exceed more than 10 per million cancer cases. The DEIR found no cancer risk requiring an assessment. However, Figure 3.1–2 in the DEIR shows two risk outlines, one encompassing the project site as well as the adjacent Vopak terminal and another encompassing numerous residences in Wilmington, at least four terminals in the Port, plus the adjacent marinas. Given the claim that the project does not exceed the CEQA impact requirement, this should be

WNC-13

Type text here

clarified. The DEIR also ignores the considerable data available that shows various important

Figure 3.1-2: Isopleths of 30-Year Residential Cancer Risk – Proposed Project



pulmonary impacts, especially on workers and children, such as COPD and asthma. The identified air quality impacts alone are more than enough to indicate the "no project' alternative should be selected as the only feasible alternative because, as the DEIR indicates, they cannot be mitigated to a level of insignificance.

WNC-13

There is also the impact of truck traffic. Large hopper trucks will be used to import gypsum to the site for use in the crushing process, and to transport finished products from the site to various locations, apparently mostly in Southern California. There will be approximately 66,000 truck trips per year, averaging 73 miles each trip, or about the distance from the site in Wilmington to San Bernardino.

WNC-14

Ecocem believes that CEQA does not require analysis of the environmental impact of these truck trips. They believe that analyzing the vehicle trips of their 26 employees is all that is are required, and included those trips, averaging 10miles each, in their DEIR.

They do address the truck transport issue but declare that it is for informational purposes only. See Section 3.8.6, starting at page 3.8-14. In doing so however, they counted each truck as if it were a regular vehicle and only calculated the impact of the level of service at intersections in and around Wilmington. This is called a "Level of Service" [LOS] analysis and they use it rather than the "Vehicle Miles Traveled" [VMT] method. The average one-way truck trip is estimated to be 73 miles, or 4,818,000 miles per year. Since they assert that VMT only applies to cars, not trucks, they don't analyze the VMT for trucks.

Each truck is 72 feet long, length occupied by 2 1/2 cars. If the trucks are counted as if they were 2 1/2 cars each, it would impact on numerous intersections in around the area, degrading them to a level of service requiring modification of those intersections. Further, the informational limitation ignores things like impact on the neighborhood of the 263 hopper trucks rolling through the neighborhoods each day, ignores the impact on the condition of the roadways of the very heavy trucks on the pavement, does not discuss the impact on the new Wilmington Waterfront Park currently under construction, the increase in accidents, and the like.

WNC-14

These are the impacts and omissions that indicate the "no project" alternative should be the preferred alternative. As a note, Ecocem points out that it was unable to secure a site in Long Beach or Port Hueneme, and we know from previous news reports that they were turned down in Vallejo as well. We strongly suggest that the comments in the following links, particularly those related to toxic chemicals in the GBFS product, be taken into consideration.

https://web.archive.org/web/20220625160749/https://www.voicesofvallejo.com/not-so-harmless,

https://www.voicesofvallejo.com/fugitive-dust

WNC-15

We do believe that a modification of Alternatives 2 and 3 might result in an environmentally acceptable project.

Alternative 2 is for a reduced product alternative and Alternative 3 is for a finished product import terminal.

Alternative 2 lowers the volume of the project, reducing the ship calls from 24 per year to 23 per year, but retains the on-site crushing and processing operation and still would distribute the finished product by truck. This does not materially reduce the air quality and truck transport impacts.

Alternative 3 is a product import terminal, where the slag would be processed before import, off-loaded and distributed it from the site. It does not really reduce much of the air quality impact and would have all the truck transport issues.

There is a combination/modification of Alternatives 2 and 3 that eliminates most if not all of the air quality impacts and truck transport impacts. That alternative would have the site used as an import terminal for the granulated blast furnace slag [GBFS] and transporting it out of the terminal area by rail car to a remote site where the GBFS could be processed and distributed as Ground Granulated Blast Furnace Slag [GGBFS].

WNC-16

Ecocem understands that raw product import and export via rail eliminates the truck transport and air quality issues, but says it is not feasible because it would require permits from others. Interestedly, they say that 20 rail cars per day would equal the 263 trucks per day that they hope to use.

Next door to the site is the Vopak terminal. Vopak has a rail line into the terminal as well as a fully enclosed and well-ventilated product storage barn, now unused but currently rented to Portland Cement Company.

WNC-16

Ecocem says that a rail line to its site would require extending the track that now runs through Vopak, would require road crossing agreements a double track would be needed to accommodate the 20 rail cars per day. This ignores the fact that the Port owns all the track in the Port, that the streets are not dedicated public streets, and the Pacific Harbor Lines is owned by the Port as well. The Port could easily construct an industrial sidetrack down Canal Street to the proposed terminal.

Under this proposed modification of Alternatives 2 and 3, the raw product would be imported through the site, loaded onto rail cars and transported to a more acceptable, non-waterfront grinding mill, then distributed throughout Southern California.

In summary, the Council believes **that the no project alternative is the only reasonable and feasible option that meets the project objectives in the least environmentally impactful way and is the one that should be selected**, as required by Cal. Code Regs. Title 14 Sec. 15126.6, Cal. PRC Secs. 21002, 21081. We also note that the project to manufacture GGBFS in the manner proposed by Ecocem requires use of waterfront property for a non-waterfront dependent use. The Port has traditionally rejected uses that are not waterfront dependent. Perhaps that is why this project was rejected by the Port of Long Beach, Vallejo and Port Hueneme.

WNC-17

We believe the Port should have explored the rail transport option in greater depth. We propose, and are willing to participate in, a study group with Port staff and PHL staff to explore this option. Thank you for your consideration.

Sincerely,

Gina Martinez

Gina Martinez

Chair
Wilmington Neighborhood Council

From:	De La Torre, Yolanda
To:	Cegacomments
Subject:	Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Thursday, October 26, 2023 4:51:10 PM
Attachments:	ECOCEM Letter of Support.pdf

Good Afternoon,

The Wilmington YMCA supports this project, please see attached letter.
Thank you,

Yolanda (Yoli) De La Torre
Regional Vice President
WILMINGTON AND GARDENA-CARSON YMCA
1127 N Avalon Blvd, Wilmington CA 90744
(C) 310 210-9850
(E)yolandadelatorre@ymcala.org (W) ymcaLA.org

YMCA OF METROPOLITAN LOS ANGELES
HEALTHY LIVING SPORTS EDUCATION TEEN CIVICS FOOD INSECURITY
TOGETHER, WE MAKE POSSIBLE HAPPEN.

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FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

November 1, 2023

Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, CA 90731

Re: Support for Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project (The Proposed Project)

To Whom It May Concern:

On behalf of the Wilmington YMCA, I write in support of Ecocem's Low-Carbon Cement-Processing Facility Project.

The Wilmington YMCA has been in the Wilmington Community since 1998. Our Mission is to strengthening communities through youth development, healthy living and social responsibility. Our Wilmington branch currently has over 1500 members and participants.

The project will create jobs in the Wilmington and San Pedro region and will provide environmental benefits by reducing CO2 emissions through Ecocem's low-carbon cement solution.

YMCA-1

The project will produce construction expenditures within Los Angeles County of $100 million, while total project expenditures will reach $150 million.

Once in operation the project will contribute over $100 million in total economic output annually within Los Angeles County.

The project will provide over 700,000 tons of the leading low-carbon cement material, making a large contribution to California's mandate for the cement sector in California to achieve net-zero GHG emissions by 2045.

Ecocem's low-carbon cement products have reduced over 16 million tons of CO2 emissions since it first started production in 2003.

WILMINGTON YMCA
1127 N Avalon Blvd, Wilmington CA 90744
P 310 522 2100 www.ymcala.org/WI

FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

The project provides a secure supply of building material that is essential for Southern California. CalTrans has projected that concrete construction will be in critically short supply in the future.

Ecocem supports their local communities near their facilities and contributes to their resilience by adding social value through employment, charitable donations, volunteering activities, and has already initiated similar support in the Wilmington and San Pedro communities.

YMCA-1 cont'd

Ecocem has been a great community partner and we look forward to their continued presence in the Wilmington and San Pedro communities.

Sincerely,

Yolanda De La Torre
Regional VP
Wilmington & Gardena Carson YMCAs

WILMINGTON YMCA
1127 N Avalon Blvd, Wilmington CA 90744
P 310 522 2100 www.ymcala.org/WI

From: Dennis Casey
To: Cegacomments
Cc: Dennis Casey; Tom Brown
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Wednesday, November 8, 2023 9:38:41 AM

Please find another place that will better accompany the many vehicles that will be needed for the cement plant. Please recognize the jet fuel tanks, ash Fire house # 49, the Police training facility, the new car loading, distribution facility, and the Marine Preservation Trust facility that train, and facilitate the crafts required to build, and maintain wooden. Vessel.

Casey-1

Thank you,

DENNIS CASEY







From: Paul Cole
To: Ceqacomments
Subject: Public comment, DEIR, Berth 191-194, Ecocem
Date: Sunday, December 10, 2023 7:15:10 PM

Director of Environmental Management
Los Angeles Harbor Department
425 Palos Verdes Street
San Pedro, CA 90731

ceqacomments@portla.org.

Lisa Wunder,

I would like to submit the following comment on the DEIR for the following project at the Port of Los Angeles: Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project

Wayne Ettel runs a boatyard business at Bert 193 Yacht Street, under the business name Boatswayne Ettel. The yard specializes in the repair and maintenance of traditional boats. It has operated for over 15 years on this site. It provides an important service to the boats in the Port of LA area and is particularly important given the lack of other traditional boat repair facilities. We have had a boat at the yard for repair and the service and craftsmanship has been excellent. Cole-1

I think this is an important service in the LA Port and surrounding area, and that the port should do everything it can to make sure that this project does not negatively impact the services that Wayne provides.

Regards,

Paul Cole

From:	Wayne Ettel
To:	Ceqacomments
Subject:	(This is likely to be spam per POLA sender properties) Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project
Date:	Sunday, December 10, 2023 11:56:01 AM
Attachments:	Ecocem Public Comments.pdf

My comments to the above noted project are attached.

Wayne Ettel

BOATSWAYNE ETTEL
24325 Crenshaw Blvd., #122
Torrance, CA 90505
(310) 830-3121

December 10, 2023

Proposed Ecocem Project is displacing existing tenants who provide needed Maritime related services and is not the best use of limited Port waterfront property

While it is true that the back dirt lot portion of the proposed site is currently unused, almost the entirety of the waterfront portion of the lot has been occupied by long-term tenants who are providing needed Maritime related services in the Port of Los Angeles. The Port has chosen to proceed with the immediate eviction of Boatswayne / Maritime Preservation Trust in anticipation of the approval of the Ecocem Project. Boatswayne and the Maritime Preservation Trust (maritimept.org) is one of the last marine repair facilities in the Port of Los Angeles. Our apprenticeship programs are providing job training and placement in the marine repair and maintenance industries. Ettel-1

The other tenants currently at the site are Associated Pacific Constructors who provide marine engineering, construction and harbor salvage, Phamarine Commercial Diving Services who is a commercial diving operation, and AmNav towing and vessel assist. All of these tenants provide very important services directly relating to the maritime industry as opposed to a cement processing plant that does not need to be directly on waterfront property, as Ecocem does not plan on using the waterfront portion of the site. The slag could be imported and trucked to an inland processing facility instead of trucking raw gypsum to the waterside and trucking the finished product off the site.

Proposed Ecocem Project will place two cement operations side by side

In July, 2022, the Port of Los Angeles issued the "Berths 187-191 [Vopak] Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project Notice of Preparation/Initial Study. This planned project includes the proposed improvements to the dock at Berth 191 that are referenced in the Ecocem documents. The NOP states:

> The Berth 191 cement import terminal is operated by Vopak for its cement customer. In 2007, the facility throughput was approximately 505,600 metric tons of cementitious materials from 14 ship visits, resulting in approximately 82 daily truck trips. However, as a result of the economic recession that started in 2007 and regional decline in demand for cement, throughput at the terminal in 2008 was significantly less (i.e., approximately 105,000 metric tons of cementitious materials from three ship visits). In 2009, the cement facility stopped receiving cement shipments by vessel and suspended delivering product locally. All facility permits have remained in effect since this time. In 2015, Vopak's cement customer initiated the process of restarting cement import operations at Berth 191 but encountered issues associated with the structural integrity of the dock. However, due to the recent closure of local cement supplies and high demands

Ettel-2

for cement, operations are expected to resume over the duration of the new entitlement.

The Berth 191 cement facility would be able to accommodate a maximum annual throughput of approximately 500,000 metric tons of dry bulk cementitious materials. Based on the maximum capacity throughput, proposed operations would result in up to 15 vessel calls per year. All vessel offloading activities associated with the proposed Project would occur at Berth 191. Under the proposed Project, **approximately 20,000 annual truck trips** would be required to transport bulk cement to local suppliers. Trucks would deliver product to local suppliers via Canal Street to E. Water Street to S. Avalon Boulevard to an unnamed road, referred to as the "Berth 200 Roadway," that runs behind WWL Vehicle Services America to the Consolidated Slip Berths to N. Henry Ford Avenue (SR-47).

Ettel-2 cont'd

This will place two cement operations ***side by side*** very close to the new Wilmington Waterfront Promenade and Banning's Landing Community center, not to mention the USC Rowing Base and Fire Department Station 49, with the accompanying truck traffic from ***both operations***.

Proposed facility will generate gross pollution

Ecocem proposes storing the raw materials, slag and gypsum, in open piles. In addition, they propose offloading the slag from vessels by way of a conveyor system. They propose covering, but not enclosing the conveyor belts.

Waste slag is highly friable, breaking into fine particles upon impact. Because of this quality, it is notorious for producing high volumes of dust. This dust may contain trace amounts of manganese and cadmium. Manganese is a potent neurotoxin, and many pediatricians and toxicologist suggest there is no safe level of exposure during early brain development – up to 18 years of age. It may also contain trace amounts of crystalline silica, which can cause silicosis, a seriously disabling and potentially fatal lung disease. Crystalline silica and the trace metals contained in slag are classified by IARC and NTP as known carcinogens. **And they are suggesting keeping this in open piles and offloading in unenclosed conveyors within close proximity to a park and Community Center with children present?**

Ettel-3

Gypsum also naturally contains trace amounts of crystalline silica. The plans for the facility call for trucking in the raw gypsum and storing it in open piles.

Ecocem has plans to control the stormwater runoff from the facility, but there are no plans to stop the dust from the open slag and gypsum piles and conveyor system from blowing into the water of the harbor and onto adjacent properties.

Truck Traffic

Ettel-4

The DEIR for the Ecocem Project is only considering truck traffic from the proposed project. As noted above, however, there will also be truck traffic resulting from the restart of the cement facility located in Vopak. Ecocem is projecting **65,950 truck trips per year**, and there is an additional projection of **20,000 truck trips per year** from the Vopak terminal. This is in addition to the tanker truck traffic from Vopak and car carriers from the auto terminal. **All** of this truck traffic will travel along Avalon Boulevard beside the east side of the new Waterfront Promenade and turn directly in front of Banning's Landing Community Center.

Due to the new Wilmington Waterfront Promenade park which resulted in the elimination of the Water Street route to the bypass road, all traffic in and out must travel along the east side of the new park. This will still be the case when the new "Berth 200 Roadway" is eventually completed. All truck traffic will turn right from the Roadway onto Avalon, along the east side of the park, on a 2 lane road, and turn left directly in front of Banning's Landing Community Center. That is projected to be 85,950 truck trips per year, or over 200 cement truck trips per day, plus Vopak's tanker truck traffic, plus the WWL vehicle transports. In addition, the train traffic in WWL Vehicle Services often blocks the vehicle transports from entering their, causing backups along Water Street in front of the Community Center and along Avalon Boulevard. Directly in front of the Community Center Water Street is also only one lane in each direction which adds to the vehicle backups and will cause lineups of trucks idling next to the park for extended time periods.

Ettel-4 cont'd

We oppose the Ecocem facility. It is bad for the community and bad for the environment. The Port of Los Angeles should utilize waterfront space for maritime related services, not processing facilities that could easily operate away from waterfront space.

Respectfully submitted,

Wayne Ettel

From: Samuel Hernandez
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Friday, December 8, 2023 10:28:14 AM

Hi,

I have a few questions regarding the Ecocem project:

It seems like this type of project is always placed in an area that is either less affluent or less caucasian. Has the Port of LA done any type of analysis to suggest that this project will not disproportionately impact people of color or of a lower socio-economic status? Hernandez-1

What type of air monitoring was conducted to support the safety of a project like this? If the port used any sensors during that kind of analysis, were all the sensors working or were there any deficiencies in the sensor data during that analysis? Hernandez-2

Thanks for your time.

Sam Hernandez

From: Jonathan Lennard
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Sunday, November 5, 2023 4:45:44 PM

To the Director of Environmental Management at the Port of LA and the LA Harbor Commission,

I am writing in regards to the eventual displacement of Marine Preservation Trust (MPT) in exchange for a cement processing facility.

The Port of LA is a unique place, besides being one of the busiest Ports in the World, it has an enormous heritage in the founding roots of Los Angeles and Southern California. The maritime skills that got most of us here are still relevant. The Port has been extremely successful because of it's maritime heritage, yet it's maritime heritage is getting lost to a commerce that has less cultural value to the Port. Losing a training ground for our labor force and to the very craftsmen that founded it would truly be short-sighted and irreversible. . The port is in dire need of developing culturally and environmentally relevant activities and points of interest that are not just chain restaurants and stadiums. MPT is one of the only places where real maritime craft skills can still be learned and practiced and where the highest standards are being set for artisans in this field. Besides the obvious fact, without these skills, what's left of culturally significant boats will disappear.

There are fewer and fewer ship-wrights today and almost no places for people with an interest in these trades to learn them. When someone asks us a few years from now, should I come to the Port of LA for a great pizza, or because I would like to visit a working boat yard that still employs artisans and learn about ship-building? The decision should clearly be to preserve something meaningful. Museums are great, cultural centers are great, but a working yard is the real thing. San Pedro's greatest asset is authenticity, it's what sets it apart from a lot of California coastal cities.

Respectfully,
Jonathan Lennard
member of the Los Angeles Yacht Club
'Jonathan Lennard restored Lone Ranger 2, the yacht that was built for Jack Wrather, builder of the Disneyland Hotel, and the man responsible for bringing the Queen Mary to Longbeach. His current project is restoring the sailing yacht "Olinka" brought to the United States by the former head of Warner Brothers, and Sony Studios.'

Lennard-1

From: Mallissa Morris
To: Cegacomments
Subject: Please host a job in Fair
Date: Friday, November 3, 2023 7:24:09 AM

Community member here with an idea if you could, please host a job fair for employment at the plant once the project is underway. And I say underway as opposed to completed, so that community members if needed, will have the opportunity to seek necessary skills for the various positions that will be new to the community. Morris-1
In partnership
Wilmington community member

Sent from my iPhone

From: captco@aol.com
To: Ceqacomments
Subject: Maritime Presevation Trust, Yacht Street, Wilmington, California
Date: Sunday, November 5, 2023 7:32:53 AM

"Yacht Street off of Avalon Boulevard in Wilmington", saying these words aloud conjures up pictures of the "Good Life" and the prosperous people that helped make Los Angeles - those who could afford boats and weekends in Catalina.
The vibrant scene there was sacrificed to the War Effort of WWII. USC Rowing and Maritime Preservation Trust are all that remain to remind us of it.

Wayne Ettle has patiently and consistently built a career in restoring classic boats of all kinds. He started out in Sea Scouts, adopting the credo of hard work and honesty. He has lived and worked on the waterfront in Los Angeles his entire working life. I do not know the details for sure, but I do not think he ever had anything better than a month-to-month agreement with the Port. His dream of a foundation to preserve and protect these masterpieces of human endeavor and to promote the passing-on and development of the skills necessary to do this is in dire jeopardy. Murray-1

Maritime Preservation Trust has already helped thousands to find more meaning through sharing skills and camaraderie - sourcing materials and parts, finding the core sense of accomplishment to see things of such beauty arrive by the work of one's own hands. It has the potential to be much greater than it is but by constantly being denied any chance of permanence, it could wither and die.

Rather than ousting Maritime Preservation Trust, I suggest it be championed. There is a lot of good in it - not just for the wealthy, but for all of us.

Thank you.

Tim Murray
Aspen, Colorado

970-925-4998



From:	Timothy O"Brien
To:	Ceqacomments
Subject:	(This is likely to be spam per POLA sender properties) Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date:	Sunday, December 3, 2023 5:44:25 PM
Attachments:	Ecocem DEIR Comments.pdf

Berth 191-194 Ecocem Processing Facility Project
APP# 180628-109
SCH# 2022030294

My name is Tim O'Brien and I am a resident of Los Angeles. I am writing to submit my comments on the Draft Environmental Impact Report (DEIR) of the Ecocem project proposed for Berths 191-194.

For about the past 30 years I have been the proud owner of La Volpe, a classic wooden schooner built in 1926. The vessel was constructed at Wilmington Boat Works in Los Angeles Harbor, not more than 200 feet from where it is currently berthed at the shipyard of Boatswayne Ettel. During my period of ownership she has undergone a complete restoration by the skilled craftsmen at the shipyard, bringing her back to better than new condition.

The Boatswayne Ettel shipyard is the only business in Los Angeles Harbor with the skillsets, personnel and equipment to accomplish the restoration and ongoing maintenance necessary to keep up the restored state. Further, it's the only facility training future craftsmen to do this type of work through the Maritime Preservation Trust.

The DEIR identifies the shipyard as an old boat storage area to be shuttered. I can't understand how the Harbor Department would choose to eliminate this vital small business and training center from the harbor without a suitable replacement. Sadly, it would spell the end of classic boating for me, and would begin the gradual elimination of all the classic vessels in the Harbor area. Don't let this happen!

O'Brien-1

From: Sam Rade
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Tuesday, October 24, 2023 1:11:26 PM

Will Berth 191 be used to import cement for Vopak/CalPortland or does this proposal mean that Berth 191 will now be used exclusively by EcoCem to import slag? Holiday Rock-1

Thanks,

Sam Rade | Sustainability Director
Holliday Rock
1401 N Benson Ave | Upland, CA | 91786
P: 909-982-1553 xt.1399 | M: 909-727-4250
Ready Mixed Concrete | Asphalt | Aggregates
www.HollidayRock.com
30+ Locations Serving Los Angeles, Orange, Riverside, San Bernardino, Kern & Ventura Counties

From: Enrique Sanchez
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Friday, December 8, 2023 10:40:03 AM

Hello,

I understand that there are a number of "significant but unavoidable" impacts that would come from this project.

I'd like to know why, after that assessment is made, a project like this would be permitted to continue? The port obviously understands the detrimental health impacts that would be levied on the surrounding community. So why is that acceptable from the perspective of the Port?

Over the years, the Port of Los Angeles has made a lot of commitments regarding the protection of the environment and the health of Californians. A project like this achieves almost the exact opposite of those stated ambitions. So again - can you explain in detail how this project would further the health and environmental benefits of the community?

We care about more than just the small economic impact this might have in my community, but it does not seem like the Port of LA is aligned with anything else except the monetary benefits this might bring.

Please consider denying this project.

Enrique S.

Sanchez-1

From: Ryan Saxton
To: Ceqacomments
Subject: Berth 191-194 (Ecocem) Low-Carbon Cement-Processing Facility Project
Date: Friday, December 8, 2023 10:14:55 AM

1. Orcem proposed a similar project in Vallejo and was opposed by local citizens concerned for their own health and well-being. Ultimately the project was abandoned by Orcem and ended up costing the city and (I'm sure Orcem) a considerable amount of money. I'd like to see an explanation of why LA is different. Is it just that Orcem anticipated that that community wouldn't advocate for themselves? Or is the proposed project dramatically different in that it would introduce fewer health impacts? Saxton-1

2. The Clean Air Action Plan that was originally approved in 2006 called for the port to reduce GHGs 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The Proposed Project, by year 2027, would produce 21,298 metric tons/yr, more than 112% above SCAQMD's threshold. How are those two things compatible? Saxton-2

3. By 2027, the Proposed Project would emit more than 190 lb/day of Nitrogen Oxides (SCAQMD's localized significance threshold is 123), 22.2 lb/day of PM10 (SCAQMD's threshold is 4), and 15 lb/day of PM2.5 (SCAQMD's threshold is 2). Particulate Matter can be absorbed by the lungs, and is particularly dangerous for older populations or younger kids, especially with asthma. Why does the Port of LA think this is acceptable? Saxton-3

4. The Proposed Project's peak daily operational emissions of Nitrogen Oxides, which can have significant detrimental effects to the human respiratory system, would reach 852 lbs/day by 2027. The regional significance threshold is 55. I'd like to see an explanation of how that is a safe working environment for anyone in close proximity to this proposed project, including those who might walk that new pedestrian bridge you showed earlier. Saxton-4

--
Ryan Saxton
Petworth Consulting Group, LLC
RSaxton@PetworthConsulting.com
(p) 502.594.3476

From: Chris Smith
To: Ceqacomments
Subject: Fwd: Berth 191-194 Maritime Preservation Trust
Date: Monday, November 6, 2023 1:58:44 PM

Dear Port of LA,

I am a member of LAYC, and have enjoyed family boating for over 60 years. Going back to my childhood days, I can still remember the excitement to see the beautiful wooden boats go by, Calkins, Lapworths, Kettenburgs, Sparkman Stephens, and more!!

Words cannot express enough gratitude and appreciation for all the work MPT has done to preserve wooden boat tradition. The craftsmanship, teaching skills, and beautiful restorations are an art that needs to continue. We need to keep it going for current and future generations!!

I have learned a Cement Processing Plant may replace the MPT location.This possibility is heartbreaking, and I support those opposed. Please do the "right" thing, and keep MPT where it, an irreplaceable tradition!

Smith-1

Sincerely,

James C. Smith
Wooden Boat Lover!!

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Wayne Widner
To: Ceqacomments
Subject: Low-carbon cement
Date: Friday, October 13, 2023 6:36:34 AM

I support the concept but would suggest an item in the contract. If the facility were to ever close the owner should be responsible for the site restoration to better than present condition including all hazardous remediation. If not completed within six months the port may subcontract the remaining work and bill the owner.

You may remember a coke plant that walked away and left the site to the city to clean up. Best to get the expectations and requirements agreed to in a contract in case it goes to court later.

Widner-1

Wayne Widner
San Pedro

Sent from my iPhone

> On Oct 13, 2023, at 6:23 AM, Wayne Widner <wwidner@me.com> wrote:
>
> ***Wayne Widner***
>
> Sent from my iPhone

Project: Berth 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project Public Meeting
Date: November 1, 2023
Time: 5pm

The following document was developed using Zoom and minor edits were made by Port and Ramboll staff for transcription errors and descriptive comments.

Noemi Luna: Hello, everyone, and welcome to the meeting once again. My name is Noemi Luna and we will be providing an opportunity for anyone who make a verbal comment, as you will be provided with three minutes to speak. If you wish to speak, please press the raise hand button to provide verbal comments. That is the little uh …hand icon on your Zoom toolbar at the lower portion. Once your name is called, it will be stated that you have been unmuted to speak, and you'll hear that at your end. Please state your first and last name clearly, and spell your name for the record. If you have joined by dialing in, in other words, calling in to this to the Zoom Meeting, and wish to speak, please raise your hand by pressing Star 9. Once it is your turn to speak, you will hear the prompt. You have been unmuted. Please unmute yourself by praising Star 6. Then state your first and last name, and spell your name for the record.

Spanish being spoken to inform attendees that there is a Spanish interpreter available [and]that if they would like to listen in Spanish, they could click on the Interpretation icon on their phones and/or screens.

So at this moment we have five individuals with their hand raised. I will start with Bruce Heyman. You will have three minutes, if you can. Please begin. You will be unmuted. Provide your comment.

Bruce Heyman - LAMI: Hello! I assume you can hear me now.
Noemi Luna: Yes, we can.
Bruce Heyman - LAMI: Thank you. My name is Bruce, B.R.U.C.E. Heyman, H.E.Y.M.A.N. and I am the Executive Director of Los Angeles Maritime Institute and the Board chair of the San Pedro Chamber of Commerce. Today I am speaking on behalf of both the Chamber and LAMI. We come before you to reiterate our strong support of the Berth 191 to 194 Low Carbon Cement Processing Facility Project. We encourage you to approve this project as expeditiously as possible, so that the community can begin enjoying the benefits of this Project as soon as possible. This project was first reviewed by our Economic Development and Policy Committee, and then by the Full Board of Directors of the San Pedro Chamber of Commerce. We have seen Ecocem is an excellent community partner in areas where they operate and are and show …and are showing that they will do the same in our local communities, including Wilmington and San Pedro. The Chamber welcomes this significant number of jobs not only during construction, but also when fully operational. We are also very supportive of the ability of the Project to help move California to net zero greenhouse gas emissions by 2045. We encourage you to approve the Project. Thank you for the opportunity to talk today. **PH1-a**

Noemi Luna: Next, we have Pat, Pat, we will go ahead and unmute you now

and then following Pat, will be Monica Garcia.

Pat: My name is Pat Nave. P.A.T. N.A.V.E. I'll try to three …to see…least the most reasonable …feasible alternative having the least environmental impact. But it needs a pretty modification -- shouldn't be manufacturing, and particularly shouldn't be manufacturing on …on waterfront land. Bring this to the slag material in, and then export it to a processing and distribution facility. **PH2-a**

This is particularly important because of the air quality impacts of this very fine material, and all you have to do is look at the Port's…our history with the coal and coke terminals, and this is much finer and much more deleterious material that you have. **PH2-b**

We'll talk about the transportation thing because a modifications Alternative 3 should be used, and that is to put an industrial sidetrack …a rail track down Yacht Street to …to site and then get rid of the carbon truck…unimportant export, and send this stuff out by rail and Vopak next door already has a rail line into it. Also has a covered and ventilated processing facility…aren't…now some …some **PH2-c**

CEQA …they claim doesn't require truck trip …trip analysis. You did one on it. We've got 66,000 truck …truck trips with an average of 73 miles each. It looks like, you know where these things are going, and maybe that should be included in here, where those trucks are going and coming from should be included as a Project description. **PH2-d**

Also, I mean, the analysis get used each truck is, if it is a passenger vehicle and looking at the burden on the intersection. These trucks are big. They should be carrying a two and a half car vehicles per truck to determine the burden on these intersections. **PH2-e**

So, in summary, the most reasonable feasible options is having the least environmental impact, which is what you're required to do, is to import the slag material and export by rail out of the Port for processing and distribution from a non-Port site. Thank you. **PH2-f**

Noemi Luna: Thank you for your comment. Next will be Monica Garcia and I will unmute you now. When you're ready, please state your first and last thing clearly for the record, and the three minute timer will begin once you once you begin.

Monica Garcia: Good evening, everyone. My name is Monica Garcia Diaz. I am the CEO of the Wilmington Chamber of Commerce. My name is spelled M.O.N.I.C.A. Garcia, G.A.R.C.I.A. Diaz, D.I.A.Z. I want to convey that Ecocem has from the very beginning been a …a very responsible business partner with our community before they …they even began the …the …the …Project planning in the area of Wilmington. I want to convey also that the mission of the Wilmington Chamber of Commerce is to promote and support local businesses and improve the quality of life for the community of Wilmington. Truly, on behalf of the Wilmington Chamber of Commerce, we are in support of Ecocem, joining our many businesses located in the Port of Los Angeles. The Ecocem Project will create many local jobs in Wilmington which we are …we are very much in need of, and will provide environmental benefits by reducing the CO2 emissions through Ecocem's low carbon cement solution. Ecicen supports their local communities near their facilities, and contributes to their resilience by adding social value through employment, charitable donations, volunteering activities, and has already initiated similar support in the Wilmington community as I have previously stated. Ecocem has been a great **PH3-a**

community partner, and we look forward to their continued presence in Wilmington and the San Pedro communities. Thank you.

PH3-a cont'd

Noemi Luna: Thank you for your comment. Next, will be Tommy Faavae …Faave, my apologies for mispronouncing and followed by Henry Rogers. So, Tommy Faavae, we will allow you to speak at this moment. You are being asked to unmute.

Tommy Faavae: Good evening. Can you hear me?
Noemi Luna: Yes, we can. Thank you very much. Go ahead and state your first and last name clearly for the record and spell that as well.
Tommy Faavae: My name is Tommy Faavae. T.O.M.M.Y. F as in Frank, A.A. V as in Victor, A.E. I represent IBEW electrical workers, Local 11, in the Los Angeles area and we're here to support of the Berth 191 through 194 Ecocem Low Carbon Cement Processing Facility Project. The Project …the Proposed Project will create jobs in the Wilmington and San Pedro region, and will provide environmental benefits by reducing CO2 emissions through Ecocem's low carbon cement solution. This Project will produce construction expenditures within the Los Angeles County of a 100 million, while total Project expenditures will reach 150 million. Once in operation, the Project will contribute over a 100 million in total economic output annually within the Los Angeles County. This Proposed Project will provide over 700,000 tons of the leading low carbon cement material, making a large contribution to California's map …map date for the cement sector in California to achieve net zero GHG emissions by 2045. Ecocem's low carbon cement products have reduced over 16 million tons of CO2 emissions since it first started production in 2003. The Proposed Project provides a secure supply of building material that is essential for Southern California Caltrans. As projected, that concrete construction will be critically short supply in the near future. And especially with the offshore, the floating offshore wind turbines that the Port of Long Beach and the Port of LA is proposing in the near future. Cement is going to be critical to building out of these big turbines, and then the manufacturing jobs that come with it as well. Ecocem has been a great community partner. We look forward to the continued presence in the Wilmington and San Pedro communities. Again. Thank you very much, and we urge the Port of Los Angeles to approve this Draft EIR on this Proposed Project. Thank you. And I wanted to make clear that we also send in the email on our letter …our IBEW letter as well. Thank you.

PH4-a

Noemi Luna: Thank you for your comment. Next, we have Henry Rogers. Henry. We will go ahead and unmute you allow you to speak, and then followed after Henry Rogers will be Yolanda de la Torre.

Henry Rogers: Awesome. Thank you. Good …good evening. My name is Henry Rogers, and I'm the executive director of the Harbor Association of Industry and Commerce. My name is spelled Henry H.E.N.R.Y. The last name is Rogers, R.O.G.E.R.S. And I'm here this evening, speaking in support of the Ecocem Low Carbon Cement Processing Facility Proposed Project in Berths 191 through 194 on the Port of Los Angeles. The Harbor Association, the HAIC, represents the Harbor business community and stakeholders with a focus on growth and sustainability. The organization, we've taken an opportunity to thoroughly review the Draft EIR for the proposed Ecocem Project, and we'd like to emphasize that the Project's alignment with the Port sustainability objectives and the State's

PH5-a

emission reduction goals. Most importantly, we see the Project is crucial for reducing the carbon footprint and construction and enhances sustainability across the Southern California region. We'd like to commend the Harbor Department on all the work they've done on this Project, and we're keen to work in partnership with the Harbor department on this environmentally friendly and jobs benefit …jobs beneficial Project. Thank you for hearing me today.

PH5-a cont'd

Noemi Luna: Thank you for your comment. Following is Yolanda de la Torre. I will allow you to, let me see. I will unmute you now, so please speak your name clearly, and then spell it out for the record. Thank you very much.

Yolanda DeLaTorre: Yes, good afternoon. My name's Yolanda de la Torre spelled Y.O.L.A.N.D.A., last name, D.E. L.A. T.O.R.R.E. I'm the regional vice president for the Y.M.C.A. and today I'm speaking on behalf of our Wilmington Y.M.C.A. Branch. and I …I want to echo support for this Project. We believe that Ecocem has been a great supporter to …to our community thus far. Just by volunteering, giving. We believe that this Project will bring many jobs to our Wilmington community as well as our neighbors in San Pedro, bringing sustainability in our economics. And it's also, you know, good at environmental impact. So we highly support this Project and I want to thank you for allowing me to make some comments.

PH6-a

Noemi Luna: Thank you for your comment. Currently we have one individual remaining, Ryan and Ryan, I will go ahead and unmute you for you to speak. Please state your name clearly for the record spelling your first and last name. Thank you very much.

Ryan: Hi, thank you. My name is Ryan Saxton, R.Y.A.N. S.A.X.T.O.N. And I just have a few sort of questions and comments really so Orcem proposed a similar project in Vallejo that was opposed by local citizens, concern for their own health and well-being. And ultimately that project was abandoned by Orcem and ended up costing the city, and I'm sure Orcem, a considerable amount of money, and so I'd like to see an explanation of why Los Angeles is different. Is it just that Orcem anticipated that the community wouldn't advocate for themselves? Or is the Proposed Project dramatically different in that it would introduce fewer health impacts?

PH7-a

Secondly, the …the Clean Air Action plan that was originally approved in 2006 called for the Port to reduce greenhouse gas emissions 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The Proposed Project by year 2027 would produce more than 21,000 metric tons per year, and that's more than 112% above the Air Quality Management District's threshold. So, I'm just wondering how those two things can be compatible.

PH7-b

Thirdly, this is more of a comment, but by 2027 the Proposed Project would emit more than 190 pounds per day of nitrogen oxides, and this is all according to the Draft Environmental Impact Report. 190 pounds per day of nitrogen oxides when the Air Quality Management District's local …local localized significance threshold is 123. 22 pounds per day of PM10, and the threshold is four, and then 15 pounds a day of PM2.5, and the threshold is two. And so that's particular …particular …particulate matter, excuse me, that can be absorbed by the lungs, and is particularly dangerous for older populations or younger kids. And so that's more of just a comment.

PH7-c

And then, lastly, the Proposed Project's peak daily operational emissions of nitrogen oxides, which, again, can have significant detrimental effects to the human respiratory system, would reach 852 pounds per day by 2027 and the regional significance threshold for that is 55. So I'd like to see an explanation of how that is a safe working environment for anyone in close proximity to this Proposed Project, including those who might walk on that new pedestrian bridge that you showed earlier.

Given the clear health impacts, I would encourage the No Project Alternative. Thank you.

PH7-d

Noemi Luna: Thank you for your comment. At this moment, we have no one else on the queue for submitting or making a comment. Again, Let me just reiterate that if you'd like to make a comment, please raise your hand. There is a virtual hand at the lower portion of your Zoom toolbar. And if you are calling in to the meeting, you can press Star 6. I'm sorry, Star 9 to raise or lower your hand and then Star 6 to unmute if you're in …if anyone is still in, is interested in making a comment. At this time, we've taken comments from everyone with a raised hand. We will wait another couple of minutes for anymore …any additional comments.

Noemi Luna: Oh, there we go! Carlos wrote. Nope, changed your mind. We, there you go, Carlos Rodate. We'll go ahead and unmute. You can give you an opportunity to make your comment. Go ahead and start when you're ready, state your name, and then spell it out for the record.

Carlos Rodarte: Yeah, good evening. My name is Carlos Rodarte, C.A.R.L.O.S. R.O.D.A.R.T.E. I represent the IBEW Local 11. I highly support Ecocem Berth 191-194 Lower Carbon Cement Processing Facility Project. The creation of electrical high role careers will definitely be a great impact on local economy. Our membership, which I represent close to 12,000 members in the Los Angeles County area are here, standing shoulder to shoulder with Ecocem applicant. We urge the Port of Los Angeles to approve the Draft EIR. Thank you and have a good evening.

PH8-a

Noemi Luna: Thank you for your comment. Seeing we don't have any additional comments or raised hand, I'm passing this on to Nicole Enciso. Thank you.

Nicole Enciso: Thank you, Noemi. I would like to thank everybody for their time this evening. Oh, sorry! Let's get the slide up. As a reminder, the public review period for this Project is open and written comments will be accepted through December 11th, 2023. Written comments can be mailed or emailed to the addresses on the screen here, which is the direct address to Director of Environmental Management, City of Los Angeles Harbor Department, Nicole Enciso: 425 South Palace Verdes Street, San Pedro, California 90731 or emailed to ceqacomments@portla.org. Please be sure to include the Project title in the subject line of your letter or email.

Nicole Enciso: And this concludes our public meeting. Thank you so much, and have a nice evening.

Chapter 3
Modifications to the Draft EIR

3.1 Introduction

This chapter of the Final EIR addresses modifications to the Draft EIR for the Berths 191-194 (Ecocem) Low-Carbon Cement Processing Facility Project (Proposed Project) at the Port of Los Angeles (Port). It presents all revisions related to public comments, as determined necessary by the lead agency (the Los Angeles Harbor Department or "LAHD"), for the following areas of the document:

- Executive Summary
- Chapter 2 Project Description
- Section 3.1 Air Quality
- Section 3.2, Biological Resources
- Section 3.5 Greenhouse Gases
- Section 3.8 Ground Transportation
- Chapter 4 Cumulative Analysis
- Appendix B Air Quality
- Appendix D-2 Noise Study
- Appendix E Soil Management Plan.

Any revisions to supporting documentation are also presented. The numbering format from the Draft EIR is maintained in the sections presented here. Only sections that have revisions are included; sections that have no revisions are not included. Readers are referred to the Draft EIR to view complete sections.

It should be noted that most of the changes are editorial in nature. None of the revisions results in changes to significance findings.

As provided in Section 15088(c) of the State California Environmental Quality Act (CEQA) Guidelines, responses to comments may take the form of a revision to a Draft EIR or may be a separate section in the Final EIR. This chapter complies with the latter of these two guidelines and provides changes to the Draft EIR in revision-mode text (i.e., deletions are shown with strikethrough and additions are shown with underline). These notations are meant to provide clarification, corrections, or minor revisions as needed as a result of public comments or because of changes in the Proposed Project since the release of the Draft EIR.

3.2 Changes to the Draft EIR

The following changes to the text as presented below are incorporated into the Final EIR.

3.2.1 Changes Made to the Executive Summary

In Sections ES.4.2.1 and 4.2.2 the following changes are made:

ES.4.2.1 Unavoidable Significant Impacts

This Draft EIR has determined that implementation of the Proposed Project would result in significant and unavoidable impacts related to:

- **Air Quality**: NOx emissions from operations for all analysis years; offsite ambient annual and 24-hr PM_{10} and 24-hr $PM_{2.5}$ concentrations for all analysis years.
- ~~**Greenhouse Gases:** Greenhouse gas emissions would exceed the SCAQMD mass emissions thresholds in all three analysis years.~~
- **Noise:** Construction activities that would exceed ambient noise levels by 5dBA or more lasting more than 10 days in a 3-month period.

ES.4.2.2 Summary of Significant Impacts that Can Be Mitigated, Avoided, or Substantially Lessened

This Draft EIR has determined that implementation of the Proposed Project would result in significant impacts that can be mitigated related to:

- **Biological Resources**: substantial adverse effect, either directly or through habitat modification on any identified species. Implementation of MM BIO-1 ~~p~~Protect ~~m~~Marine ~~m~~Mammals would reduce a significant impact to less than significant.
- **Greenhouse Gases:** Greenhouse gas emissions would exceed the SCAQMD mass emissions thresholds in all three analysis years. Implementation of MM GHG-1 GHG Reduction Offsets would reduce a significant impact to less than significant.

In Section ES.4.2.4, Mitigation Measures, on page ES-28, three mitigation measures are added.

First, mitigation measures MM AQ-1 and MM AQ-2 (re-designated and revised from Lease Measures LM AQ-5 and LM AQ-6, respectively) are inserted in front of Biological Resources as shown:

Air Quality

~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP). ~~95~~100 percent of vessels calling at the Ecocem Dry Bulk Processing Facility ~~will~~shall comply with the expanded VSRP ~~at~~of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area. Vessel speed is confirmed by the Marine Exchange. Any vessel

experiencing a maritime emergency[1] that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.

~~L~~**MM AQ-~~6~~2: Front End Loader Replacement Schedule.** The tenant shall ~~maintain a replacement schedule of~~ replace the off-road diesel front end loader ~~of~~ every two years~~,~~. ~~where an~~ The equivalent new ~~piece that~~ front end loader shall meet~~s~~ operational requirements and meet~~s~~ Tier 4 ~~Final~~ standards or cleaner or as required by state and/or local agencies, whichever is stricter~~, would be procured~~. During replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

Second, MM GHG-1 is inserted between Biological Resources and Noise as follows:

Greenhouse Gases

MM GHG-1: GHG Reduction Offsets. The Tenant shall be required to purchase and retire carbon offsets related to activities that reduce, avoid, destroy, or sequester an amount of GHG emissions in an off-site location to offset the equivalent amount of GHG emissions generated by the Project, with the exception of electricity consumption. The Tenant shall purchase and retire carbon offsets in an amount that would be the equivalent of the Project's GHG Emissions of 4,985 Metric Tons (MT) from first year of operation until 2049 and 4,073 MT from 2049 through the end of the term of the Permit. The Tenant shall purchase and retire carbon offsets on an annual basis, commencing after construction is complete and during the first year of operation. The LAHD is in the process of developing a Greenhouse Gas Program. The Program shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles. If that Program is established during the term of the Permit, the Tenant shall have the option to offset the required amount of GHG emissions through a funding contribution to the Greenhouse Gas Program rather than towards purchasing carbon offsets from a CARB-recognized registry.

While the LAHD Greenhouse Gas Program is currently under development, the Tenant shall purchase and retire carbon offsets from a CARB-recognized offset registry as follows:

Carbon offsets: The Tenant shall purchase and retire carbon offsets from a CARB-recognized registry to ensure that offsets will result in real, permanent, additional, quantifiable, verifiable, and enforceable reductions. The carbon offsets shall be verifiable by LAHD and enforceable in accordance with the registry's applicable standards, practices, or protocols.

[1] Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.

The order of priority for purchasing (any one or more) carbon offsets shall be considered as follows:

i. Originating within the local area;

ii. Originating within the South Coast Air Basin;

iii. Originating within the state of California; or

iv. If sufficient local and in-state offsets are not available, the Tenant shall purchase conforming national offsets registered with a CARB-recognized registry.

Adjustment of Tenant's Required Offsets through Other Verified GHG Emission Reductions: The Tenant may pursue the following modifications to the Project's total estimated GHG emissions identified in this measure. These modifications may be pursued in conjunction with or independent of each other on an annual basis.

(a) Adjustment in Natural Gas Consumption

In the event natural gas consumption differs from the assumptions or is offset in the future due to changes in technology, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required offsets based on actual natural gas consumption, as verified through utility bills, rather than projected future usage. To adjust the Tenant's required number of offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the time period under consideration and shall provide copies of utility bills showing the amount of natural gas consumed at the project site along with a revised greenhouse gas emission calculation performed by an independent, qualified third-party verifier.

or

(b) Adjustment in GHG Emissions

In the event of changes in activities, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required carbon offsets based on an evaluation of actual GHG emissions rather than future projected GHG emission calculations. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the calendar year under consideration and shall submit a report within 60 days that quantifies the actual greenhouse gas emissions by an expert or an independent, qualified third-party. The evaluation of actual greenhouse gas emissions must be performed using acceptable industry standards and protocols for all sources that were included in the Project's GHG emissions calculations under MM GHG-1. LAHD review shall occur within 30 days of receipt of the submitted report. Any expenses incurred by LAHD in processing the Tenant's request, including retaining an independent third-party verifier to peer review the report, shall be borne by the Tenant.

or

(c) Implementation of Additional GHG Reduction Methods

In addition, the Tenant may request a reevaluation of required carbon offsets to be purchased according to this paragraph. The Tenant may implement different and additional GHG reduction methods that are equally or more effective if new technology and/or other feasible measures become available during the term of the Permit. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall identify such additional GHG reduction actions and must quantify the GHG emission reductions

from these GHG reduction actions by an independent, qualified third-party verifier. Once the GHG reduction actions are found to be feasible and are reviewed and approved by LAHD staff, the Tenant may request that LAHD reduce its required purchase of carbon offsets by the equivalent amount of demonstrated reduction. Any expenses incurred by LAHD in processing the Tenant's request, including retaining a third-party verifier, shall be borne by the Tenant.

Third, MM NOI-3 is added under Noise as follows:

MM NOI-3: Usage of Wooden Cushion Block. The construction contractor shall use a wooden cushion block to dampen the noise impact from pile driving. This wooden cushion block shall be placed between the pile and hammer. It shall only be applicable to driving concrete piles.

In Section ES.4.2.5, Lease Measures and Standard Conditions of Approval, the following changes are made

Air Quality

Lease measures LM AQ-1 through LM AQ-3 are revised as follows:

LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment. Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment~~,~~ that meets operating and safety requirements, any time new or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. ~~Tenant may make a recommendation to LAHD for LAHD's concurrence as to which equipment is available and is feasible~~The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment~~,~~ and infrastructure, and ~~will~~shall update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph**.**

LM AQ-2: Periodic Review of New Technology and Regulations. The Tenant ~~will~~shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be subject to approval by LAHD and would involve consulting with appropriate resources (e.g., consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant ~~will~~shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.

LM AQ-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant ~~will~~shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel

emissions capture and control ~~system~~strategy within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant ~~will~~shall be required to implement the technology when operationally feasible as described in Tenant's pilot study. Implementation of the technology required under ~~T~~this measure will rely on the Tenant's pilot study evaluation and determination, and is subject to mutual agreement between the Tenant and LAHD, implementation of which shall not be unreasonably withheld or unreasonably required.

Lease measures LM-AQ-5 and LM AQ-6 are deleted, having been re-designated as mitigation measures as described above. New lease measures LM AQ-5 through LM AQ-7 are added as follows:

LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.

1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.
2. Idling shall be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:

    - From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available.
    - Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available.
    - A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

LM AQ-6: Fleet Modernization for Construction Equipment.

1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.
2. Idling shall be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:

    - All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
    - A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks

The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards.

In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.

Greenhouse Gas

LM GHG-1: GHG Credit Fund is deleted, having been replaced by MM GHG-1 GHG Reduction Offsets as described above.

On page ES-30, the final sentence of the Greenhouse Gas subsection is revised as follows:

LMs AQ-1~~,~~ through LM AQ-~~2~~7~~, LM AQ-3, LM AQ-4, LM AQ-5, and LM AQ-6~~ are also expected to have co-benefits for greenhouse gases.

Section ES.4.2.6 is revised to acknowledge that implementation of MM GHG-1 would reduce impacts to less than significant.

On p. ES-30:

The Proposed Project and/or the Alternatives would make cumulatively considerable contributions to significant cumulative impacts in the following resource areas under CEQA:

- Air Quality and Meteorology;
- Noise~~;~~
- ~~Greenhouse Gas Emissions~~.

On p. ES-31:

Proposed Project Cumulatively Considerable Impacts

The following are cumulatively considerable and unavoidable impacts for the Proposed Project after mitigation (if applicable, as described in section ES 5.2.4):

~~***Greenhouse Gas Emissions***~~

- ~~GHG emissions would add to existing global GHG levels and, therefore, would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact relative to climate change.~~

On page ES-32:

- The Reduced Project Alternative (Alternative 2) would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact for cancer risk for residential, sensitive, and occupational receptors, for occupational chronic and acute hazard indices, and for population cancer burden.

~~***Greenhouse Gas Emissions***~~

- ~~GHG emissions from the Reduced Project Alternative (Alternative 2) would add to existing levels and, therefore, would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact relative to climate change…~~.

Alternative 3 (Product Import Terminal Alternative) Cumulatively Considerable Impacts

Like the Proposed Project, the Product Import Terminal (Alternative 3) would make cumulatively considerable and unavoidable contributions to significant cumulative impact after mitigation in the following resource areas:

Air Quality and Meteorology

- Emissions from the Product Import Terminal Alternative (Alternative 3) construction would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact for NOx emissions.
- Emissions from the Product Import Terminal Alternative (Alternative 3) operations would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact for NOx emissions and for offsite ambient pollutant concentrations of PM_{10}.
- The Product Import Terminal Alternative (Alternative 3) would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact for cancer risk for residential, sensitive, and occupational receptors, for occupational chronic and acute hazard indices, and for population cancer burden.

~~***Greenhouse Gas Emissions***~~

- ~~GHG emissions from the Reduced Project Alternative (Alternative 2) would add to existing levels and, therefore, would make a cumulatively considerable and unavoidable contribution to a significant cumulative impact relative to climate change.~~

On p. ES-33 <u>Greenhouse Gases</u> is added to the bulleted list after Geology and Soils.

Table ES-2 is revised as follows:

Table ES-2: Summary of Impacts and Mitigation for the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
3.1 Air Quality				
Proposed Project	**AQ-1:** The Proposed Project would result in construction-related emissions that exceed an SCAQMD localized threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although lease measures LM AQ-4: Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied.	Less than significant
	AQ-2: Proposed Project construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required although lease measures LM AQ-4: Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied.	Less than significant
	AQ-3: The Proposed Project would result in operational emissions that exceed an SCAQMD regional threshold of significance in Table 3.1-7	Operation emissions would be significant for NOx in all operational years	~~L~~MM AQ-1~~5~~: Vessel Speed Reduction Program (VSRP) ~~L~~MM AQ-2~~6~~: Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	Impacts would remain significant and unavoidable for NOx in all operational years

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	AQ-4: Proposed Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant in all years for annual and 24-hr PM_{10} and 24-hr $PM_{2.5}$	MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule No additional mitigation measures applied; control measures AP-42 guidance and BACT for dust collection and bag filters applied LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology. LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations in all years for annual and 24-hr PM_{10} and 24-hr $PM_{2.5}$
	AQ-5: The Proposed Project would expose receptors to significant levels of TACs	Less than significant	Mitigation not required although mitigation measures MM AQ-1 and MM AQ-2 and lease measures LM AQ-1, LM AQ-2, LM AQ-3, and LM AQ-4~~, LM AQ-5 and LM AQ-6~~ would be applied	Less than significant
	AQ-6: The Proposed Project would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	No mitigation is required	Less than significant
Alternative 1 – No Project	**AQ-1:** Alternative 1 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	No impact	Not applicable	No impact
	AQ-2: Alternative 1 construction would not result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	No impact	Not applicable	No impact
	AQ-3: Alternative 1 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	No impact	Not applicable	No impact

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	AQ-4: Alternative 1 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	No impact	Not applicable	No impact
	AQ-5: Alternative 1 would not expose receptors to significant levels of TACs	No impact	Not applicable	No impact
	AQ-6: Alternative 1 would not conflict with or obstruct implementation of an applicable AQMP	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**AQ-1:** Alternative 2 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although lease measures LM AQ-4: Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied.	Less than significant
	AQ-2: Alternative 2 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required although lease measures LM AQ-4: Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied.	Less than significant
	AQ-3: Alternative 2 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	Operational emissions would be significant for NOx in all years	~~L~~MM AQ-15~~:~~ Vessel Speed Reduction Program (VSRP) ~~L~~MM AQ-26~~:~~ Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology	Operational emissions would remain significant and unavoidable for NOx in all years

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
			LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	
	AQ-4: Alternative 2 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant for annual and 24-hr PM_{10} in all years and 24-hr $PM_{2.5}$ in 2027 and 2049	MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule No additional mitigation measures applied~~;~~ control measures AP-42 guidance and BACT for dust collection and bag filters already applied LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations for annual and 24-hr PM_{10} in all years and 24-hr $PM_{2.5}$ in 2027 and 2049
	AQ-5: Alternative 2 would not expose receptors to significant levels of TACs	Health risks would be below the significance threshold for all receptor types.	Mitigation not required although mitigation measures MM AQ-1 and MM AQ-2 and lease measures LM AQ-1, LM AQ-2, LM AQ-3, and LM AQ-4~~, LM AQ-5 and LM AQ-6~~ would be applied	Less than significant
	AQ-6: Alternative 2 would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	No mitigation required	Less than significant
Alternative 3 – Product Import Terminal	**AQ-1:** Alternative 3 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although lease measures LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
			Construction Equipment and On-Road Trucks would be applied	
	AQ-2: Alternative 3 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	Less than significant
	AQ-3: Alternative 3 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	Operational emissions would be significant for NOx in all years	LM AQ-5: Vessel Speed Reduction Program (VSRP) LM AQ-6: Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	Impacts would remain significant and unavoidable for NOx in all years
	AQ-4: Alternative 3 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant for annual and 24-hour PM_{10} in all years	MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule No additional mitigation measures applied; control measure BACT for dust collection and bag filters already applied LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations for annual and 24-hour PM_{10} in all years

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
			~~LM AQ-6: Front End Loader Replacement Schedule~~ ~~LM AQ-5: Vessel Speed Reduction Program (VSRP~~)	
	AQ-5: Alternative 3 would not expose receptors to significant levels of TACs	Less than significant	Mitigation not required although mitigation measure MM AQ-1 and lease measures LM AQ-1, LM AQ-2, LM AQ-3, and LM AQ-4~~, and LM AQ-5~~ would be applied	Less than significant
	AQ-6: Alternative 3 would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	No mitigation required	Less than significant
3.2 Biological Resources				
Proposed Project	**BIO-1:** Would the Proposed Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially significant impact	MM BIO-1: Protect marine mammals~~, would be applied~~	Less than significant
Alternative 1 – No Project	**BIO-1:** Would Alternative 1 have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**BIO-1:** Would Alternative 2 have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the	Potentially significant impact	MM BIO-1: Protect Marine Mammals	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			
Alternative 3 – Product Import Terminal	**BIO-1:** Would Alternative 3 have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially significant impact	MM BIO-1: Protect Marine Mammals	Less than significant
3.3 Energy				
Proposed Project	**EN-1:** Would the Proposed Project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than significant	No mitigation is required	Less than significant
Alternative 1 – No Project	**EN-1:** Would Alternative 1 result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**EN-1:** Would Alternative 2 result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than significant	No mitigation is required.	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
Alternative 3 – Product Import Terminal	**EN-1:** Would Alternative 3 result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than significant	No mitigation is required.	Less than significant
3.4 Geology and Soils				
Proposed Project	**GEO-1:** Would the Proposed Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?	Less than significant	No mitigation is required	Less than significant
Alternative 1 – No Project	**GEO-1:** Would Alternative 1 be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**GEO-1:** Would Alternative 2 be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?	Less than significant	No mitigation is required	Less than significant
Alternative 3 – Product Import Terminal	**GEO-1:** Would Alternative 3 be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?	Less than significant	No mitigation is required	Less than significant
3.5 Greenhouse Gases				

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
Proposed Project	**GHG-1:** Would the Proposed Project generate GHG emissions, either directly or indirectly, may have a significant impact on the environment?	GHG emissions would be significant under CEQA in 2025, 2027 and 2049 analysis years	~~L~~MM GHG-1: GHG ~~Credit Fund~~ Reduction Offsets MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~	~~GHG emissions impacts would be significant and unavoidable for all analyzed years~~ Less than significant
Alternative 1 – No Project	**GHG-1:** Would Alternative 1 generate GHG emissions, either directly or indirectly, may have a significant impact on the environment?	No Impact	Not applicable	No Impact
Alternative 2 – Reduced Project	**GHG-1:** Would Alternative 2 generate GHG emissions, either directly or indirectly, may have a significant impact on the environment?	GHG emissions would be significant under CEQA in 2025, 2027 and 2049 analysis years	~~L~~MM GHG-1: GHG ~~Credit Fund~~ Reduction Offsets LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines M~~L~~M AQ-1~~5~~: Vessel Speed Reduction Program (VSRP) M~~L~~M AQ-26: Front End Loader Replacement Schedule	~~GHG emissions impacts would be significant and unavoidable for analysis year 2027~~ Less than significant
Alternative 3 – Product Import Terminal	**GHG-1:** Would Alternative 3 generate GHG emissions, either directly or indirectly, may have a significant impact on the environment?	Less than significant	Mitigation not required; however, the following lease measures would be applied: LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
			LM AQ-3: At-Berth Vessel Emissions Control Pilot Study LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines would be applied M~~L~~M AQ-1~~5~~: Vessel Speed Reduction Program (VSRP)	
3.6 Land Use				
Proposed Project	**LU-1:** Would the Proposed Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Less than significant	No mitigation is required	Less than significant
Alternative 1 – No Project	**LU-1:** Would Alternative 1 cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Less than significant	Not applicable	Less than significant
Alternative 2 – Reduced Project	**LU-1:** Would Alternative 2 cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Less than significant	No mitigation is required	Less than significant
Alternative 3 – Product Import Terminal	**LU-1:** Would Alternative 3 cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Less than significant	No mitigation is required	Less than significant
3.7 Noise				
Proposed Project	**NOI-1:** Would the Proposed Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or			

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	noise ordinance, or applicable standards of other agencies?			
	NOI-1a: Daytime construction activities lasting more than 10 days in a 3-month period that would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive/receptor	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1b: Construction activities could result in noise levels that would exceed the ambient noise level by 5 dBA at noise-sensitive receptors between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1c: For operational noise, a significant noise impact would occur if project operations cause the ambient noise level measured at the property line of affected uses (i.e., sensitive receptors) to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any increase in CNEL 5 dBA or greater	Less than significant	No mitigation is required	Less than significant
	NOI-1d: Would the Proposed Project result in generation of excessive groundborne vibration or groundborne noise levels?	Less than significant	No mitigation is required	Less than significant
Alternative 1 – No Project	**NOI-1:** Would Alternative 1 result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise			

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	ordinance, or applicable standards of other agencies?			
	NOI-1a: Daytime construction activities lasting more than 10 days in a 3-month period that would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive/receptor	No impact	Not applicable	No impact
	NOI-1b: Construction activities could result in noise levels that would exceed the ambient noise level by 5 dBA at noise-sensitive receptors between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday	No impact	Not applicable	No impact
	NOI-1c: For operational noise, a significant noise impact would occur if project operations cause the ambient noise level measured at the property line of affected uses (i.e., sensitive receptors) to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any increase in CNEL 5 dBA or greater	No impact	Not applicable	No impact
	NOI-1d: Would Alternative 1 result in generation of excessive groundborne vibration or groundborne noise levels?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**NOI-1:** Would Alternative 2 result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	NOI-1a: Daytime construction activities lasting more than 10 days in a 3-month period that would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive/receptor	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1b: Construction activities could result in noise levels that would exceed the ambient noise level by 5 dBA at noise-sensitive receptors between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1c: For operational noise, a significant noise impact would occur if project operations cause the ambient noise level measured at the property line of affected uses (i.e., sensitive receptors) to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any increase in CNEL 5 dBA or greater	Less than significant	No mitigation is required	Less than significant
	NOI-1d: Would Alternative 2 result in generation of excessive groundborne vibration or groundborne noise levels?	Less than significant	No mitigation is required	Less than significant
Alternative 3 – Product Import Terminal	**NOI-1:** Would Alternative 3 result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	NOI-1a: Daytime construction activities lasting more than 10 days in a 3-month period that would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive/receptor	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1b: Construction activities could result in noise levels that would exceed the ambient noise level by 5 dBA at noise-sensitive receptors between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday	Significant	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-2: Usage of Wooden Cushion Block	Significant and unavoidable
	NOI-1c: For operational noise, a significant noise impact would occur if project operations cause the ambient noise level measured at the property line of affected uses (i.e., sensitive receptors) to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any increase in CNEL 5 dBA or greater	Less than significant	No mitigation is required	Less than significant
	NOI-1d: Would Alternative 3 result in generation of excessive groundborne vibration or groundborne noise levels?	Less than significant	No mitigation is required	Less than significant
3.8 Ground Transportation				
Proposed Project	**TRANS-1:** Would the Proposed Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No impact	No mitigation is required	No impact
	TRANS-2: Would the Proposed Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No impact	No mitigation is required	No impact

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	TRANS-3: Would the Proposed Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact	No mitigation is required	No impact
	TRANS-4: Would the Proposed Project result in inadequate emergency access?	No impact	No mitigation is required	No impact
Alternative 1 – No Project	**TRANS-1:** Would Alternative 1 conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No impact	Not applicable	No impact
	TRANS-2: Would Alternative 1 conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No impact	Not applicable	No impact
	TRANS-3: Would Alternative 1 substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact	Not applicable	No impact
	TRANS-4: Would Alternative 1 result in inadequate emergency access?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**TRANS-1:** Would Alternative 2 conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact	No mitigation is required	No Impact
	TRANS-2: Would Alternative 2 conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No impact	No mitigation is required	No impact

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	TRANS-3: Would Alternative 2 substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact	No mitigation is required	No impact
	TRANS-4: Would Alternative 2 result in inadequate emergency access?	No impact	No mitigation is required	No impact
Alternative 3 – Product Import Terminal	**TRANS-1:** Would Alternative 3 conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact	No mitigation is required	No Impact
	TRANS-2: Would Alternative 3 conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No impact	No mitigation is required	No impact
	TRANS-3: Would Alternative 3 substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact	No mitigation is required	No impact
	TRANS-4: Would Alternative 3 result in inadequate emergency access?	No impact	No mitigation is required	No impact
3.9 Tribal Cultural Resources				
Proposed Project	**TCR-1:** Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is i. listed or eligible for listing in the California Register of	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).?			
	TCR-2: Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant
Alternative 1 – No Project	**TCR-1:** Would Alternative 1 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local	No impact	Not applicable	No impact

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	register of historical resources as defined in Public Resources Code Section 5020.1(k).?			
	TCR-2: Would Alternative 1 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	No impact	Not applicable	No impact
Alternative 2 – Reduced Project	**TCR-1:** Would Alternative 2 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	defined in Public Resources Code Section 5020.1(k).?			
	TCR-2: Would Alternative 2 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.?	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant
Alternative 3 – Product Import Terminal	**TCR-1:** Would Alternative 3 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation~~/~~ and Lease Measures or Controls	Residual Impacts
	register of historical resources as defined in Public Resources Code Section 5020.1(k).?			
	TCR-2: Would Alternative 3 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Less than significant	No mitigation is required but SC TCR-1 would be employed	Less than significant

1

3.2.2 Changes Made to Chapter 2 Project Description

Section 2.5.1 Overview

The second sentence is revised as follows:

… and issuance by the LAHD of a ~~30-year entitlement for the site~~ 32-year entitlement for the site that would include 30 years of operation and two years of construction, as well as access to Berth 191.

Section 2.5.2 Project Construction

The last paragraph of Section 2.5.2.1 (p. 2-14) is revised as follows:

Construction would last approximately 18 months and require up to 75 construction workers on a peak construction day. Construction-phase traffic would include worker vehicles and a variety of medium- and heavy-duty vehicles hauling debris and excavated material and bringing in imported soil, supplies, equipment, and construction materials. Construction is assumed to take place between 7 a.m. and 5 p.m. five days per week (Monday through Friday) except national holidays. Construction staging, parking, and laydown would occur either on the site or at a nearby offsite location.

In response to Comment CDFW-2, Section 2.5.2.1 (p. 2-15) is revised as follows:

The concrete piles would be repaired by installing reinforcing jackets, but the damaged timber piles would need to be pulled out and replaced with new timber piles. Some damaged timber piles may end up being broken off at the mudline instead of being pulled, but the goal would be to completely remove ~~all of~~ each pile. At the edge of the existing wharf, 11 timber fender piles would be replaced with new timber piles. In addition, 47 new timber piles would be driven along the wharf's edge to support the floating fender panel and Yokohama fenders necessary to hold vessels several feet away from the wharf. The replacement timber piles would be wrapped with a 6-millimeter polyethylene inner wrap and a 30-mil outer PVC wrap.

3.2.3 Changes Made to Section 3.1 Air Quality

Section 3.1.5 Impact Determination

On page 3.1-32, the following change is made to the text:

Lastly, the analysis assumes the natural future turnover of the current average (as of 2021) engine age mix of the Port's assist tug fleet (harbor craft category), per the Port's 2021 Emissions Inventory (POLA 2022). CARB recently approved the 2022 Amendments to the Commercial Harbor Craft (CHC) Regulation, which may result in a quicker turnover, and therefore lower future emissions, for harbor craft sources in California. On January 10, 2025, CARB received partial authorization for the 2022 CHC Amendments. However, because there is not yet an enforceable mechanism for this rule, the analysis does not quantify potential reductions benefits of it.

On page 3.1-33, LM AQ-1 through LM AQ-3 are revised and three new lease measures are added as follows:

LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment. Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment, that meets operating and safety requirements, any time new

or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. ~~Tenant may make a recommendation to LAHD for LAHD's concurrence as to which equipment is available and is feasible~~. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment, and infrastructure, and ~~will~~shall update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph**.**

LM AQ-2: Periodic Review of New Technology and Regulations. The Tenant ~~will~~shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be subject to approval by LAHD and would involve consulting with appropriate resources (e.g., consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant ~~will~~shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.

LM AQ-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant ~~will~~shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel emissions capture and control ~~system~~strategy within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant ~~will~~shall be required to implement the technology when operationally feasible as described in Tenant's pilot study. Implementation of the technology required under ~~T~~this measure will rely on the Tenant's pilot study evaluation and determination, and is subject to mutual agreement between the Tenant and LAHD, implementation of which shall not be unreasonably withheld or unreasonably required.

LM AQ-5: Fleet Modernization For On-Road Trucks During Construction

1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.
2. Idling shall be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:
    - From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available.

- Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available.
- A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

LM AQ-6: Fleet Modernization for Construction Equipment.

1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.

2. Idling shall be restricted to a maximum of 5 minutes when not in use.

3. Tier Specifications:

- All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks

The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards.

In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.

On page 3.1-33, LM AQ-5 and LM AQ-6 have been re-designated as mitigation measures (MM AQ-1 and MM AQ-2, respectively), and revised, and three new mitigation measures have been added, as shown below.

~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP). ~~95~~100 percent of vessels calling at the Ecocem Dry Bulk Processing Facility ~~will~~shall be required to comply with the expanded VSRP ~~at~~of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area. Speed is confirmed by the Marine Exchange. Any vessel experiencing a maritime emergency[2] that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.

~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule. The tenant shall ~~maintain a replacement schedule of~~ replace the off-road diesel front end loader ~~of~~ every two years~~,. where an~~ The equivalent new ~~piece that~~ front end loader shall meet~~s~~ operational requirements and meet~~s~~ Tier 4 ~~Final~~ standards or cleaner or as required by state and/or local agencies, whichever is stricter~~, would be procured~~. During replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

The revision of MM AQ-2 recognizes that it is uncertain when Tier 4 Final-compliant equipment will become available, so that requiring that standard to be met could render the mitigation measure infeasible.

Page 3.1-39 contains an erroneous statement and is revised as follows:

Figure 3.1-2 shows the individual residential cancer risk contour of ~~one in a million~~ 1-in-1-million and the locations of the MEI residential receptor and the MEI non-residential sensitive receptor for the Proposed Project. ~~Because the individual cancer risk estimated at all residential and non-residential sensitive receptors for the Proposed Project is are below the significance threshold of 10 in a million, a contour for 10 in a million residential risk is not drawn in Figure 3.1-2~~. The 10-in-1 million residential risk contour is also included in Figure 3.1-2 even though no residential or non-residential sensitive receptor is located within the contour.

Table 3.1-24 is revised to reflect the revised lease measures and added mitigation measures as follows:

[2] Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
Proposed Project	**AQ-1:** The Proposed Project would result in construction-related emissions that exceed an SCAQMD localized threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	Less than significant
	AQ-2: Proposed Project construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	Less than significant
	AQ-3: The Proposed Project would result in operational emissions that exceed an			Impacts would remain significant and

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
	SCAQMD regional threshold of significance in Table 3.1-7	Operation emissions would be significant for NOx in all operational years	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~M AQ-~~5~~1: Vessel Speed Reduction Program (VSRP) ~~L~~M AQ-~~6~~2: Front End Loader Replacement Schedule	unavoidable for NOx in all operational years
	AQ-4: Proposed Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant in all years for annual and 24-hr PM_{10} and 24-hr $PM_{2.5}$	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~M AQ-~~5~~1: Vessel Speed Reduction Program (VSRP) ~~L~~M AQ-~~6~~2: Front End Loader Replacement Schedule	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations in all years for annual and 24-hr PM_{10} and 24-hr $PM_{2.5}$
	AQ-5: The Proposed Project would expose receptors to significant levels of TACs	Less than significant	Mitigation not required although LM AQ-1, LM AQ-2, LM AQ-3, LM AQ-4, ~~L~~M AQ-~~5~~1 and ~~L~~M AQ-~~6~~2 would be applied	Less than significant
	AQ-6: The Proposed Project would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	Mitigation not required	Less than significant
Alternative 1 – No Project Alternative	**AQ-1:** Alternative 1 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	No impact	Not applicable	No impact
	AQ-2: Alternative 1 construction would not result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	No impact	Not applicable	No impact

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
	AQ-3: Alternative 1 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	No impact.	Not applicable	No impact
	AQ-4: Alternative 1 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	No impact	Not applicable	No impact
	AQ-5: Alternative 1 would not expose receptors to significant levels of TACs	No impact	Not applicable	No impact
	AQ-6: Alternative 1 would not conflict with or obstruct implementation of an applicable AQMP	No impact	Not applicable	No impact
Alternative 2 – Reduced Project Alternative	**AQ-1:** Alternative 2 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	Less than significant
	AQ-2: Alternative 2 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required though LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks	Less than significant

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
			would be applied	
	AQ-3: Alternative 2 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	Operational emissions would be significant for NOx in all years	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP) ~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule	Operational emissions would remain significant and unavoidable for NOx in all years
	AQ-4: Alternative 2 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant for annual and 24-hr PM_{10} in all years and 24-hr $PM_{2.5}$ in 2027 and 2049	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP) ~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations for annual and 24-hr PM_{10} in all years and 24-hr $PM_{2.5}$ in 2027 and 2049
	AQ-5: Alternative 2 would not expose receptors to significant levels of TACs	Health risks would be below the significance threshold for all receptor types.	Mitigation not required although LM AQ-1, LM AQ-2, LM AQ-3, LM AQ-4, ~~L~~MM AQ-~~5~~1 and ~~L~~MM AQ-~~6~~2 would be applied	Less than significant.
	AQ-6: Alternative 2 would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	No mitigation required	Less than significant
Alternative 3-Product Import Terminal Alternative	**AQ-1:** Alternative 3 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.1-4	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines,	Less than significant

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
			LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	
	AQ-2: Alternative 3 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-6	Less than significant	Mitigation not required although LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines, LM AQ-5: Fleet Modernization for On-Road Trucks During Construction, LM AQ-6: Fleet Modernization for Construction Equipment, and LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks would be applied	Less than significant
	AQ-3: Alternative 3 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.1-7	Operational emissions would be significant for NOx in all years	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP).	Impacts would remain significant and unavoidable for NOx in all years
	AQ-4: Alternative 3 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.1-8	Operation-related ambient pollutant concentrations would be significant for annual and 24-hour PM_{10} and 24-hour $PM_{2.5}$ in all years	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations	Impacts would remain significant and unavoidable for operation-related ambient pollutant concentrations for annual

Table 3.1-24 Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation/Lease Measures or Controls	Residual Impacts
			LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP)	and 24-hour PM_{10} and 24-hour $PM_{2.5}$ in all years
	AQ-5: Alternative 3 would not expose receptors to significant levels of TACs	Less than significant	Mitigation not required although LM AQ-1, LM AQ-2, LM AQ-3, LM AQ-4 and ~~L~~MM AQ-~~5~~1 would be applied	Less than significant
	AQ-6: Alternative 3 would not conflict with or obstruct implementation of an applicable AQMP	Less than significant	No mitigation required	Less than significant

On page 3.1-80, the following material is added:

3.2.3.1 Section 3.1.5.6 Discussion of Health Effects Related to Pollutant Impacts

This section includes a discussion of the potential health effects of air pollutant impacts. Potential health effects are described for the Proposed Project's significant operational emissions identified in Impact AQ-3, significant ambient concentrations associated with Proposed Project operations are identified in Impact AQ-4, and the health risk assessment is presented in Impact AQ-5 (Section 3.1.5.1). This discussion is not a new impact assessment but rather provides supplemental information related to the significant impacts already identified in Section 3.1.5.1. The discussion considers potential links between the Proposed Project's emissions of priority pollutants and human health effects. Information about health effects was acquired through a review of available literature published by the SCAQMD, CARB, and USEPA.

This discussion is also guided by the stepwise process depicted in Figure 3.1-6 that is used for assessing air quality impacts in the EIR. The first step, emissions analysis, is presented in Impact AQ-3 for Proposed Project operations and is indicative of *regional* air quality impacts because the analysis determines the quantity of pollutants released into the South Coast Air Basin (SCAB) from Proposed Project-related sources operating throughout the SCAB. The second step, dispersion modeling, is presented in Impact AQ-4 for Proposed Project operations. The analysis is indicative of *local* impacts because the analysis estimates the ambient pollutant concentrations to which persons would be exposed, and the highest concentrations are predicted to occur in close proximity to the Project site. Therefore, the health effects discussion considers both regional health effects (i.e., effects that could be experienced throughout the SCAB) and local health effects (i.e., effects in the vicinity of Berths 191-194) related to Proposed Project operation.

The third step, health risk assessment (HRA), is presented in Impact AQ-5. The results for individual cancer risk and population cancer burden presented in Table 3.1-14 of the DEIR are already direct estimates of the health effects associated with exposure to the Proposed Project's toxic air contaminant (TAC) emissions. In addition, as shown in Table 3.1-14, the HRA determined that health impacts related to TACs would be less than significant. Therefore, no further discussion of health effects is necessary for the HRA.

Regional Health Effects

This section discusses the relationship between the Proposed Project's regional criteria pollutant emissions and the potential for adverse health effects to occur for persons exposed to the emitted pollutants. The Proposed Project would produce significant regional emissions of nitrogen oxides (NO_X) in all operational years, but emissions of the other air pollutants of concern in the SCAB (i.e., CO, SO_X, lead [Pb], particulate matter (PM_{10} and $PM_{2.5}$), and volatile organic compounds [VOCs]) would not exceed significance thresholds. Accordingly, this discussion of regional health effects focuses on NO_X (because the primary component of NO_X is NO_2), a criteria pollutant. This discussion also focuses on ozone because NO_X is a precursor of ozone, which is a criteria pollutant that is photochemically formed from precursors in the atmosphere in the presence of sunlight; EPA 2018). The ozone discussion also considers VOCs because they, too, are a precursor of ozone.

In an *amicus curiae* brief submitted to the California Supreme Court in the *Sierra Club v. County of Fresno* ("*Friant Ranch*") case, the SCAQMD explained that it did not know of a way to accurately quantify health impacts caused by emissions produced on a scale as small as individual projects (SCAQMD, 2015c). The SCAQMD's observations on the infeasibility of linking project-specific emissions to specific health impacts were echoed by *amicus curiae* briefs submitted by other air pollution control authorities (see attachments 1 through 4 in City of Los Angeles 2019).

One existing tool, can model changes in ozone or PM concentrations on a regional scale and uses that data to calculate the number of the resulting air-pollution-related deaths and illnesses (USEPA 2019). The tool consists of the USEPA's Community Multiscale Air Quality Modeling System (CMAQS) and Environmental Benefits Mapping and Analysis Program (BenMAP) models used together. These models are designed to estimate health impacts over a large scale (e.g., city-wide, state-wide) and some of their data inputs are either not generally accessible or not relevant to project-level analyses (City of Los Angeles 2019). The expected changes in regional ozone concentrations associated with an individual project, such as the Proposed Project, would be so low that, as SCAQMD (2015c) and City of Los Angeles (2019) point out, BenMAP would likely produce estimates of health effects that are near zero, and thus would not be informative for the public.

The City of Los Angeles (2019) evaluated 11 other tools and models used in air quality and public health assessments and found that they all, for various reasons, do not connect mass emissions or pollutant concentrations with specific health effects. Accordingly, at this time, as stated in Attachment 4 of City of Los Angeles (2019), neither the SCAQMD, CARB, "nor any air district currently have methodologies that would provide Lead Agencies and CEQA practitioners with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions". As a result of expert agencies determining that any individual project's contribution to health effects will be so small that none of the existing models can provide helpful information and the lack of a reliable methodology for linking project-level pollutant concentrations attributable to an individual project to specific health effects in the regional population, the extent to which regional adverse health effects can be identified in this section is limited to (a) discussing the Proposed Project's potential impact on regional pollutant levels; and (b) generally describing the types of adverse health effects associated with exposure to the pollutants of concern.

Nitrogen Dioxide (NO_2)

Impact on Regional NO_2 Concentrations. The SCAB is currently designated as "in attainment" of NO_2 concentration standards. The most stringent state and federal NO_2 standards are: 0.18 ppm for a 1-hour average (state 1-hour standard), 0.100 ppm for a three-year average of the 98th percentile of the annual distributions of daily maximum 1-hour average concentrations (federal 1-hour standard), and 0.030 ppm for an annual average.

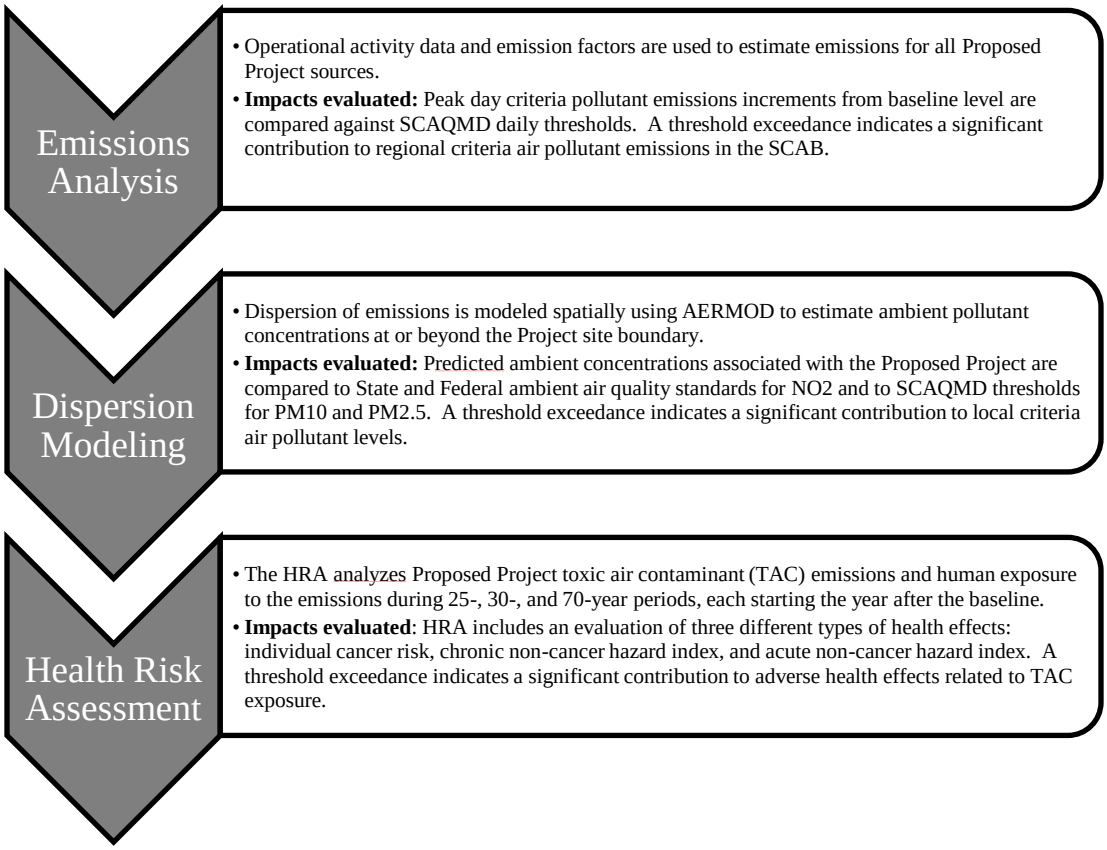
The highest NO_2 concentrations recorded anywhere in the SCAB over the 3-year period from 2020 to 2022 were 0.104 ppm for the state 1-hour average, 0.086 ppm for the federal 1-hour average, and 0.029 ppm for an annual average (SCAQMD 2024). These pollutant levels are 58, 86, and 97 percent of the state 1-hour, federal 1-hour, and annual standards, respectively. All of the maximum values occurred at a monitoring station along I-710 in north Long Beach (SCAQMD 2024).

According to the most recent USEPA-approved SCAB emissions inventory, NO_x emissions within the SCAB in 2018 averaged 351 tons/day (SCAQMD 2022). By comparison, the highest NO_x emissions increment associated with the Proposed Project was 0.42 tons/day on a peak day, which is 0.1 percent of the total SCAB emissions. Therefore, the Proposed Project's contribution to regional NO_2 levels would be insubstantial.

Potential Health Effects. In developing the NO_2 standards, the USEPA (USEPA 2016) and CARB (2007) have prepared comprehensive reports on the possible health effects associated with NO_2 exposure. The main conclusions of these agencies are:

- USEPA (2016) concluded that a causal relationship exists between short-term NO_2 exposure and respiratory effects such as asthma attacks. There is likely to be a causal relationship between long-term NO_2 exposure and respiratory effects based on the evidence for development of asthma. For short-term and/or long-term NO_2 exposure, evidence is suggestive of, but not sufficient to imply, a causal relationship with cardiovascular effects, diabetes, mortality, adverse birth outcomes, and cancer. People with asthma, children, and older adults are at increased risk for NO_2-related health effects.

Figure 3.1-6. Air Quality Analysis Key Elements and Progression



- CARB (2007) concluded that, in controlled human exposure studies, asthmatics appear to be especially sensitive to NO_2. Asthmatic volunteers have experienced short-term effects at NO_2 concentrations as low as 0.26 ppm. There is evidence that a subset of asthmatics may experience increased

airway reactivity at concentrations of 0.2 to 0.3 ppm for 30 minutes to 2 hours. Generally, no clinical effects are reported in non-asthmatic volunteers in conditions below 1 ppm. Epidemiological studies have shown an association between NO_2 and both hospital admissions and emergency room visits for asthma at 24-hour average concentrations ranging from 0.018 to 0.036 ppm. Less robust evidence suggests associations with mortality, hospitalization for cardiovascular disease, and low birth weight.

Ozone

As mentioned above, a discussion of ozone must include a consideration of NO_X and volatile organic carbon (VOC) emissions because those two pollutants are precursors to the formation of ozone in the atmosphere. However, because ozone is formed sometime later and downwind from its precursor emission source (USEPA 2024), ozone behaves as a regional pollutant rather than a local pollutant. For example, the highest ozone concentrations are not found in urban areas close to the concentrated sources of its precursors, but rather in suburban and rural areas downwind of these sources (USEPA 2020). The feasibility of considering potential health effects associated with ozone exposure were addressed under Regional Health Effects. The discussion below describes regional ozone concentrations and standards, considers whether the Proposed Project's emissions of ozone precursors would have a substantial impact on regional ozone concentrations, and discusses known human health effects of exposure to ozone.

Impact on Regional Ozone Concentrations. The SCAB is currently designated as in "nonattainment" of ozone concentration standards. The most stringent state and federal ozone standards are 0.09 ppm for a 1-hour average, 0.070 ppm for the three-year average of the fourth-highest 8-hour concentration each year (known as the federal 8-hour standard), and 0.07 ppm for an 8-hour average (known as the state 8-hour standard).

The highest 1-hour ozone concentration recorded in the SCAB over the 3-year period from 2020 through 2022 was 0.185 ppm, which is 2.05 times greater than the standard. This concentration occurred in 2020 at the Central Los Angeles monitoring site in downtown Los Angeles. The standard was exceeded somewhere in the SCAB on 28 percent of days during that same three-year period (SCAQMD 2024).

The highest federal 8-hour ozone concentration recorded in the SCAB over the 3-year period from 2020 through 2022 was 0.125 ppm, which is 1.8 times greater than the standard. This concentration also occurred in 2020, but at the East San Bernardino Valley monitoring site. The threshold of 0.070 ppm was exceeded at one or more locations in the SCAB on 40 percent of days during that same three-year period (SCAQMD 2024).

The highest state 8-hour ozone concentration recorded in the SCAB over the 3-year period from 2020 through 2022 was 0.139 ppm, which is 2.0 times greater than the standard. This concentration occurred in 2020 at the San Bernardino Mountains station. The standard was exceeded at one or more locations in the SCAB on 38 percent of days during that same three-year period (SCAQMD 2024).

According to the most recent EPA-approved SCAB emissions inventory, the total VOC emissions within the SCAB in 2018 were 406 tons/day (SCAQMD 2022). By comparison, the highest VOC emissions increment associated with the Proposed Project is anticipated to be 0.012 tons/day (Table 3.1-11), which comprises 0.003 percent of the total SCAB emissions. As discussed above, for NO_2, the Proposed Project's anticipated NO_x emissions increment makes up 0.1 percent of the total SCAB emissions. Given the Proposed Project's insubstantial contributions to the region's emissions of ozone

precursors, therefore, the Proposed Project's contribution to regional ozone levels would likely be insubstantial.

Potential Health Effects. In developing the ozone standards, USEPA (2020) and CARB (2005) have prepared comprehensive reports on the possible health effects associated with ozone exposure. The main conclusions of the agencies' reports are:

- EPA (USEPA 2020) concluded that a causal relationship exists between short-term ozone exposure and respiratory effects. A causal relationship is likely to exist between short-term ozone exposure and cardiovascular effects and mortality. Evidence is suggestive of a causal relationship between short-term ozone exposure and central nervous system effects. A causal relationship is likely to exist between long-term ozone exposure and respiratory effects. Evidence is suggestive of a causal relationship between long-term ozone exposure and cardiovascular effects, reproductive and developmental effects, central nervous system effects, and mortality. There is little evidence for a relationship between long-term ozone exposure and increased risk of lung cancer. The populations and life stages that have adequate evidence for increased ozone-related health effects are individuals with certain genotypes, individuals with asthma, younger and older age groups, individuals with reduced intake of Vitamins E and C, and outdoor workers.
- CARB (2005) concluded that ozone exposure can result in reduced lung function, increased respiratory symptoms, increased airway hyperreactivity and increased airway inflammation, increased mortality, hospitalization for cardiopulmonary causes, emergency room visits for asthma, and restrictions in activity. In controlled human exposure studies, exercising individuals exposed for one hour to an ozone concentration as low as 0.12 ppm or for 6.6 hours to a concentration as low as 0.08 ppm experienced lung function decrements and symptoms of respiratory irritation such as cough, wheeze, and pain upon deep inhalation. The lowest ozone concentrations at which airway hyperreactivity (an increase in the tendency of the airways to constrict in reaction to exposure to irritants) has been reported are 0.18 ppm ozone following 2-hour exposure in exercising subjects, 0.40 ppm following 2-hour exposure in resting subjects, and 0.08 ppm ozone in subjects exercising for 6.6 hours. Airway inflammation has been reported following 2-hour exposures to 0.20 ppm ozone and following 6.6-hour exposure to 0.08 ppm ozone. Children may be more affected by ozone than the general population due to effects on the developing lung and to relatively higher exposure than adults. Also, asthmatics may represent a sensitive sub-population for ozone.

In summary, the Proposed Project would produce emissions of NO_x that exceed SCAQMD's project significance threshold and emissions of VOCs that would not exceed those thresholds. In both cases, those emissions would make relatively small contributions to regional levels of NO_2 and ozone. There is currently no methodology available that can accurately quantify regional health effects from NO_2 or ozone exposure associated with an individual project's emissions. Therefore, the above discussion is limited to identifying the Proposed Project's potential contribution to regional pollutant levels and generally describing the types of adverse health effects associated with exposure to those pollutants.

Local Health Effects

This section discusses the relationship between the Proposed Project's local criteria pollutant emissions and the potential for adverse health effects to occur for persons exposed to those emissions in the Proposed Project's vicinity. The dispersion modeling results in Tables 3.1-12 and 3.1-13 show that operation of the Proposed Project would not result in significant off-site local concentration impacts for NO_2 but would result in local concentrations of PM_{10} and $PM_{2.5}$ above significance thresholds in all analysis years. Therefore, the criteria pollutants evaluated for local health effects are PM_{10} and $PM_{2.5}$.

As discussed in Section 3.1.5.1, LAHD has established a health effects quantification methodology based on speciating PM_{10} into toxic air contaminants (TACs), including $PM_{2.5}$ (a substantial component of PM_{10}). The health risk assessment (Section 3.1.5.1 Impact AQ-5) shows that health risks from the Proposed Project's TAC emissions, including those of $PM_{2.5}$, would not exceed the applicable significance thresholds.

There is currently no methodology available that can accurately quantify local health effects from ambient PM_{10} concentrations associated with an individual project. Therefore, the extent to which local adverse health effects of PM_{10} emissions can be identified is limited to generally describing the types of adverse health effects associated with exposure to PM_{10}.

Particulate Matter

The SCAB is currently classified as nonattainment for the state 24-hour and annual PM_{10} and the federal 24-hour $PM_{2.5}$ standards. Locally, Table 3.1-2 shows that the Wilmington Community Station, approximately one mile north of the Project site, exceeded the PM_{10} 24-hour standard on at least one day in two of the last three available years (i.e., 2020 and 2021). The highest observed 24-hour concentration of 70.6 ug/m3 is 41 percent higher than the standard of 50 ug/m3. The Wilmington Community Station exceeded the annual PM10 standard in all three years from 2020 to 2022. The highest observed annual PM10 concentration of 27.2 ug/m3 is 36 percent higher than the standard of 20 ug/m3. The Wilmington Community Station did not exceed the 24-hour or annual PM2.5 standards in any year.

Magnitude of Local Impact. The maximum PM_{10} concentrations to which individuals in the local area would be exposed were estimated by adding the Proposed Project's concentration increments from Table 3.1-13 to the highest background PM_{10} concentration measured at the Wilmington Community Station (70.6 ug/m^3; Table 3.1-2). This approach assumes that the background concentration at the Wilmington Station would remain at the maximum observed throughout the life of the Proposed Project, and therefore may overestimate future local concentrations. Accordingly, the maximum 24-hour PM_{10} local concentrations were determined to be 81.5 ug/m^3 in 2025, 92.2 ug/m^3 in 2027, and 92.1 ug/m^3 in 2049. Similarly, the maximum annual PM_{10} local concentrations were determined to be 28.2 ug/m^3 in 2025 and 34.2 ug/m^3 in 2027 and 2049. These maximum impact locations would be at the property line of the Proposed Project and exceedances of the significance thresholds would be limited to immediately adjacent industrial land uses; locations farther from the Project site would experience lower concentrations.

The maximum $PM_{2.5}$ concentrations to which individuals in the local area would be exposed were estimated by adding the Proposed Project 24-hour concentration increments from Table 3.1-13 to the highest background $PM_{2.5}$ concentration measured at the Wilmington Community Station (25.9 ug/m^3; Table 3.1-2); only 24-hour

concentrations are considered because SCAQMD does not have a standard for annual concentrations. This approach assumes that the background concentration at the Wilmington Station would remain at the maximum observed throughout the life of the Proposed Project, and therefore may overestimate future local concentrations. Accordingly, the maximum 24-hour $PM_{2.5}$ local concentrations were determined to be 30.5 ug/m^3 in 2025, 33.8 ug/m^3 in 2027, and 33.8 ug/m^3 in 2049. These maximum impact locations would be experienced at the property line of the Proposed Project; locations farther from the Project site would experience lower concentrations.

Potential Health Effects. In developing the PM_{10} standards, EPA (USEPA 2019b) and CARB (2002) have prepared comprehensive reports on the possible health effects associated with PM_{10} exposure. The SCAQMD also reviewed PM_{10}-related health effects in Appendix I of its *Final 2022 Air Quality Management Plan* (SCAQMD 2022). Most of the health effects findings made by these agencies focus on $PM_{2.5}$, which is a subset of PM_{10}. The main conclusions of the agencies and their reports are:

- EPA (USEPA 2019b) concluded that a causal relationship exists between $PM_{2.5}$ exposure (both short- and long-term) and cardiovascular effects and mortality. A causal relationship is likely to exist between $PM_{2.5}$ exposure (both short- and long-term) and respiratory effects. Evidence is suggestive of a causal relationship between long-term $PM_{2.5}$ exposure and reproductive and developmental effects, cancer, mutagenicity, and genotoxicity. For the portion of PM_{10} greater than 2.5 microns ($PM_{10-2.5}$), USEPA concluded that evidence is suggestive of a causal relationship between short-term $PM_{10-2.5}$ exposure and cardiovascular effects, respiratory effects, and mortality. Older adults have heightened responses for cardiovascular morbidity with PM exposure. Children are at an increased risk of PM-related respiratory effects. Individuals with underlying cardiovascular disease or asthma may be at an increased risk for adverse effects.
- CARB (2007) concluded that the potential health effects associated with PM exposure include mortality, increased hospital admissions for cardiopulmonary causes, acute and chronic bronchitis, asthma attacks and emergency room visits, respiratory symptoms, and days with some restriction in activity. These adverse health effects have been reported primarily in infants, children, the elderly, and those with preexisting cardiopulmonary disease. CARB also classifies the portion of PM_{10} produced by diesel engine exhaust (diesel particulate matter, or "DPM") as a toxic air contaminant exhibiting carcinogenic effects. A quantitative health risk assessment (HRA) of the Proposed Project's emissions of DPM and other toxic air contaminants is presented in Impact AQ-5.
- SCAQMD (2022) concluded that there is a causal relationship between $PM_{2.5}$ exposure and cardiovascular effects and mortality. Specific cardiovascular effects include cardiovascular deaths, hospital admissions for ischemic heart disease and congestive heart failure, changes in heart rate variability and markers of oxidative stress, and markers of atherosclerosis. A causal relationship is likely to exist between $PM_{2.5}$ exposure and respiratory effects, such as hospital admissions for chronic obstructive pulmonary disease (COPD) or respiratory infections, asthma development, asthma or allergy exacerbation, lung cancer, impacts on lung function, lung inflammation, oxidative stress, and airway hyperresponsiveness. Both short-term and long-term PM exposures are linked to health effects in humans. Young children, older adults, and people with pre-existing respiratory or cardiovascular health conditions are among those who may be more susceptible

to the adverse effects of PM. The SCAQMD also found that the DPM portion of PM_{10} is a significant contributor to the cancer risk associated with toxic air contaminants in the SCAB. For example, the average lifetime risk for excess cancer cases in the SCAB from all air toxics sources (i., multiple pathway exposure) is estimated to be 455 per million. SCAQMD's *Multiple Air Toxics Exposure Study V* (MATES V) determined that DPM is responsible for about 50 percent of the risk (SCAQMD 2021).

In summary, operation of the Proposed Project would produce significant local concentration impacts of PM_{10} and $PM_{2.5}$. The Proposed Project's significant impact areas would extend over industrial, commercial, and recreational land uses near the Berths 191-194 site. There is currently no methodology available that can accurately quantify local health effects from ambient PM concentrations associated with an individual project. Therefore, the above discussion is limited to presenting the magnitude of significant local impacts and generally describing the types of adverse health effects associated with exposure to PM. As guidance from the City of Los Angeles (2019) concludes:

"For local plans or projects that exceed any identified SCAQMD air quality threshold, City EIR documents typically identify and disclose generalized health effects of certain air pollutants but are currently unable to establish a reliable connection between any local plan or project and a particular health effect…A number of factors contribute to this uncertainty, including the regional scope of air quality monitoring and planning, technological limitations for modeling at a local plan- or project-level, and the intrinsically complex nature between air pollutants and health effects in conjunction with local environmental variables."

In Section 3.1.6, Mitigation Monitoring, LM AQ-1, LM AQ-2, and LM AQ-3are revised as follows:

LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment. Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment~~,~~ that meets operating and safety requirements, any time new or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. ~~Tenant may make a recommendation to LAHD for LAHD's concurrence as to which equipment is available and is feasible~~The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment~~,~~ and infrastructure, and will update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph**.**

LM AQ-2: Periodic Review of New Technology and Regulations. The Tenant ~~will~~shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be subject to approval by LAHD and would involve consulting with appropriate resources (e.g.,

consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant ~~will~~shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.

LM AQ-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant ~~will~~shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel emissions capture and control ~~system~~strategy within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant ~~will~~shall be required to implement the technology when operationally feasible as described in Tenant's pilot study. Implementation of the technology required under ~~T~~this measure will rely on the Tenant's pilot study evaluation and determination, and is subject to mutual agreement between the Tenant and LAHD, implementation of which shall not be unreasonably withheld or unreasonably required.

LM AQ-5 and LM AQ-6 have been re-designated as mitigation measures (MM AQ-1 and MM AQ-2, respectively, and revised, and three new lease measures have been added, as shown below.

~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP). ~~95~~100 percent of vessels calling at the Ecocem Dry Bulk Processing Facility will be required to comply with the expanded VSRP at ~~12 knots between~~ 40 nautical miles (nm) from Point Fermin. Speed is confirmed by the Marine Exchange. Any vessel experiencing a maritime emergency[3] that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.

~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule. The tenant shall ~~maintain a replacement schedule of~~ replace the off-road diesel front end loader ~~of~~ every two years~~,~~. ~~where an~~ The equivalent new ~~piece that~~ front end loader shall meet~~s~~ operational requirements and meet~~s~~ Tier 4 ~~Final~~ standards or cleaner or as required by state and/or local agencies, whichever is stricter~~, would be procured~~. During replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.

1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.
2. Idling shall be restricted to a maximum of 5 minutes when not in use.

[3] Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.

3. Tier Specifications:

- From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available.
- Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available.
- A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

LM AQ-6: Fleet Modernization for Construction Equipment.

1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.

2. Idling shall be restricted to a maximum of 5 minutes when not in use.

3. Tier Specifications:

- All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks

The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards.

In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.

3.2.4 Changes Made to Section 3.2 Biological Resources

Section 3.2.24, pages 3.2-29 and 3.2-32

In response to Comment CDFW-3, the following revisions are made:

p. 3.2-29, third paragraph: The current Level A harassment (injury) thresholds for impulsive sounds (e.g., pile driving) range from 185 dB to 218 dB for seals, and from 203 dB to 232 dB for sea lions (LAHD 2017b); cetaceans and sea turtles are not considered in this analysis, because as discussed in Section 3.2.2, none are likely to occur at or near the Project site.

p. 3.2-32: Accordingly, mitigation measure MM BIO-1 (Protect Marine Mammals) would be required. As common practice, the marine mammal observers would also note other marine wildlife, such as sea turtles. Accordingly, ~~With~~ implementation of this measure~~,~~ would reduce impacts on marine mammals and managed fish species ~~would be~~ to less than significant.

Section 3.2.24, page 3.2-32

Mitigation Measure MM BIO-1 is revised as follows:

MM BIO-1: Protect Marine Mammals. Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the "soft start" of pile driving activities, as a precautionary measure, pile driving activities ~~will~~shall include establishment of a safety zone, by a qualified marine mammal professional, and the area surrounding the operations (including the safety zones) ~~will~~shall be monitored for marine mammals by a qualified marine mammal observer[4]. The pile driving site ~~will~~shall move with each new pile; therefore, the safety zones ~~will~~shall move accordingly.

3.2.5 Changes Made to Section 3.5 Greenhouse Gas Emissions

Section 3.5.3, page 3.5-4

In response to Comment E4SS-10, the following revisions are made:

[4] Marine mammal professional qualifications shall be identified based on criteria established by LAHD during the construction bid specification process. Upon selection as part of the construction award winning team, the qualified marine mammal professional shall develop site specific pile driving safety zone requirements, which shall follow the National Oceanic and Atmospheric Administration (NOAA) Fisheries Technical Guidance Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NOAA Fisheries 2018) in consultation with the Acoustic Threshold White paper prepared for this purpose by LAHD (LAHD 2017a). Final pile driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions prior to commencement of pile driving.

The cumulative impact each pollutant has on global warming is based on the volume of emissions and its 100-year global warming potential (GWP). GWP is a unitless quantity that measures how much a gas will contribute to global warming relative to the same mass of CO_2. For example, CH_4 and N_2O have 100-year horizon GWPs of ~~27~~ 29.8 and 273, respectively (IPCC 202~~31~~). However, artificially derived pollutants such as SF_6, HFCs, and CFCs, have been found to have substantially larger GWP values. Sulfur hexafluoride has one of the largest GWP values at ~~25,184~~ 23,900, ~~whereas~~and CFCs and HFCs have GWPs as high as ~~13,902~~ 16,200 and~~14,590~~ 14,600, respectively (IPCC 202~~31~~). For consistency amongst pollutants, GHG emissions are typically reported in terms of metric tons ("tonnes," or "MTon," equivalent to 1,000 kilograms) of carbon dioxide equivalents (CO_2e). In this document, GHG emissions will be reported in metric tons.

On page 3.5-21, Table 3.5-2 is revised as follows to reflect updated GWP values.

Table 3.5-2: Amortized Construction and Operational GHG Emissions – Proposed Project (mty)

Source Category	CO_2	CH_4	N_2O	CO_2e
Amortized Construction				273
Year – 2025				
OGV - Transit	1,199	<1	<1	1,208~~1,211~~
OGV – Hoteling/Anchoring	346	<1	<1	348~~349~~
Harbor Craft	43	<1	<1	43~~44~~
Trucks	3,009	<1	<1	3,023~~3,044~~
Worker Vehicles	30	<1	<1	30
Offroad Equipment	281	<1	<1	284
Dryer Combustion	2,484	<1	<1	2,497
Electricity Consumption	–	–	–	5,314~~4,639~~
Total Operations with Proposed Project Amortized Construction	**-**	**<1**	**<1**	**13,020~~12,371~~**
Total GHG emissions above SCAQMD's 10,000 MT CO_2e threshold?				Yes
Year – 2027				
OGV - Transit	2,399	<1	<1	2,417~~2,423~~
OGV – Hoteling/Anchoring	690	<1	<1	693~~695~~
Harbor Craft	87	<1	<1	87
Trucks	5,889	<1	<1	5,916~~5,958~~
Worker Vehicles	37	<1	<1	37
Offroad Equipment	562	<1	<1	568~~569~~
Dryer Combustion	4,968	<1	<1	4,994~~5~~
Electricity Consumption	--	--	--	7,171~~6,261~~
Total Operations with Proposed Project Amortized Construction	**-**	**<1**	**<1**	**22,156~~21,298~~**
Total GHG emissions above SCAQMD's 10,000 MT CO_2e threshold?				Yes

Table 3.5-2: Amortized Construction and Operational GHG Emissions – Proposed Project (mty)

Source Category	CO_2	CH_4	N_2O	CO_2e
Year – 2049				
OGV - Transit	2,399	<1	<1	2,417 ~~2,423~~
OGV – Hoteling/Anchoring	690	<1	<1	693 ~~695~~
Harbor Craft	87	<1	<1	87
Trucks	4,986	<1	<1	5,009 ~~5,045~~
Worker Vehicles	31	<1	<1	32
Offroad Equipment	562	<1	<1	568
Dryer Combustion	4,968	<1	<1	4,9945
Electricity Consumption	--	--	--	10793 ~~93~~
Total Operations with Proposed Project Amortized Construction	**-**	**<1**	**< 1**	**14,180 ~~14,210~~**
Total GHG emissions above SCAQMD's 10,000 MT CO_2e threshold?				Yes

Notes:
1. Truck and vessel travel emissions include transport within the California State Boundary.
2. Emissions might not precisely add due to rounding.

Section 3.5.6.1, page 3.5-24 and 3.5-25

The text and air quality lease measures are revised as follows:

The Proposed Project and alternatives would implement the following mitigation and lease measures for greenhouse gases and air quality; although some were not quantified within the analysis (except for LM AQ-4, ~~L~~MM AQ-~~5~~1, and ~~L~~MM AQ-~~6~~) these measures would generate further reductions of GHG emissions as a co-benefit:

MM GHG-1: GHG Reduction Offsets. The Tenant shall be required to purchase and retire carbon offsets related to activities that reduce, avoid, destroy, or sequester an amount of GHG emissions in an off-site location to offset the equivalent amount of GHG emissions generated by the Project, with the exception of electricity consumption. The Tenant shall purchase and retire carbon offsets in an amount that would be the equivalent of the Project's GHG Emissions of 4,985 Metric Tons (MT) from first year of operation until 2049 and 4,073 MT from 2049 through the end of the term of the Permit. The Tenant shall purchase and retire carbon offsets on an annual basis, commencing after construction is complete and during the first year of operation. The LAHD is in the process of developing a Greenhouse Gas Program. The Program shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles. If that Program is established during the term of the Permit, the Tenant shall have the option to offset the required amount of GHG emissions through a funding contribution to the Greenhouse Gas Program rather than towards purchasing carbon offsets from a CARB-recognized registry.

While the LAHD Greenhouse Gas Program is currently under development, the Tenant shall purchase and retire carbon offsets from a CARB-recognized offset registry as follows:

Carbon offsets: The Tenant shall purchase and retire carbon offsets from a CARB-recognized registry to ensure that offsets will result in real, permanent, additional, quantifiable, verifiable, and enforceable reductions. The carbon offsets shall be verifiable by the LAHD and enforceable in accordance with the registry's applicable standards, practices, or protocols.

The order of priority for purchasing (any one or more) carbon offsets shall be considered as follows:

v. Originating within the local area;

vi. Originating within the South Coast Air Basin;

vii. Originating within the state of California; or

viii. If sufficient local and in-state offsets are not available, the Tenant shall purchase conforming national offsets registered with a CARB-recognized registry.

Adjustment of Tenant's Required Offsets through Other Verified GHG Emission Reductions: The Tenant may pursue the following modifications to the Project's total estimated GHG emissions identified in this measure. These modifications may be pursued in conjunction with or independent of each other on an annual basis.

(d) Adjustment in Natural Gas Consumption

In the event natural gas consumption differs from the assumptions or is offset in the future due to changes in technology, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required offsets based on actual natural gas consumption, as verified through utility bills, rather than projected future usage. To adjust the Tenant's required number of offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the time period under consideration and shall provide copies of utility bills showing the amount of natural gas consumed at the project site along with a revised greenhouse gas emission calculation performed by an independent, qualified third-party verifier.

or

(e) Adjustment in GHG Emissions

In the event of changes in activities, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required carbon offsets based on an evaluation of actual GHG emissions rather than future projected GHG emission calculations. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the calendar year under consideration and shall submit a report within 60 days that quantifies the actual greenhouse gas emissions by an expert or an independent, qualified third-party. The evaluation of actual greenhouse gas emissions must be performed using acceptable industry standards and protocols for all sources that were included in the Project's GHG emissions calculations under MM GHG-1. LAHD review shall occur within 30 days of receipt of the submitted report. Any expenses incurred by LAHD in processing the Tenant's request, including retaining an independent third-party verifier to peer review the report, shall be borne by the Tenant.

or

(f) Implementation of Additional GHG Reduction Methods

In addition, the Tenant may request a reevaluation of required carbon offsets to be purchased according to this paragraph. The Tenant may implement different and additional GHG reduction methods that are equally or more effective if new technology and/or other feasible measures become available during the term of the Permit. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall identify such additional GHG reduction actions and must quantify the GHG emission reductions from these GHG reduction actions by an independent, qualified third-party verifier. Once the GHG reduction actions are found to be feasible and are reviewed and approved by LAHD staff, the Tenant may request that LAHD reduce its required purchase of carbon offsets by the equivalent amount of demonstrated reduction. Any expenses incurred by LAHD in processing the Tenant's request, including retaining a third-party verifier, shall be borne by the Tenant.

LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment. Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment~~,~~ that meets operating and safety requirements, any time new or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. ~~Tenant may make a recommendation to LAHD for LAHD's concurrence as to which equipment is available and is feasible~~The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment~~,~~ and infrastructure, and will update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph**.**

LM AQ-2: Periodic Review of New Technology and Regulations. The Tenant ~~will~~shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be subject to approval by LAHD and would involve consulting with appropriate resources (e.g., consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant ~~will~~shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.

LM AQ-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant ~~will~~shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel emissions capture and control ~~system~~strategy within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant ~~will~~shall be required to implement the technology when operationally feasible as described in Tenant's pilot study. Implementation of the technology required under ~~T~~this measure will rely on the Tenant's pilot study evaluation and determination, and is subject

to mutual agreement between the Tenant and LAHD; which agreement shall not be unreasonably withheld nor implementation of technology unreasonably required.

LM AQ-5 and LM AQ-6 have been re-designated as mitigation measures (MM AQ-1 and MM AQ-2, respectively), and revised, and three new mitigation measures have been added, as shown below.

~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP). ~~95100~~ percent of vessels calling at the Ecocem Dry Bulk Processing Facility will be required to comply with the expanded VSRP at ~~12 knots between~~ 40 nautical miles (nm) from Point Fermin. Speed is confirmed by the Marine Exchange. Any vessel experiencing a maritime emergency[5] that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.

~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule. The tenant shall ~~maintain a replacement schedule of~~ replace the off-road diesel front end loader ~~of~~ every two years~~,~~. ~~where an~~ The equivalent new ~~piece that~~ front end loader shall meet~~s~~ operational requirements and meet~~s~~ Tier 4 ~~Final~~ standards or cleaner or as required by state and/or local agencies, whichever is stricter~~, would be procured~~. During replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.

LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.

1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.

2. Idling shall be restricted to a maximum of 5 minutes when not in use.

3. Tier Specifications:

- From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available.
- Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available.
- A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit

[5] Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.

shall be provided at the time of mobilization of each applicable unit of equipment.

LM AQ-6: Fleet Modernization for Construction Equipment.

1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.

2. Idling shall be restricted to a maximum of 5 minutes when not in use.

3. Tier Specifications:

- All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks

The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards.

In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.

On page 3.5-25, LM GHG-1 is replaced by MM GHG-1 as follows:

~~**LM GHG-1: GHG Credit Fund:** LAHD shall establish a Greenhouse Gas Fund, which LAHD shall have the option to accomplish through a Memorandum of Understanding (MOU) with the California Air Resources Board (CARB) or another appropriate entity. The fund shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles, or through the purchase of emission reduction credits from a CARB approved offset registry. It shall be the responsibility of the Tenant to contribute to the fund to mitigate emissions over the threshold (11,298 MT) at the existing market rate of $35.20 per carbon credit. Fund contribution shall be a one-time payment of $397,690 payable upon substantial completion of Project construction. If LAHD is unable to establish the fund within one year prior to when payment is due, the Tenant shall instead purchase emission reduction credits from a CARB approved GHG offset registry.~~

MM GHG-1: GHG Reduction Offsets. The Tenant shall be required to purchase and retire carbon offsets related to activities that reduce, avoid, destroy, or sequester an amount of GHG emissions in an off-site location to offset the equivalent amount of GHG emissions generated by the Project, with the exception of electricity consumption. The Tenant shall purchase and retire carbon offsets in an amount that would be the equivalent of the Project's GHG Emissions of 4,985 Metric Tons (MT) from first year of operation until 2049 and 4,073 MT from 2049 through the end of the term of the Permit. The Tenant shall purchase and retire carbon offsets on an annual basis, commencing after construction is complete and during the first year of operation. The LAHD is in the process of developing a Greenhouse Gas Program. The Program shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles. If that Program is established during the term of the Permit, the Tenant shall have the option to offset the required amount of GHG emissions through a funding contribution to the Greenhouse Gas Program rather than towards purchasing carbon offsets from a CARB-recognized registry.

While the LAHD Greenhouse Gas Program is currently under development, the Tenant shall purchase and retire carbon offsets from a CARB-recognized offset registry as follows:

Carbon offsets: The Tenant shall purchase and retire carbon offsets from a CARB-recognized registry to ensure that offsets will result in real, permanent, additional, quantifiable, verifiable, and enforceable reductions. The carbon offsets shall be verifiable by the LAHD and enforceable in accordance with the registry's applicable standards, practices, or protocols.

The order of priority for purchasing (any one or more) carbon offsets shall be considered as follows:

ix. Originating within the local area;

x. Originating within the South Coast Air Basin;

xi. Originating within the state of California; or

xii. If sufficient local and in-state offsets are not available, the Tenant shall purchase conforming national offsets registered with a CARB-recognized registry.

Adjustment of Tenant's Required Offsets through Other Verified GHG Emission Reductions: The Tenant may pursue the following modifications to the Project's total estimated GHG emissions identified in this measure. These modifications may be pursued in conjunction with or independent of each other on an annual basis.

(g) Adjustment in Natural Gas Consumption

In the event natural gas consumption differs from the assumptions or is offset in the future due to changes in technology, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required offsets based on actual natural gas consumption, as verified through utility bills, rather than projected future usage. To adjust the Tenant's required number of offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the time period under consideration and shall provide copies of utility bills showing the amount of natural gas consumed at the project site along with a revised greenhouse gas emission calculation performed by an independent, qualified third-party verifier.

or

(h) Adjustment in GHG Emissions

In the event of changes in activities, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required carbon offsets based on an evaluation of actual GHG emissions rather than future projected GHG emission calculations. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the calendar year under consideration and shall submit a report within 60 days that quantifies the actual greenhouse gas emissions by an expert or an independent, qualified third-party. The evaluation of actual greenhouse gas emissions must be performed using acceptable industry standards and protocols for all sources that were included in the Project's GHG emissions calculations under MM GHG-X. LAHD review shall occur within 30 days of receipt of the submitted report. Any expenses incurred by LAHD in processing the Tenant's request, including retaining an independent third-party verifier to peer review the report, shall be borne by the Tenant.

or

(i) Implementation of Additional GHG Reduction Methods

In addition, the Tenant may request a reevaluation of required carbon offsets to be purchased according to this paragraph. The Tenant may implement different and additional GHG reduction methods that are equally or more effective if new technology and/or other feasible measures become available during the term of the Permit. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall identify such additional GHG reduction actions and must quantify the GHG emission reductions from these GHG reduction actions by an independent, qualified third-party verifier. Once the GHG reduction actions are found to be feasible and are reviewed and approved by LAHD staff, the Tenant may request that LAHD reduce its required purchase of carbon offsets by the equivalent amount of demonstrated reduction. Any expenses incurred by LAHD in processing the Tenant's request, including retaining a third-party verifier, shall be borne by the Tenant.

On p. 3.5-26 the following change is made:

Residual Impacts

GHG emissions impacts under the Proposed Project would be less than significant ~~and unavoidable~~ for all analyzed years.

Section 3.5.6.3, page 3.5-29

The text is revised as follows:

Mitigation Measures

~~Feasible mitigation measures are not available as described in 3.5.6.1.~~ The Reduced Project (Alternative 2) would implement the following mitigation and lease measures for air quality and greenhouse gases; although some were not quantified within the analysis (except only LM AQ-4 and ~~L~~MM AQ-~~5~~1 and ~~L~~MM AQ-~~6~~2) these measures would generate further reductions of GHG emissions as a co-benefit:

LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment.

LM AQ-2: Periodic Review of New Technology.

LM AQ-3: At-Berth Vessel Emissions Control Pilot Study.

LM AQ-4: Port of Los Angeles Sustainable Construction Guidelines.

~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSPR).

~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule.

~~L~~MM GHG-1: GHG ~~Credit Fund~~Reduction Offsets.

The analysis of mitigation measures feasibility and application of lease measures can be found in Section 3.5.6.1 and the description of measures can be found in Section 3.5.10 Mitigation Monitoring.

Section 3.5.6.4, page 3.5-32

The text is revised to change LM AQ-5 to MM AQ-1 and LM AQ-6 to MM AQ-2.

Section 3.5.8.3, page 3.5-38

To clarify an issue raised by the California Coastal Commission's comment on the NOP, the following is added as the second paragraph of subsection 3.5.8.3:

Sea level rise, and possibly storm surge, could potentially cause groundwater elevations on the site to rise, potentially mobilizing existing soil and groundwater contamination. However, that phenomenon would occur whether or not the Proposed Project is implemented and would thus not be a consequence of the Proposed Project. Furthermore, the soil management plan (SMP; see FEIR Appendix E) for construction activities would require remediation of any contamination encountered on the site. By reducing the amount of site contamination, that remediation would reduce, compared to baseline conditions, the possibility of contamination being mobilized in the future by sea level rise or storm surge.

Table 3.5-10

Lease measures LM AQ-5 and LM AQ-6 are re-designated MM AQ-1 and MM AQ-2, respectively, lease measures LM AQ-5, LM AQ-6, and LM AQ-7 are added to the Proposed Project and alternatives 2 and 3, and MM GHG-1 is added to the Proposed Project and Alternative 2 as follows:

1

Table 3.5-10: Summary Matrix of Impacts and Mitigation Measures Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation /Lease Measures or Controls	Residual Impacts
Proposed Project	**GHG-1**: The Proposed Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	GHG emissions would be significant under CEQA in 2025, 2027 and 2049 analysis years	MM GHG-1: GHG Reduction Offsets MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~Mitigation not required although~~ LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines ~~would be applied~~ ~~LM AQ-5: Vessel Speed Reduction Program (VSRP) LM AQ-6: Front End Loader Replacement Schedule LM GHG-1: GHG Credit Fund~~ LM AQ-5: Fleet Modernization for On-Road Trucks During Construction LM AQ-6: Fleet Modernization for Construction Equipment LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks	~~GHG emissions impacts would be significant and unavoidable for all analyzed years~~ Less than significant impact

Table 3.5-10: Summary Matrix of Impacts and Mitigation Measures Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation /Lease Measures or Controls	Residual Impacts
Alternative 1 – No Project Alternative	**GHG-1**: No Project Alternative (Alternative 1) would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	No Impact	Not applicable	No Impact
Alternative 2 – Reduced Project Alternative	**GHG-1**: Reduced Project Alternative (Alternative 2) would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	GHG emissions would be significant under CEQA in analysis year 2027	MM GHG-1: GHG Reduction Offsets MM AQ-1: Vessel Speed Reduction Program (VSRP) MM AQ-2: Front End Loader Replacement Schedule LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study ~~Mitigation not required although~~ LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines ~~would be applied~~ ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ ~~LM AQ-6: Front End Loader Replacement Schedule~~ ~~LM GHG-1: GHG Credit Fund~~ LM AQ-5: Fleet Modernization for On-Road Trucks During Construction LM AQ-6: Fleet Modernization for Construction Equipment LM AQ-7: Renewable Diesel Fuel for	~~GHG emissions impacts would be significant and unavoidable for analysis year 2027~~ Less than significant impact

Table 3.5-10: Summary Matrix of Impacts and Mitigation Measures Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation /Lease Measures or Controls	Residual Impacts
			Construction Equipment and On-Road Trucks	
Alternative 3 – Product Import Terminal Alternative	**GHG-1**: Product Import Terminal Alternative (Alternative 3) would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant impact	Mitigation not required; however, the following lease measures would be applied: LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology LM AQ-3: At-Berth Vessel Emissions Control Pilot Study LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines would be applied ~~LM AQ-5: Vessel Speed Reduction Program (VSRP)~~ LM AQ-5: Fleet Modernization for On-Road Trucks During Construction LM AQ-6: Fleet Modernization for Construction Equipment LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks	Less than significant impact

1

Section 3.5.10, p. 3.5-41 through 3.5-43

The text has been revised as follows:

The mitigation monitoring program below ~~does not contain any mitigation measures, as none were found feasible. Instead, this section~~ summarizes implementation of the applicable lease and mitigation measures.

The mitigation monitoring table is revised as follows:

Lease Measure	**LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment.** Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment, that meets operating and safety requirements, anytime new or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. ~~Tenant may make a recommendation to LAHD for LAHD's concurrence as to which equipment is available and is feasible~~The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure. Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment, and infrastructure, and will update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with the ~~t~~Tenant~~s~~.

Lease Measure	**LM AQ-2: Periodic Review of New Technology and Regulations.** The Tenant ~~will~~shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be subject to approval by LAHD and would involve consulting with appropriate resources (e.g., consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant ~~will~~shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with the tTenants.

~~Mitigation~~Lease Measure	**LM AQ-3: At-Berth Vessel Emissions Control Pilot Study.** The Tenant shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel emissions capture and control system within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant will be required to implement the technology when operationally feasible as described in Tenant's pilot study. Implementation of the technology required under ~~T~~this measure will rely on the Tenant's pilot study evaluation and determination and is subject to mutual agreement between the Tenant and LAHD, which agreement shall not be unreasonably withheld nor implementation of technology unreasonably required.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with the ~~t~~Tenants.

~~Mitigation~~Lease Measure	**LM AQ-4: ~~Port of~~ Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines.** The project shall implement and comply with all measures as required by the Los Angeles Harbor Department's Sustainable Construction Guidelines adopted in February 2008 and updated in November 2009 during Project construction activities. These requirements shall be stipulated in the construction contracts and bid documents.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with the ~~t~~Tenant~~s~~.

Mitigation Measure	**~~L~~MM AQ-~~5~~1: Vessel Speed Reduction Program (VSRP):** ~~95~~100 percent of vessels calling at the Ecocem Dry Bulk Processing Facility ~~will be required to~~ shall comply with the expanded VSRP at ~~12 knots between~~ 40 nautical miles (nm) from Point Fermin. Vessel ~~S~~speed is confirmed by the Marine Exchange. Vessels experiencing a maritime emergency[6] that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.
Timing	During operation.
Methodology	LAHD will include this ~~lease~~mitigation measure in lease agreements with the ~~t~~Tenant~~s~~.

Mitigation Measure	**~~L~~MM AQ-~~6~~2: Front End Loader Replacement Schedule.** The tenant shall ~~maintain a replacement schedule of~~ replace the off-road diesel front end loader ~~of~~ every two years~~,~~. ~~where an~~ The equivalent new ~~piece that~~ front end loader shall meet~~s~~ operational requirements and meet~~s~~ Tier 4 ~~Final~~ standards or cleaner or as required by state and/or local agencies, whichever is stricter~~, would be procured~~. During

[6] Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.

	replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.
Timing	During operation.
Methodology	LAHD will include this ~~lease~~mitigation measure in lease agreements with the ~~t~~Tenant~~s~~.
Mitigation Measure	**LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.** 1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property. 2. Idling shall be restricted to a maximum of 5 minutes when not in use. 3. Tier Specifications: • From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available. • Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available. • A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment.
Timing	During construction
Methodology	LAHD will include this lease measure in the Tenant's construction permit.
Mitigation Measure	**LM AQ-6: Fleet Modernization for Construction Equipment.** 1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards. 2. Idling shall be restricted to a maximum of 5 minutes when not in use. 3. Tier Specifications: • All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. • A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

	The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists: • A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement. • A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available. • A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.
Timing	During construction
Methodology	LAHD will include this lease measure in the Tenant's construction permit.
Mitigation Measure	**LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks** The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards. In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.
Timing	During construction
Methodology	LAHD will include this lease measure in the Tenant's construction permit.
Mitigation Measure	~~**LM GHG-1: GHG Credit Fund:** LAHD shall establish a Greenhouse Gas Fund, which LAHD shall have the option to accomplish through a Memorandum of Understanding (MOU) with the California Air Resources Board (CARB) or another appropriate entity. The fund shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles, or through the purchase of emission reduction credits from a CARB approved offset registry. It shall be the responsibility of the Tenant to contribute to the fund to mitigate 11,298 MT at the existing market rate of $35.20 per carbon credit. Fund contribution shall be a one time payment of $397,690 payable upon substantial completion of Project construction. If LAHD is unable to establish the fund within one year prior to when payment is due, the Tenant shall instead purchase emission reduction credits from a CARB approved GHG offset registry.~~ **MM GHG-1: GHG Reduction Offsets.** The Tenant shall be required to purchase and retire carbon offsets related to activities that reduce, avoid, destroy, or sequester an amount of GHG emissions in an off-site location to offset the equivalent amount of GHG emissions

	generated by the Project, with the exception of electricity consumption. The Tenant shall purchase and retire carbon offsets in an amount that would be the equivalent of the Project's GHG Emissions of 4,985 Metric Tons (MT) from first year of operation until 2049 and 4,073 MT from 2049 through the end of the term of the Permit. The Tenant shall purchase and retire carbon offsets on an annual basis, commencing after construction is complete and during the first year of operation. The LAHD is in the process of developing a Greenhouse Gas Program. The Program shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles. If that Program is established during the term of the Permit, the Tenant shall have the option to offset the required amount of GHG emissions through a funding contribution to the Greenhouse Gas Program rather than towards purchasing carbon offsets from a CARB-recognized registry. While the LAHD Greenhouse Gas Program is currently under development, the Tenant shall purchase and retire carbon offsets from a CARB-recognized offset registry as follows: **Carbon offsets**: The Tenant shall purchase and retire carbon offsets from a CARB-recognized registry to ensure that offsets will result in real, permanent, additional, quantifiable, verifiable, and enforceable reductions. The carbon offsets shall be verifiable by the LAHD and enforceable in accordance with the registry's applicable standards, practices, or protocols. The order of priority for purchasing (any one or more) carbon offsets shall be considered as follows: i. Originating within the local area; ii. Originating within the South Coast Air Basin; iii. Originating within the state of California; or iv. If sufficient local and in-state offsets are not available, the Tenant shall purchase conforming national offsets registered with a CARB-recognized registry. **Adjustment of Tenant's Required Offsets through Other Verified GHG Emission Reductions:** The Tenant may pursue the following modifications to the Project's total estimated GHG emissions identified in this measure. These modifications may be pursued in conjunction with or independent of each other on an annual basis. *a) Adjustment in Natural Gas Consumption* In the event natural gas consumption differs from the assumptions or is offset in the future due to changes in technology, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required offsets based on actual natural gas consumption, as verified through utility bills, rather than projected future usage. To adjust the Tenant's required number of offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the time period under consideration and shall provide copies of utility bills showing the amount of natural gas consumed at the project site along with a revised greenhouse gas emission calculation performed by an independent, qualified third-party verifier.

	or *b) Adjustment in GHG Emissions* In the event of changes in activities, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required carbon offsets based on an evaluation of actual GHG emissions rather than future projected GHG emission calculations. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the calendar year under consideration and shall submit a report within 60 days that quantifies the actual greenhouse gas emissions by an expert or an independent, qualified third-party. The evaluation of actual greenhouse gas emissions must be performed using acceptable industry standards and protocols for all sources that were included in the Project's GHG emissions calculations under MM GHG-1. LAHD review shall occur within 30 days of receipt of the submitted report. Any expenses incurred by LAHD in processing the Tenant's request, including retaining an independent third-party verifier to peer review the report, shall be borne by the Tenant. or *c) Implementation of Additional GHG Reduction Methods* In addition, the Tenant may request a reevaluation of required carbon offsets to be purchased according to this paragraph. The Tenant may implement different and additional GHG reduction methods that are equally or more effective if new technology and/or other feasible measures become available during the term of the Permit. To adjust the Tenant's required number of carbon offsets for purchase, the Tenant shall identify such additional GHG reduction actions and must quantify the GHG emission reductions from these GHG reduction actions by an independent, qualified third-party verifier. Once the GHG reduction actions are found to be feasible and are reviewed and approved by LAHD staff, the Tenant may request that LAHD reduce its required purchase of carbon offsets by the equivalent amount of demonstrated reduction. Any expenses incurred by LAHD in processing the Tenant's request, including retaining a third-party verifier, shall be borne by the Tenant.
Timing	Payable ~~upon substantial completion of Project construction~~ annually during operation.
Methodology	LAHD will include this lease measure in lease agreements with the ~~t~~Tenant~~s~~.

3.2.6 Changes Made to Section 3.7 Noise

On page 3.7-1, line 20, the sentence is revised as follows:

Mitigation measures NOI-1, ~~and~~ NOI-2, and NOI-3 would reduce construction noise, but…

On page 3.7-18, MM NOI-3 is added after MM NOI-2 as follows:

MM NOI-3: Usage of Wooden Cushion Block. The construction contractor shall use a wooden cushion block to dampen the noise impact from pile driving. This wooden cushion block shall be placed between the pile and hammer. It shall only be applicable to driving concrete piles.

On page 3.7-19, the first sentence is revised as follows:

Mitigation measures MM NOI-1 and MM NOI-2 are expected to reduce sound levels from pile driving activity by at least 5 dBA where they are ~~it is~~ feasible to apply. The degree of sound level reduction that MM NOI-3 might achieve is unknown.

On page 3.7-24 the same revisions applied to the Proposed Project text, above, are applied to Alternative 2, Reduced Project.

On pages 3.7-25 and 3.7-26, the same revisions applied to the Proposed Project text, above, are applied to Alternative 3, Product Import Project.

3.2.7 Changes Made to Section 3.8 Ground Transportation.

In response to Comment SCAQMD-1, Table 3.8-4 is modified as follows to reconcile a discrepancy in the number of operational truck trips between the air quality analysis and the informational ground transportation analysis.

Table 3.8-4: Truck Trip Generation by the Proposed Project and Alternatives

Activity	CEQA Baseline	Proposed Project	Alternative 1 – No Project Alternative	Alternative 2 – Reduced Project	Alternative 3 – Product Import Terminal
Annual Truck trips (one-way trips/year)	0	~~66,000~~ 65,950	0	44,500	62,000
Daily Truck Trips (one-way trips/day)	0	263	0	178	248
Average trip length (VMT, miles/one-way trip)	0	73	N/A	73	73

Note: number of trips represent at-capacity operations of the facility.
Daily trips derived from annual trips divided by 50 weeks per year, 5 days per week.

To reflect updated project schedules, Table 3.8-5 is revised as follows:

Table 3.8-5: Planned Transportation Improvement Projects in the Project Area

Project	Construction Start	Construction Completion
Ecocem Project (operational Q1 2027~~6~~)	~~07/2024~~06/30/2025	~~12/31/2025~~11/30/2026
Berth 200 Roadway[1]	09/2026	~~01/01/2027~~03/01/2028
Closed Avalon Blvd., Harry Bridges Blvd. to S. Broad Ave. (part of Avalon Gateway project currently under design)[1,2]	03/01/2026	N/A
Realigned Water St.[1]	Completed	
Closed Avalon Blvd., S. Broad Ave. to Water St.	~~12/31/2026~~03/02/2028	N/A
Avalon Pedestrian Bridge and Gateway	~~12/31/2026~~03/01/2026	~~01/2027~~08/31/2028

Source:

[1]Port of Los Angeles (2023)
[2] This route will be permanently closed after completion of the Avalon Pedestrian Bridge and Gateway project.

3.2.8 Changes Made to Chapter 4 Cumulative Analysis

In response to Comment E4SS-34, the second sentence of the last paragraph on p. 4-23 (Section 4.2.2) is revised as follows:

> This increase is assumed on the basis of the increased size of vessels, as vessel ~~numbers~~calls are not expected to increase substantially (for example, in years 2001 through 2005, vessel calls to the Port of Los Angeles averaged approximately 2,750 calls per year, whereas vessel calls in years 2019 through 2023 averaged approximately 1,800 calls per year, a decrease of approximately 30 percent. In the same period, however, annual container cargo throughput [the major category for the Port and a surrogate for total cargo] increased by nearly 50 percent).

Section 4.3.1 is revised to eliminate the Greenhouse Gas Emissions bullet from sections 4.3.1, 4.3.3, and 4.3.4.

Table 4-2 is revised as follows:

Table 4-2 Summary Matrix of Residual Impacts, Cumulative Analysis and Mitigation Measures for the Proposed Project and Alternatives.

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
4.2.1 Air Quality	**AQ-1:** Would the Proposed Project or alternatives result in construction-related emissions that would make a cumulatively considerable contribution to a significant cumulative impact from exceedance of the SCAQMD threshold of significance in Table 3.1-4?	Less than significant	LM AQ-4: POLA Sustainable Construction Guidelines would be applied.	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
	AQ-2: Would the Proposed Project or alternatives construction result in off-site ambient air pollutant concentrations that would make a cumulatively considerable contribution to a significant cumulative impact from exceedance of a SCAQMD threshold of significance in Table 3.1-5?	Less than significant	No mitigation required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
	AQ-3: Would operation of the Proposed Project or alternatives result in operational emissions that would make a cumulatively considerable contribution to a significant cumulative impact from exceedance of a SCAQMD threshold of significance in Table 3.1-6?	Operation emissions would be significant for NOx in all operational years	LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment LM AQ-2: Periodic Review of New Technology and Regulations LM AQ-3: At-Berth Vessel Control Pilot Project LM AQ-5: Vessel Speed Reduction Program would be applied LM AQ-6: Front End Loader Replacement Schedule	**Cumulatively considerable and unavoidable contribution to a significant cumulative impact related to operational NOx emissions**	**Similar contributions as the Proposed Project to a lesser extent**

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
	AQ-4: Would operation of the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact related to offsite ambient air pollutant concentrations exceeding a SCAQMD threshold of significance?	Operation-related ambient pollutant concentrations would be significant in all years for annual and 24-hr PM_{10}, and 24-hr $PM_{2.5}$	LM AQ-1, LM AQ-2, LM AQ-3, LM AQ-5; LM AQ-6 is applicable only to Proposed Project and Reduced Project	**Cumulatively considerable and unavoidable contribution to an existing significant cumulative impact related to ambient concentrations of PM_{10} and $PM_{2.5}$**	**Similar contributions as the Proposed Project to a lesser extent**
	AQ-5: Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact from exposure of receptors to significant levels of toxic air contaminants?	Health risks would be below the significance threshold for all receptor types	LM AQ-1, LM AQ-2, LM AQ-3, LM AQ-4, LM AQ-5; LM AQ-6 is applicable only to Proposed Project and Reduced Project	**Cumulatively considerable and unavoidable contribution to an existing significant cumulative impact related to residential, non-residential sensitive, and occupational cancer risk, occupational chronic and acute hazard indices**	**Similar contributions as the Proposed Project to a lesser extent**
	AQ-6: Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact from conflict with or obstruction of the implementation of an applicable AQMP?	Less than significant	No mitigation required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
4.2.2 Biological Resources	**BIO-1**: Would the Proposed Project or alternatives contribute to a cumulative substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less than significant after mitigation	MM BIO-1: Protect marine mammals	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
4.2.3 Energy	**EN-1:** Would the Proposed Project make a cumulatively considerable contribution to a significant cumulative impact related to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Less than significant	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
4.2.4 Geology and Soils	**GEO-1:** Would the Proposed Project make a cumulatively considerable contribution to a significant cumulative impact related to geologic units or soils that are unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?	Less than significant	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
4.2.5 Greenhouse Gases	**GHG-1**: Would the Proposed Project or alternatives generate GHG emissions, either directly or indirectly, that would make a cumulatively considerable contribution to a significant cumulative impact?	GHG emissions would be significant under CEQA in 2025, 2027 and 2049 analysis years	LM AQ-1, LM AQ-2, LM AQ-4, and MM GHG-1: GHG Reduction Offsets	No ~~C~~cumulatively considerable ~~and unavoidable~~ contribution to an existing significant cumulative impact ~~related to GHG and global climate change~~	Similar contributions as the Proposed Project to a lesser extent
4.2.6 Land Use	**LU-1:** Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact related to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact?	Less than significant	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
4.2.7 Noise	**NOI-1:** Would the Proposed Project or alternatives result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project that would result in a cumulatively considerable exceedance of				

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
	standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
	NOI-1a: Daytime construction activities lasting more than 10 days in a 3-month period that would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive/receptor.	Significant and unavoidable	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities MM NOI-2: Noise Reduction of Landside Pile Driving MM NOI-3: Usage of a Wooden Cushion Block	**Cumulatively considerable and unavoidable contribution to a significant cumulative impact related to daytime construction noise**	**Similar contributions as the Proposed Project to a lesser extent**
	NOI-1b: Construction activities could result in noise levels that would exceed the ambient noise level by 5 dBA at noise-sensitive receptors between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.	Significant and unavoidable	MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities Noise Reduction of Landside Pile Driving MM NOI-3: Usage of a Wooden Cushion Block	**Cumulatively considerable and unavoidable contribution to a significant cumulative impact related to night-time construction noise**	**Similar contributions as the Proposed Project to a lesser extent**
	NOI-1c: For operational noise, a significant noise impact would occur if project operations cause the ambient noise level measured at the property line of affected uses (i.e., sensitive receptors) to increase by 3 dBA in CNEL to or within the 'normally unacceptable' or 'clearly unacceptable category,' or any increase in CNEL 5 dBA or greater.	Less than significant	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact relayed to operational noise	Same as the Proposed Project
	NOI-2: Would the Proposed Project or alternatives result in a considerable contribution to a cumulatively significant	Less than significant	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact related to	Same as the Proposed Project

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
	generation of excessive groundborne vibration or groundborne noise levels?			groundborne noise or vibration	
4.2.8 Ground Transportation	**TRANS-1:** Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No impact	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
	TRANS-2: Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative conflict or inconsistency with CEQA Guidelines section 15064.3, subdivision (b)?	No Impact	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
	TRANS-3: Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact related to hazards due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
	TRANS-4: Would the Proposed Project or alternatives make a cumulatively considerable contribution to a significant cumulative impact related to inadequate emergency access?	No impact	No mitigation is required	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project
4.2.9 Tribal Cultural Resources	**TCR-1:** Would the Proposed Project or alternatives have a potential to make a cumulatively considerable contribution to a significant cumulative impact related to substantial adverse changes in the significance of a tribal cultural resource,	Less than significant	No mitigation is required but SC TCR-1 would be employed SC TCR-1: Stop Work in the Area if	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project

Resource Area	Environmental Impacts	Proposed Project Residual Impacts	Applied Mitigation/Lease Measures or Controls	Cumulative Analysis for Proposed Project	Cumulative Analysis for build Alternatives 2 and 3
	defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?		Prehistoric and/or Archaeological Resources are Encountered		
	TCR-2: Would the Proposed Project or alternatives have a potential to make a cumulatively considerable contribution to a significant cumulative impact related to substantial adverse changes in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	Less than significant	No mitigation is required but SC TCR-1 would be employed SC TCR-1: Stop Work in the Area if Prehistoric and/or Archaeological Resources are Encountered	No cumulatively considerable contribution to an existing significant cumulative impact	Same as the Proposed Project

1

The Initial Study (IS) for the Proposed Project, published in March, 2022, evaluated the environmental issues in accordance with CEQA Guidelines Appendix G, which is intended to focus the EIR on potentially significant impacts. The IS concluded that the Proposed Project would have no impact in a number of resource areas, and those issue areas were not considered in the DEIR. In other resource areas, the IS concluded that the Proposed Project's impacts would be less than significant and similarly eliminated those areas from further analysis in the DEIR. After publication of the DEIR, LAHD determined that it is appropriate to consider the potential for those less-than-significant impacts to make cumulatively considerable contributions to existing significant cumulative impacts. Accordingly, LAHD has prepared an additional section in Chapter 4 Cumulative Analysis to include an analysis of those cases. The FEIR is revised to include that section as follows:

Section 4.2.10 Other Cumulative Impacts

The IS for the Proposed Project, published in March 2022, evaluated the environmental issues in accordance with CEQA Guidelines Appendix G, which is intended to focus the EIR on potentially significant impacts. The IS concluded that the Proposed Project would have no impact in a number of resource areas, and those resource areas were therefore not considered in the DEIR. In other resource areas, the IS concluded that the Proposed Project's impacts would be less than significant and thus similarly eliminated those areas from further discussion in the DEIR. LAHD has determined that it is appropriate to consider whether those less-than-significant impacts could potentially make cumulatively considerable contributions to significant cumulative impacts. This analysis summarizes LAHD's conclusions in that regard.

Aesthetics -1a: The IS concluded that the Proposed Project's aesthetic impacts would be less than significant with regard to having a substantial adverse effect on a scenic vista, conflict with zoning and regulations regarding scenic quality, and addition of light or glare. As described in the IS, the Project site is in a remote, industrial portion of the Port that is not readily visible to the public and is not part of a scenic vista, the Proposed Project's physical features would be consistent with the existing visual character of the immediate area, and the existing nighttime light environment is characterized by bright industrial lighting. None of the related projects in the immediate area would substantially alter the existing view. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Air Quality -3d: The IS concluded that the Proposed Project's impacts with regard to odors would be less than significant. The LAHD is not aware that the Project site currently experiences a significant odor impact, and as described in the IS, any additional odors generated by the Proposed Project and the nearby Vopak project (primarily diesel exhaust fumes) would be consistent with the existing odor environment and would not be adjacent to sensitive receptors. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Biology -4b: The IS concluded that the Proposed Project's impacts with regard to riparian habitat or sensitive natural communities would be less than significant. The Port supports sensitive natural communities, including eelgrass and kelp beds, and non-native species are a component of the marine biota of the Port. However, as described in the IS, construction and operation of the Proposed Project would not adversely affect eelgrass or kelp, and the small number of vessels and the existing biofouling and ballast water programs minimize the potential for the Proposed Project to introduce invasive species.

Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Cultural Resources -5a, -5b: The IS concluded that the Proposed Project's impacts on historical and archeological resources would be less than significant. As described in the IS, a cultural resources study determined that the Proposed Project does not have the potential to adversely affect the historical resources in the general area. Because the Project site is on engineered fill placed early in the 20th Century, archaeological resources would not be encountered during construction. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Energy -6b: The IS concluded that the Proposed Project's impacts with respect to state or local energy plans for renewable energy or energy efficiency would be less than significant because the Proposed Project would be required to comply with applicable renewable energy and energy efficiency plans, standards, and regulations pursuant to the California Building Code, California Green Building Standards, and the City of Los Angeles Green Building Code, which would reduce long-term energy demand. The Proposed Project would also be required to comply with the Port's Climate Action Plan, Executive Directive No. 10, the Sustainable City pLAn, LAHD's Sustainable Construction guidelines, and the San Pedro Bay CAAP. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Geology -7a - d: The IS concluded that the Proposed Project's impacts with regard to seismic risks, soil erosion, and expansive soils would be less than significant. As described in the IS, project design and construction would take geological risk factors into account, incorporating appropriate geotechnical and engineering methods. Furthermore, seismic and soil issues are site-specific, meaning that a significant cumulative impact does not exist. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Hazards and Hazardous Materials -9a, -9b: The IS concluded that the Proposed Project's impacts with regard to the routine use or upset of hazardous materials would be less than significant. The IS described the control measures that would be employed during construction and operation to control the small amounts of hazardous materials that would be used and to minimize potential releases of hazardous materials and hazardous wastes from vessels and on-site equipment. Furthermore, the LAHD is not aware that the Project site or the surrounding area currently experiences a significant cumulative impact with regard to the routine use of hazardous materials.

As a result of a comment on the Draft EIR by the Department of Toxic Substances Control, the LAHD is aware of existing subsurface contamination at the nearby Gibson Environmental site, which is undergoing RCRA remediation. However, construction activities at the Project site would not disturb the Gibson site, and the IS described the routine measures that would be employed during construction to minimize the exposure of workers and the environment to hazardous wastes at the Project site. In addition, the Soil Management Plan prepared for the Proposed Project (FEIR Appendix *) includes additional measures to ensure that any contaminated soils that the construction work may encounter is managed properly and accordance with all applicable laws and regulations. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Hydrology and Water Quality -10a, -10b, 10c.iii, 10-d: The IS concluded that the Proposed Project's impacts with respect to water quality standards, groundwater,

stormwater treatment, and flooding would be less than significant. Although areas of Los Angeles Harbor are listed as impaired due to sediment contamination, water quality in the Harbor meets standards set by the Regional Water Quality Control Board; accordingly, LAHD considers that a significant cumulative impact does not exist. The IS described the controls that would be in place for the Proposed Project, including construction-related controls required by the Construction General Permit and Waste Discharge Requirements, operational controls required by the NPDES Industrial General Permit, and structural controls required by the Low-Impact Development and the City's stormwater permit. Groundwater underlying the Project site has no beneficial uses and would not be substantially affected by the Proposed Project. The Proposed Project includes a new stormwater system designed to accommodate anticipated flood flows and manage runoff pollutants. As described in the IS, the Project site is not vulnerable to substantial flooding. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Public Services -15a.v: The IS concluded that the Proposed Project's impacts with respect to the U.S. Coast Guard's vessel traffic safety facilities would be less than significant. The Proposed Project and the adjacent Vopak project would add oceangoing vessel traffic to the overall vessel traffic in the Port, but the increase would be negligible in the context of total traffic volumes. Furthermore, the existing facilities are adequate to manage vessel traffic safely, such that a significant cumulative impact does not exist. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Transportation/Traffic -17d, 17-e: The IS concluded that the Proposed Project's impacts with respect to the emergency access and vessel traffic safety would be less than significant. The Proposed Project in concert with other nearby projects such as the Vopak terminal, would not alter emergency access and would not, given the local roadways' capacity, substantially hinder access to Fire Station 49. Vessel traffic at Berth 191, including that serving the Vopak terminal, would be too infrequent to hinder fireboat operations or increase vessel safety risks. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

Utilities and Service Systems: The IS concluded that the Proposed Project's impacts with respect to utility systems and solid waste generation would be less than significant. As discussed in the IS, the existing utility infrastructure is adequate to serve the Proposed Project and no off-site construction would occur. Accordingly, no relocation or construction of water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities would be necessary. The existing infrastructure is adequate to serve the related projects in the area of the Proposed Project; accordingly, a significant cumulative impact does not exist. The IS concluded that existing solid waste disposal facilities are adequate to accommodate the Proposed Project's small amount of solid waste, and that the Proposed Project would comply with federal, state, and city solid waste regulations and codes and with state and city waste minimization, diversion, and recycling regulations and policies. Accordingly, the Proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

3.2.9 Changes Made to Chapter 5 Comparison of Alternatives

In Section 5.3.1 the following changes are made:

As shown in Table 5-2, the Proposed Project, the Reduced Project Alternative (Alternatives 2) and the Product Import Terminal Alternative (Alternative 3) would have significant unavoidable impacts on air quality~~, greenhouse gases (GHG),~~ and noise. Alternative 1 (No Project Alternative) would have no significant impacts in any resource area.

Table 5-2: Number of Unavoidable Significant Impacts by Alternative

Environmental Resource Area	Proposed Project	Alternative 1 No Project	Alternative 2 Reduced Project	Alternative 3 Product Import Terminal
Air Quality	4	0	4	3
~~Greenhouse Gases~~	~~1~~	~~0~~	~~1~~	~~1~~
Noise	2	0	2	2

Notes:
The analysis includes only project-level impacts after mitigation has been applied, not cumulatively considerable contributions to significant cumulative impacts.
Alternatives eliminated from further consideration are not included.

~~For GHG emissions, the Proposed Project, Reduced Project Alternative (Alternative 2), and Product Import Terminal Alternative (Alternative 3) would have significant and unavoidable impacts. The Proposed Project would have the highest amount of combined GHG emissions during construction and operations. The Product Import Terminal Alternative (Alternative 3) because of its lower construction activity levels than the Proposed Project and Reduced Project Alternative (Alternative 2), and due to the shifting of binder production (and associated GHGs) to overseas would emit the lowest amount of greenhouse gases under this CEQA analysis.~~

In Section 5.3.2 the following change is made:

However, the Product Import Terminal Alternative (Alternative 3), because of its lower operational activity levels, would have overall the lowest severity of impacts related to noise~~,~~ and air quality ~~and greenhouse gases~~. Accordingly, the Product Import Terminal Alternative (Alternative 3) is deemed to be the environmentally superior alternative.

3.2.10 Changes Made to Chapter 11 References

The following are added to the references for Section 3.1:

CARB, 2005e. Review of the California Ambient Air Quality Standard for Ozone. October 2005 Revision.

City of Los Angeles. 2019. Air Quality and Health Effects. Sierra Club v. County of Fresno. Prepared for City of Los Angeles Department of City Planning. October.

IPCC. 2023. Sections. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 35-115, doi: 10.59327/IPCC/AR6-9789291691647.

LAHD. 2021. Environmental Guidance for Industrial Fill Material. 13p. December.

SCAQMD. 2015c. Application of the South Coast Air Quality Management District for Leave to File Brief of *Amicus Curiae* in Support of Neither Party and [Proposed] Brief of

Amicus Curiae. In the Supreme Court of California. *Sierra Club v. County of Fresno*. Supreme Court Case No. S219783. April 13, 2015.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2019. Friant Ranch Interim Recommendation. Attachment 4 in City of Los Angeles 2019.

USEPA. 2016. Integrated Science Assessment (ISA) for Oxides of Nitrogen – Health Criteria (Final Report, 2016). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-15/068, 2016. https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310879.

USEPA. 2019a. Environmental Benefits Mapping and Analysis Program - Community Edition (BenMAP-CE). https://www.epa.gov/benmap.

USEPA. 2019b. Integrated Science Assessment for Particulate Matter (EPA/600/R-19/188).

USEPA. 2020. Integrated Science Assessment for Ozone and Related Photochemical Oxidants. Office of Research and Development. EPA/600/R-20/012. April. www.epa.gov/isa.

USEPA, 2024. Ozone Pollution and Your Patients Health. https://www.epa.gov/ozone-pollution-and-your-patients-health/what-ozone#:~:text=It%20is%20also%20formed%20in,air%20quality%20advisories%20for%20ozone.

3.2.11 Changes Made to Appendix B-1 Air Quality

On page B1-10 the description of the Advanced Clean Fleet Regulation is updated as follows:

Additionally, in April 2023, the Advanced Clean Fleets (ACF) regulation was proposed by CARB, with the goal of achieving a zero-emission truck and bus California fleet by 2045 for certain market segments such as government fleets, last mile delivery, and drayage applications. However, since the ACF rule does not specify cement truck fleets and has yet to receive a waiver by the USEPA; no emissions reduction credits from this rule, as well as the Advanced Clean Trucks (ACT) rule, were quantified in the analysis. Per the Clean Air Act, California must seek a waiver from the USEPA to enact emissions standards that are more stringent than those enacted at the federal level. California is granted this ability because of its unique air quality issues, but for each California regulation CARB must seek a waiver from USEPA. On January 13, 2025, CARB withdrew its request for a waiver and authorization to USEPA for its Advanced Clean Fleets Regulation.

On page B-1-10 the description of the Commercial Harbor Craft Regulation is updated as follows:

The 2022 amendments to this regulation declare that effective January 2023, all commercial harbor craft operating within regulated California Waters must comply with the renewable diesel fuel requirements as laid forth in Section 93118.5. Similarly, under the amendment, new and newly acquired engines are required to meet the most stringent marine standards (Tier 4 for most applications, and Tier 3 or cleaner for commercial fishing) based on the rule's implementation schedule that begins in 2024 (CARB, 2023). In addition, the regulation has been expanded to include more classes of harbor craft, including pilot boats.

On January 10, 2025, CARB received partial authorization for the 2022 CHC Amendments. In addition, on January 13, 2025, CARB withdrew its request for a waiver and authorization to USEPA for its Advanced Clean Fleets Regulation. Therefore, this analysis conservatively does not take credit for potential emissions reductions. ~~For purposes of the current study, because there is not yet an enforceable mechanism for this rule, the analysis does not quantify potential reductions benefits of the 2022 CHC rule amendments.~~

In response to Comment E4SS-10, the following changes are made:

On Appendix B1, page B1-60, Note 7 is revised as follows:

[7] $PM_{2.5}$ is ~~89~~92% of PM_{10}, per SCAQMD 2006 Final Methodology to Calculate $PM_{2.5}$ and $PM_{2.5}$ Significance Thresholds, Table 5.

As explained in the Response to Comment E4SS-10, this change does not alter the significance determinations or the HRA calculations presented in the DEIR.

On Appendix B1, page B1-110, in response to Comment E4SS-10, the global warming potential values and note 7 in the Conversion Factors and Constants table were updated as follows to be consistent with the analysis performed in the DEIR:

Ecocem Materials Ltd.
Port of Los Angeles

DRAFT

Conversion Factors and Constants:

Parameter	Value	Unit of Measure	Notes
Maximum rated heat input capacity	36	MMBTU/hr	Based on Ecocem correspondence in 2018
Natural Gas HHV	1050	MMBtu/MMscf	SCAQMD Rule 2012 Appendix A Chapter 3 Table 3-D
Average heat input	12.39	MMBTU/hr	8% moisture content; correspondence with the Ecocem on March 2, 2023.
Maximum heat input	28.09	MMBTU/hr	12% moisture content; correspondence with the Ecocem on March 2, 2023.
K	1.19SE-07	ppm NOx per lb/scf	40 CFR 60 Appendix A Method 19 (SCAQMD Rule 2012 Appendix A Chapter 4 Equation 28a)
O_2	3	%	Standard
F	8710	dscf/MMBtu	40 CFR 60 App A Method 19
Conversion factor	35.3147	ft^3/m^3	--
Conversion factor	453,592	mg/lb	--
Conversion factor	453.592	g/lb	--
Normal Operating Schedule for Dryer	24	hours/day	Correspondence with Ecocem on March 2, 2023.
	7	days/week	Correspondence with Ecocem on March 2, 2023.
	45	weeks/year	Correspondence with Ecocem on March 2, 2023.
Maximum Operating Schedule for Dryer	24	hours/day	Email correspondence with Ecocem team on November 8, 2022
	7	days/week	Correspondence via phone with Clive Moutray and David Mulhall, Ecocem, on September 29, 2022.
	52	weeks/year	Ecocem correspondence received on May 26, 2022.
Monthly heat input limit (proposed)	11,000	MMBtu/month	Correspondence with Ecocem on March 2, 2023.
Annual heat input limit (proposed)	195,000	MMBtu/year	Correspondence with Ecocem on March 2, 2023.
Carbon Dioxide (CO_2) GWP	1	--	See note 7
Methane (CH_4) GWP	~~25~~ 29.8	--	See note 7
Nitrous Oxide (N_2O) GWP	~~298~~ 273	--	See note 7

Notes:

[1] CO, SOx, and VOC emission factors were referenced from SCAQMD's AER Default Emission Factors for Natural Gas/Other Equipment dated January 2022 Accessed at https://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/default-combustion-emission-factors.pdf?sfvrsn=12.

[2] NOx guarantee from manufacturer provided via phone correspondence with Ecocem, Coen, Thyssenkrupp, and Bay City Boilers on October 4, 2022.

[3] TAC emissions were estimated using the AER Reporting Tool Default Combustion Emission Factors for Toxic Air Contaminants. Available online at:

[4] The emission factor for PAHs represents a combined default emission factor for toxic compounds within the PAH family.

[5] The ammonia emission factor corresponds to equipment without Selective Non Catalytic Reduction (SNCR).

[6] CO_2, CH_4, and N_2O emission factors were estimated using SCAQMD's 400-CEQA Greenhouse Gas Estimator. Available online at: https://www.aqmd.gov/docs/default-source/permitting/ceqa-2017/ghg-estimator-(2017-11).xlsx?sfvrsn=8

[7] GHG emissions in CO_2e were estimated using GWP values as referenced from the ~~SCAQMD Greenhouse Gas Estimator~~ Intergovernmental Panel On Climate Change (IPCC) 6th Assessment Report.

[8] AHU and AHC were calculated as the average rated heat input capacity multiplied by the emissions factor. MHU and MHC were calculated as the maximum rated heat input capacity multiplied by the emission factor. The emissions were uncontrolled.

[9] MDU and MDC were calculated as MHU and MHC multiplied by the maximum operating schedule, respectively. The emissions were uncontrolled.

[10] Annual PTE and MAC were calculated as the proposed annual fuel consumption multiplied by the emission factor.

[11] 30DA was calculated as the proposed monthly heat input limit multiplied by the emission factor divided by 4.3 weeks per month multiplied by the maximum operating schedule.

[12] AA was calculated as the AHC multiplied by the normal operating schedule.

[13] GBFS entered the dryer with a moisture content of 12%, based on Ecocem written correspondence received on November 8, 2022.

[14] Gypsum entered the dryer with a moisture content of 2.5%, based on the technical specification provided by Ecocem correspondence on May 20, 2022.

Abbreviations

30DA - 30 days daily average
AA - annual average
AHC - average hourly controlled
AHU - average hourly uncontrolled
CEQA- California Environmental Quality Act
CH_4 - Methane
CO_2 - Carbon Dioxide
dscf - dry standard cubic feet
ft - feet
GBFS - granulated blast furnace slag
GHG - greenhouse gas
GWP - global warming potential
hr - hour
lb - pound
HHV- higher heating value
m - meter
MAC- maximum annual controlled
MDC - maximum daily controlled
MDU - maximum daily uncontrolled
mg - 10^{-3} gram
MHC - maximum hourly controlled
MHU - maximum hourly uncontrolled
MMBTU - 10^6 British thermal unit
MMscf - 10^6 standard cubic feet
Nm^3 - normal cubic meter
N_2O - nitrous oxide
NOx - nitrogen oxides
PAHs - polycyclic aromatic hydrocarbons
ppm- parts per million
PTE - potential to emit
SCAQMD - South Coast Air Quality Management District
scf - standard cubic feet
SOx - oxides of sulfur
TAC - toxic air contaminant
tpy - tons per year
VOC - volatile organic compounds
yr - year

1

3.2.12 Changes Made to Appendix B-3 Health Risk Assessment

In response to Comment E4SS-24, p. B3-4 and the reference to SCAQMD (2005) in Section 8.0 of Appendix B3 (p. B3-49) are revised as follows:

p. B3-4: In accordance with SCAQMD guidance (SCAQMD ~~2005~~2008), for the construction emissions,...

p. B3-49: SCAQMD, ~~2005. Personal communication with J. Koizumi. September 21st~~ 2008. Localized Significance Threshold Methodology. July. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds...

In response to Comment E4SS-26, Profile 6239 for cobalt in Table B3-1 is revised as shown below.

Table B3-1. Speciation Profiles for PM_{10} and TOG

	Weight Fraction of PM_{10}									Weight Fraction of TOG[a]		
Toxic Air Contaminant [b]	**HARP TAC ID**	**Profile 9901: Diesel IC Engine Exhaust [c]**	**Profile 4251: Marine Vessels - MGO (0.1 PCT S) [d]**	**Profile 6239: 2023 Offroad Diesel Vehicle Exht [c,d,e]**	**Profile 7231: 2023 Heavy-Duty Diesel Truck-idle [c,d,e]**	**Profile 7233: 2023 Heavy-Duty Diesel Truck-transient [c,d,e]**	**Profile 472: Tire Wear [c]**	**Profile 473: Brake Wear [c]**	**Profile 400: Gasoline Vehicles**	**Profile 2303: Gasoline Vehicles**	**Profile 719: Natural Gas IC Engines**	**Profile 818: Diesel IC Engine Exhaust [d]**
DPM	9901	1	0	0	0	0	0	0	0	0	0	0
Arsenic	7440382	0	0	0.000002	0	0	0	0.00001	0	0	0	0
Beryllium	7440417	0	0	0	0	0	0	0	0	0	0	0
Bromine	7726956	0	0	0	0	0	0.000015	0.00004	0.0005	0	0	0
Cadmium	7440439	0	0	0.000026	0	0	0	0	0	0	0	0
Chlorine	7782505	0	0	0.000029	0.000073	0.00018	0.0078	0.0015	0.07	0	0	0
Chromium III	16065831	0	0	0.000077	0.000059	0.00017	0.000029	0.0011	0	0	0	0
Chromium VI	18540299	0	0	0.0000041	0.0000031	0.0000090	0.0000015	0.00006	0.000025	0	0	0
Cobalt	1216	0	0	0.0000050	0	0	0	0	0	0	0	0
Copper	7440508	0	0	0.000094	0.000031	0.00015	0.00049	0.011	0.0005	0	0	0
Lead	7439921	0	0	0.000011	0.000001	0.000054	0.00016	0.00005	0	0	0	0
Manganese	7439965	0	0	0.000047	0.000024	0.000064	0.0001	0.0017	0.0005	0	0	0
Mercury	7439976	0	0	0.000008	0	0.000001	0	0	0	0	0	0
Nickel	7440020	0	0	0.000009	0.000023	0.00007	0.00005	0.00066	0.0005	0	0	0
Selenium	7782492	0	0	0.000009	0.000002	0.000006	0.00002	0.00002	0	0	0	0
Sulfates	9960	0	0.08	0.050	0.026	0.098	0.0025	0.033	0.45	0	0	0
Vanadium	7440622	0	0	0.000001	0	0.000005	0	0.00066	0	0	0	0
1,3-Butadiene	106990	0	0	0	0	0	0	0	0	0.0024	0	0.0022
Acetaldehyde	75070	0	0	0	0	0	0	0	0	0.0090	0.0003	0.084
Acrolein	107028	0	0	0	0	0	0	0	0	0.000014	0	0
Benzene	71432	0	0	0	0	0	0	0	0	0.039	0.0011	0.023

	Weight Fraction of PM_{10}									Weight Fraction of TOG[a]		
Toxic Air Contaminant [b]	**HARP TAC ID**	**Profile 9901: Diesel IC Engine Exhaust [c]**	**Profile 4251: Marine Vessels - MGO (0.1 PCT S) [d]**	**Profile 6239: 2023 Offroad Diesel Vehicle Exht [c,d,e]**	**Profile 7231: 2023 Heavy-Duty Diesel Truck-idle [c,d,e]**	**Profile 7233: 2023 Heavy-Duty Diesel Truck-transient [c,d,e]**	**Profile 472: Tire Wear [c]**	**Profile 473: Brake Wear [c]**	**Profile 400: Gasoline Vehicles**	**Profile 2303: Gasoline Vehicles**	**Profile 719: Natural Gas IC Engines**	**Profile 818: Diesel IC Engine Exhaust [d]**
Chlorobenzene	108907	0	0	0	0	0	0	0	0	0	0	0
Ethyl Benzene	100414	0	0	0	0	0	0	0	0	0.011	0.0001	0.0035
Formaldehyde	50000	0	0	0	0	0	0	0	0	0.021	0.0081	0.17
Hexane	110543	0	0	0	0	0	0	0	0	0.0078	0.0002	0.0018
Methanol	67561	0	0	0	0	0	0	0	0	0.00020	0	0.00034
Methyl tert-butyl ether	1634044	0	0	0	0	0	0	0	0	0.0047	0	0
Methyl Ethyl Ketone	78933	0	0	0	0	0	0	0	0	0.0015	0	0.017
Naphthalene	91203	0	0	0	0	0	0	0	0	0.0037	0	0.00097
Propylene	115071	0	0	0	0	0	0	0	0	0.022	0.017	0.030
Styrene	100425	0	0	0	0	0	0	0	0	0.0022	0	0.00066
Toluene	108883	0	0	0	0	0	0	0	0	0.048	0.00040	0.017
Xylenes	1330207	0	0	0	0	0	0	0	0	0	0.00040	0.012
Applicable Sources		All diesel IC engines - harbor craft, marine vessel, truck, offroad equipment (CANCER/ CHRONIC)	Ship main & auxiliary engines (ACUTE ONLY[f])	Construction equipment, onsite mobile equipment, harbor craft (ACUTE ONLY[f])	Diesel truck idling exhaust (ACUTE ONLY[f])	Diesel truck driving exhaust (ACUTE ONLY[f])	Tire wear (CANCER/ CHRONIC/ ACUTE)	Brake wear (CANCER/ CHRONIC/ ACUTE)	Onroad operative and pickup trucks (CANCER/ CHRONIC/ ACUTE)	Onroad operative and pickup trucks (CANCER/CHRONIC/ACUTE)	Dryer Combustion (CANCER/CHRONIC/ACUTE)	All diesel IC engines (ACUTE ONLY[f])
Source Group ID	FENDER, HC1 to HC3, OFF01A and OFF01B, OFFROAD1 and OFFROAD2, TUGBOATS, ANCHOR, OGV2 to OGV5,	OGVBERTH	OFF01A and OFF01B, OFFROAD1 and OFFROAD2, TUGBOATS	GBFSIDLE, GYPSIDLE, TRUCKS1 and TRUCKS2	GBFS_RUN, GYPS_RUN, TRUCKS1 to TRUCKS39	DUST1, DUST2, GBFS_RUN, GYPS_RUN, TRUCKS3 to TRUCKS39, TWEAR3 to TWEAR39	DUST1 and DUST2, GBFS_RUN, GYPS_RUN, TRUCKS3 to TRUCKS39, TWEAR3 to TWEAR39	TRUCKS1 and TRUCKS2	TRUCKS1 and TRUCKS2	EP0102	GBFS_RUN, GBFSIDLE, GYPS_RUN, GYPSIDLE, OFF01A and OFF01B, OFFROAD1 and OFFROAD2, OGVBERTH, TRUCKS1 to	Source Group ID

	Weight Fraction of PM_{10}									Weight Fraction of TOG[a]		
Toxic Air Contaminant [b]	**HARP TAC ID**	**Profile 9901: Diesel IC Engine Exhaust [c]**	**Profile 4251: Marine Vessels - MGO (0.1 PCT S) [d]**	**Profile 6239: 2023 Offroad Diesel Vehicle Exht [c,d,e]**	**Profile 7231: 2023 Heavy-Duty Diesel Truck-idle [c,d,e]**	**Profile 7233: 2023 Heavy-Duty Diesel Truck-transient [c,d,e]**	**Profile 472: Tire Wear [c]**	**Profile 473: Brake Wear [c]**	**Profile 400: Gasoline Vehicles**	**Profile 2303: Gasoline Vehicles**	**Profile 719: Natural Gas IC Engines**	**Profile 818: Diesel IC Engine Exhaust [d]**
	OGVBERTH, GBFS_RUN, GBFSIDLE, GYPS_RUN, GYPSIDLE, TRUCKS1 to TRUCKS39										TRUCKS39, TUGBOATS	

Source for speciation profiles except #9901: Speciation Profiles Used in ARB Modeling. Available: https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling. Accessed July 2022. See notes for Profiles #9901.
Notes:

[a] TOG speciation profiles were converted to VOC by dividing by the following VOC/TOG ratios: 0.8785 for Profile 818; 0.7276 for Profile 2303; and 0.0931 for Profile 719.
[b] Only TACs that have OEHHA/CARB toxicity factors are shown in the table.
[c] Profile 9901 represents diesel particulate matter (DPM) emissions from diesel internal combustion engines. This profile was used for the determination of cancer risk and the chronic hazard index because the health values for DPM are representative of whole diesel IC engine exhaust.
[d] Profiles No. 4251, 6239, 7231, 7233, and 818 are associated with diesel IC engines and therefore were only used for the determination of the acute hazard index.
[e] Where indicated, hexavalent chromium was assumed to be 5 percent of total chromium, according to CARB's AB2588 Technical Support Document (CARB 1989), page 57. CARB 1989. Technical Guidance Document for the Emission Inventory Criteria and Guidelines Regulation for AB 2588. Technical Support Division. August. Available: https://ww3.arb.ca.gov/ab2588/tgd1989.pdf. The other 95 percent was assumed to be trivalent chromium.
[f] Profiles for the diesel or diesel-like marine vessel MGO sources were used to speciate the one-hour maximum emissions from these sources for the acute HI evaluations only.
Source for speciation profiles except 9901: Speciation Profiles used in ARB Modeling. Available: https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling. Accessed July 2022. See notes for Profiles 9901.

1

In response to Comment E4SS-31, Table B3-4 is revised as follows:

Table B3-4. Toxicity Values Used In the HRA

Toxic Air Contaminant	CASRN	Inhalation Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Chronic Inhalation REL ($\mu g/m^3$)	Target Organ for Chronic Exposure [b]	Acute Inhalation REL ($\mu g/m^3$)	Target Organ for Acute Exposure [b]	Multipath Chemicals [c]
Acetaldehyde	75-07-0	0.01	140	I	470	D, I	No
Acrolein	107-02-8	--	0.35	I	2.5	D, I	No
Arsenic [a]	7440-38-2	12	0.015	B, C, G, I, J	0.2	B, C, G	Yes
Benzene	71-43-2	0.1	3	E	27	C, E, F	No
Beryllium	7440-41-7	8.4	0.007	--	--	--	Yes
1,3-Butadiene	106-99-0	0.6	2	C	660	C	No
Cadmium [a]	7440-43-9	15	0.02	I, M	--	--	Yes
Chlorine	7782-50-5	--	0.2	I	210	D, I	No
Chromium III	16065-83-1	--	0.06	--	0.48	--	No
Cobalt	1-21-6	27	--	--	--	--	No
Copper	7440-50-8	--	--	--	100	I	No
DPM	9-90-1	1.1	5	I	--	--	No
Ethyl benzene	100-41-4	0.0087	2,000	A, C, L, M	--	--	No
Formaldehyde	50-00-0	0.021	9	I	55	D	No
Hexane	110-54-3	--	7,000	G	--	--	No
Hexavalent Chromium [a]	18540-29-9	510	0.2	E, I	--	--	Yes
Lead [a]	7439-92-1	0.042	--	--	--	--	Yes
Manganese	7439-96-5	--	0.09	G	--	--	No
Mercury	7439-97-6	--	0.03	--	0.6	--	Yes
Methanol	67-56-1	--	4,000	C	28,000	G	No
Methyl ethyl ketone	78-93-3	--	--	--	13,000	D, I	No
Methyl tert-butyl ether	1634-04-4	0.0018	8000	A, D, M	--	--	No
Naphthalene	91-20-3	0.12	9	I	--	--	No
Nickel [a]	7440-02-0	0.91	0.014	C, E, I	0.2	F	Yes
Propylene	115-07-1	--	3,000	I	--	--	No
Selenium [a]	7782-49-2	--	20	A, B, G	--	--	No
Silica quartz	14808-60-7	--	3	--	--	--	No
Styrene	100-42-5	--	900	G	21,000	C, D, I	No
Sulfates	9-96-0	--	--	--	120	I	No
Toluene	108-88-3	--	~~300~~420	C, G, I	~~37,000~~5000	C, D, G, I	No
Vanadium	7440-62-2	--	--	--	30	D, I	No
Xylenes	1330-20-7	--	700	D, G, I	22,000	D, G, I	No

Source: ARB 2022a. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. October 2

Notes:
-- = not available
CASRN = Chemical Abstract Services Registry Number

[a] Arsenic, cadmium, hexavalent chromium, lead, mercury and nickel were evaluated for non-inhalation exposure pathways. For arsenic, the cancer risk oral slope factor is 1.5 $(mg/kg/day)^{-1}$, and the noncancer chronic oral REL is 0.0000035 mg/kg/day. For cadmium, the noncancer chronic oral REL is 0.0005 mg/kg/day. For hexavalent chromium, the cancer risk oral slope factor is 0.5 $(mg/kg/day)^{-1}$, and the noncancer chronic oral REL is 0.02 mg/kg/day. For lead, the cancer risk oral slope factor is 0.0085 $(mg/kg/day)^{-1}$. For nickel, the noncancer chronic oral REL is 0.011 mg/kg/day. For selenium, the noncancer chronic oral REL is 0.005 mg/kg/day.
[b] Key to non-cancer acute and chronic exposure target organs:

A = Alimentary Tract
B = Cardiovascular System
C = Reproductive/Developmental System
D = Eye
E = Hematologic System
F = Immune System
G = Nervous System
I = Respiratory System
J = Skin
K = Bone
L = Endocrine System
M = Kidney

[c] Based on the multipath chemicals recommended by OEHHA (2015) for evaluation of health impacts through the non-inhalation pathways.

Source: CARB. 2023. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. October.

Appendix D-2 Noise Study, was inadvertently omitted from the DEIR and is added to the FEIR as shown below (the addition is not shown in underline format because of the pdf format of the insert).

Appendix E Soil Management Plan is added to the FEIR as shown below. The addition supplements information presented in the DEIR but does not change the conclusions of the DEIR.

Appendix D-2

Illingworth & Rodkin Ambient Sound Survey

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
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Petaluma, California 94931
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December 1, 2022

DRAFT TECHNICAL MEMO

Port of Los Angeles Vopak Terminal Long Term Noise Measurement Results

Illingworth & Rodkin Inc. (I&R) was retained to conduct five (5) long term (24-hour) noise measurement surveys of ambient conditions at the Closest East Basin Marina to Project site, the Bannings Landing Community Center, Fire Station 49, on the Orcem property (Berths 191-194) and on the Vopak Project site (Berths 187-190). These measurement locations are shown in Figure 1, attached

The noise measurements were made between Monday November 21st and Tuesday November 22nd, 2022 with unmanned Larson Davis Model LxT Integrating Sound Level Meters (SLMs) set at "slow" response. The sound level meters were equipped with PCB Model 377B02 1/2" free-field, pre-polarized condenser microphones fitted with windscreens. The sound level meters were calibrated prior to the noise measurements using a Larson Davis Model CAL200 acoustical calibrator. The response of the systems was checked after each measurement session and was always found to be within 0.2 dBA. No calibration adjustments were made to the measured sound levels. At the completion of monitoring, the noise data were obtained from the SLM using the Larson Davis G4 software program. Weather conditions during the measurement period were generally good for noise monitoring. Meteorological conditions generally consisted of mostly clear skies, calm to light winds (0 to ~10 mph), and seasonable temperatures (~50° F to ~65° F average).

The A-weighted maximum (L_{max}), minimum (L_{min}), energy average (L_{eq}) noise levels, and the noise levels exceeded 1, 10, 50 and 90 percent of the time (indicated as L01, L10, L50 and L90) measured at these locations during the 24-hour survey are attached as 10 minute and hourly charts, and in tabular format with the measured 10-minute and calculated hourly noise levels during the 24-hour survey period. Additional tables showing the unweighted octave band L_{eq} levels measured during each 10-minute period are also attached. The calculated A-weighted 24-hour average Community Noise Equivalent Level (CNEL) is also shown in the hourly and 10-minute charts for each measurement location and a brief description of each of the measurement positions and overall results is also provided.

Measurement Position LT-V1

The noise measurement at this location was made on a wooden piling at the end of the westernmost finger pier at the California Yacht Harbor at a height of approximately 8 feet above the pier and at an approximate distance of 950 feet from the closest portion of the Vopak Terminal. The measurement began at 4:05 pm on November 21st and ended at 4:14 pm on November 22nd, 2022. The monitoring location is shown in Figure 1 and the monitor installation is shown in Figure 2, attached. The sound levels measured during the survey likely resulted from Port activities, the sound of wind, waves and dock movements, and occasional localized noise from marina residents and related boating activities. The results of the measurement showed daytime and nighttime average hourly (L_{eq}) noise levels ranging

from 54 to 66 dBA and 57 to 62 dBA, respectively, with an average daytime L_{eq} of 60 dBA and an average nighttime L_{eq} of 58 dBA. The measured CNEL at this location was 66 dBA.

Measurement Position LT-V2

The noise measurement at this location was made on a light pole adjacent to the Banning Community Center. The monitoring position was approximately 12 above the adjacent grade, 45 feet east of the Community Center building, 30 feet from the centerline of E. Water Street, and about 280 feet from the Vopak Administration Building. The measurement began at 2:32 pm on November 21st and ended at 3:28 pm on November 22nd, 2022. The monitoring location is shown in Figure 1 and the monitor installation is shown in Figure 3, attached. The sound levels measured during the survey likely resulted from traffic on E. Water Street, construction activities related to the Community Center and Wilmington Waterfront Promenade development, and Port related activities. The results of the measurement showed daytime and nighttime average hourly (L_{eq}) noise levels where similar to one another, ranging from 59 to 68 dBA and 59 to 70 dBA, respectively, with an average daytime L_{eq} of 64 dBA and an average nighttime L_{eq} of 63 dBA. The measured CNEL at this location was 71 dBA.

Measurement Position LT-V3

The noise measurement at this location was made on the trunk of an Avocado tree in the entry/parking area of Fire Station 49. The monitoring position was approximately 12 above the adjacent grade, 85 from the Fire Station Building, 60 feet from the centerline of Yacht Street, and about 120 feet from the Vopak Terminal Area. The measurement began at 1:42 pm on November 21st and ended at 2:29 pm on November 22nd, 2022. The monitoring location is shown in Figure 1 and the monitor installation is shown in Figure 4, attached. The sound levels measured during the survey likely resulted from fire station activities, traffic on Yacht Street and existing Port related activities. The results of the measurement showed daytime and nighttime average hourly (L_{eq}) noise levels where similar to one another, ranging from 53 to 62 dBA and 52 to 58 dBA, respectively, with an average daytime L_{eq} of 58 dBA and an average nighttime L_{eq} of 56 dBA. The measured CNEL at this location was 63 dBA.

Measurement Position LT-V4

The noise measurement at this location was made on a utility pole on the Orcem property on the opposite side of Yacht Street from the Vopak Project site. The monitoring position was approximately 12 above the adjacent grade and 25 feet from the centerline of Yacht Street. The measurement began at 1:22 pm on November 21st and ended at 2:20 pm on November 22nd, 2022. The monitoring location is shown in Figure 1 and the monitor installation is shown in Figure 5, attached. The sound levels measured during the survey likely primarily resulted from existing Port activities and occasional traffic on Yacht Street. The results of the measurement showed daytime and nighttime average hourly (L_{eq}) noise levels where similar to one another, ranging from 50 to 62 dBA and 51 to 57 dBA, respectively, with an average daytime L_{eq} of 57 dBA and an average nighttime L_{eq} of 54 dBA. The measured CNEL at this location was 62 dBA.

Measurement Position LT-V5

The noise measurement at this location was made on the Vopak project site with the monitor installed on a utility pole in the service area between Canal Street and the Berth 188 waterfront. The monitoring position was approximately 12 above the adjacent grade, 180 feet from the centerline of Canal Street and 80 feet from the waterfront. The measurement began at 2:05 pm on November 21st and ended at 3:15 pm on November 22nd, 2022. The monitoring location is shown in Figure 1 and the monitor installation is shown in Figure 6, attached. The sound levels measured during the survey are expected to have resulted primarily from existing Port activities. The results of the measurement showed daytime and nighttime average hourly (L_{eq}) noise levels where similar to one another, ranging from 57 to 66 dBA and 55 to 63 dBA, respectively, with an average daytime L_{eq} of 61 dBA and an average nighttime L_{eq} of 59 dBA. The measured CNEL at this location was 67 dBA.

This concludes I&R's Technical Memo summarizing the results of our noise measurement survey to conduct five (5) long term (24-hour) noise measurement surveys of ambient conditions at the Closest East Basin Marina to Project site, the Bannings Landing Community Center, Fire Station 49, on the Orcem property, and on the Vopak Project site. Please see the attached Figures, Charts and Tables for the full results of the measurement survey.

Sincerely,

Fred M. Svinth, INCE, Assoc, AIA
Senior Consultant, Principal
Illingworth & Rodkin, Inc.

Attachments: *Figure 1: Noise Measurement Locations*
Figure 2: LT-V1 Installation
Figure 3: LT-V2 Installation
Figure 4: LT-V3 Installation
Figure 5: LT-V4 Installation
Figure 6: LT-V5 Installation
Chart 1: Hourly Noise Levels at LT-V1
Chart 1a: 10-minute Measured & Average Hourly Noise Levels at LT-V1
Chart 2: Hourly Noise Levels at LT-V2
Chart 2a: 10-minute Measured & Average Hourly Noise Levels at LT-V2
Chart 3: Hourly Noise Levels at LT-V3
Chart 3a: 10-minute Measured & Average Hourly Noise Levels at LT-V3
Chart 4: Hourly Noise Levels at LT-V4
Chart 4a: 10-minute Measured & Average Hourly Noise Levels at LT-V4
Chart 5: Hourly Noise Levels at LT-V5
Chart 5a: 10-minute Measured & Average Hourly Noise Levels at LT-V5
Table 1: A-weighted Hourly Noise Levels at LT-V1
Table 1a: A-weighted 10-minute Noise Levels at LT-V1
Table 1b: Un-weighted 10-minute Octave Band L_{eq} Noise Levels at LT-V1
Table 2: A-weighted Hourly Noise Levels at LT-V2
Table 2a: A-weighted 10-minute Noise Levels at LT-V2
Table 2b: Un-weighted 10-minute Octave Band L_{eq} Noise Levels at LT-V2
Table 3: A-weighted Hourly Noise Levels at LT-V3
Table 3a: A-weighted 10-minute Noise Levels at LT-V3
Table 3b: Un-weighted 10-minute Octave Band L_{eq} Noise Levels at LT-V3
Table 4: A-weighted Hourly Noise Levels at LT-V4
Table 4a: A-weighted 10-minute Noise Levels at LT-V4
Table 4b: Un-weighted 10-minute Octave Band L_{eq} Noise Levels at LT-V4
Table 5: A-weighted Hourly Noise Levels at LT-V5
Table 5a: A-weighted 10-minute Noise Levels at LT-V5
Table 5b: Un-weighted 10-minute Octave Band L_{eq} Noise Levels at LT-V5



Figure 1: Noise Measurement Locations

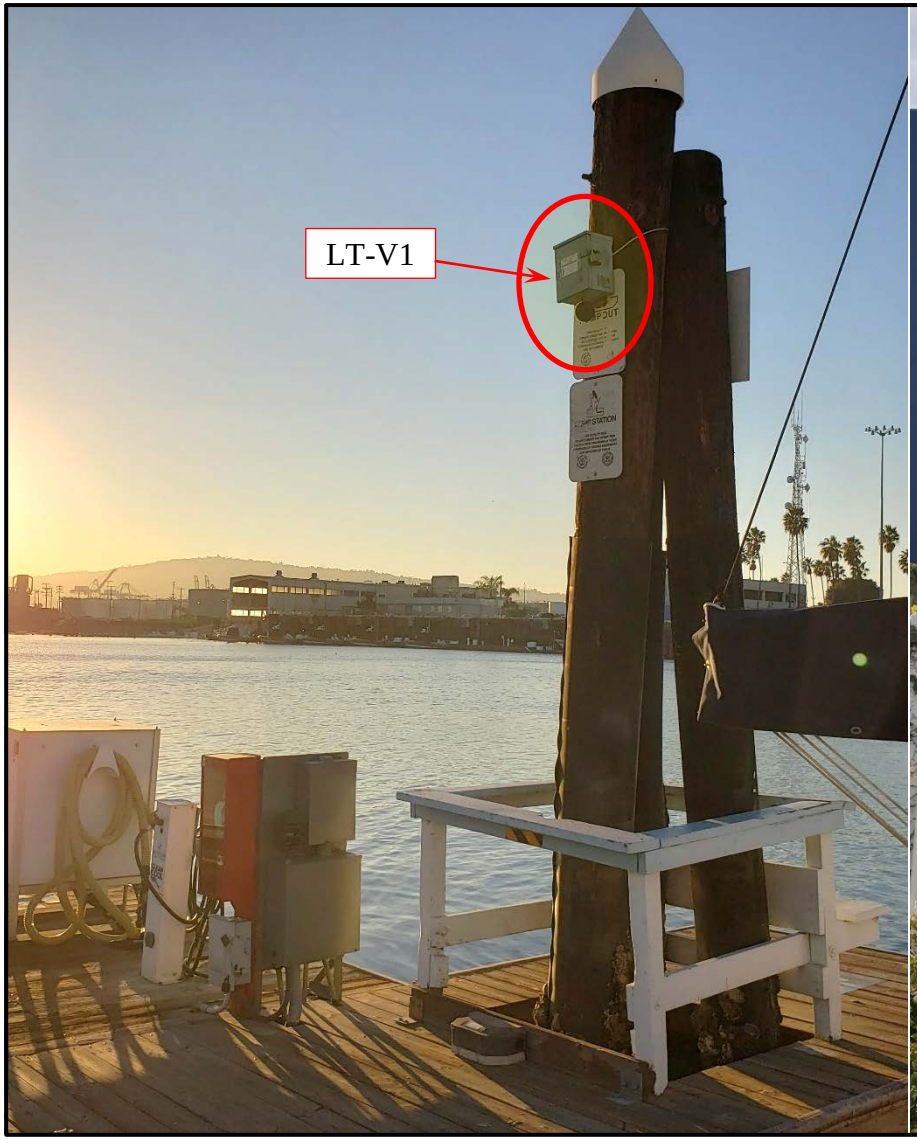


Figure 2: LT-V1 Installation

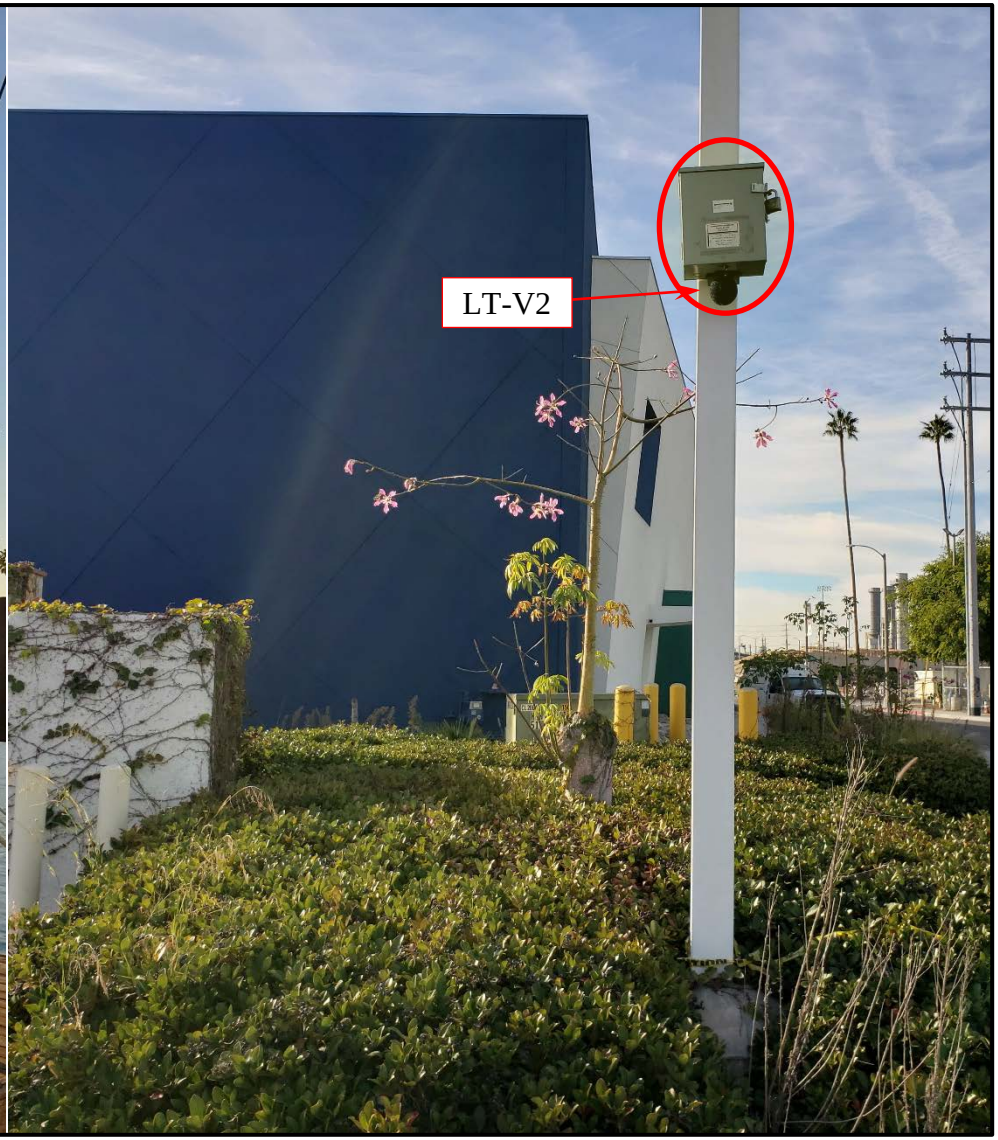


Figure 3: LT-V2 Installation



Figure 4: LT-V3 Installation



Figure 5: LT-V4 Installation



Figure 6: LT-V5 Installation

Chart 1: Hourly Noise Levels at LT-V1

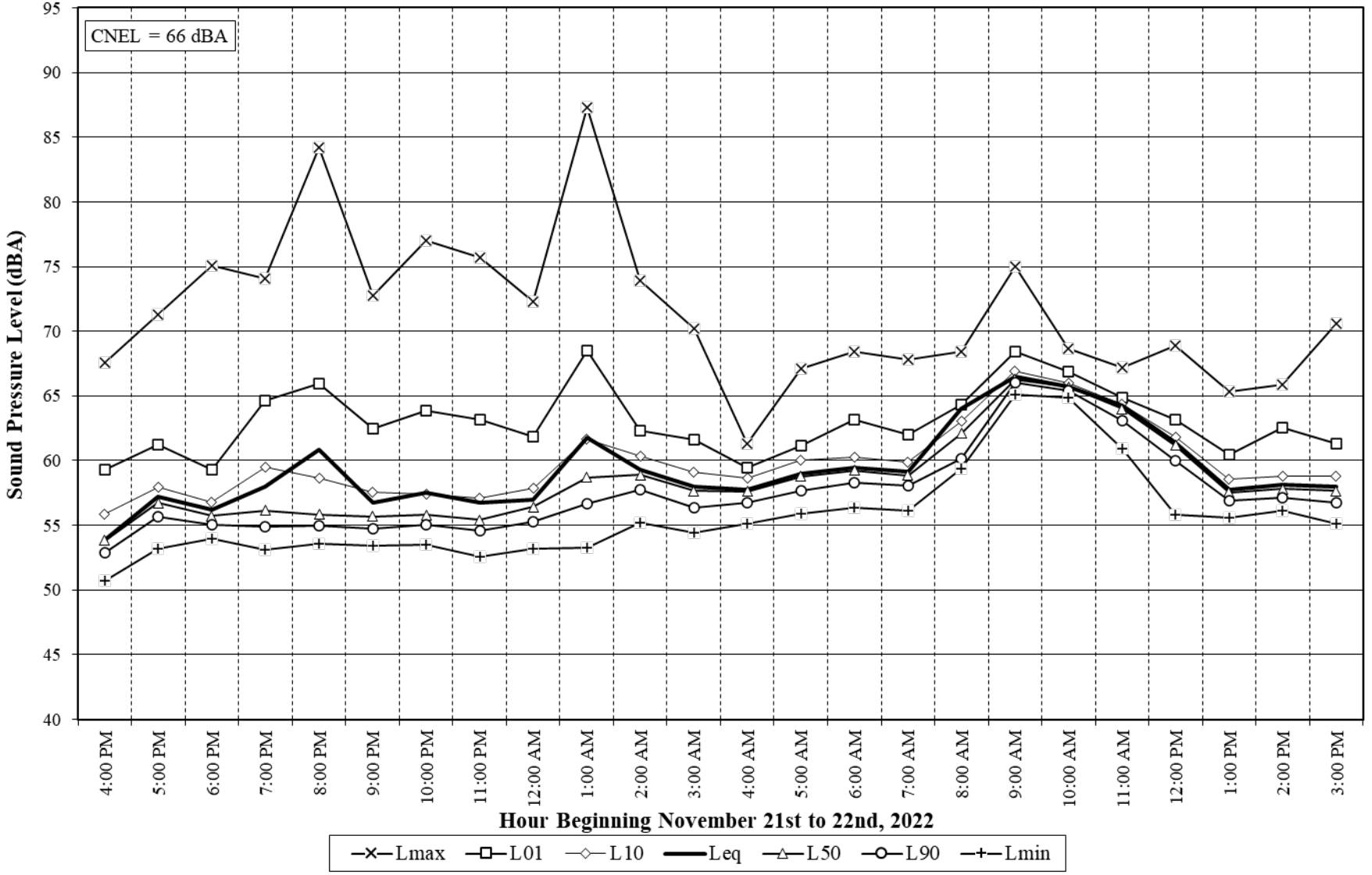


Chart 1a: 10-minute Measured & Average Hourly Noise Levels at LT-V1

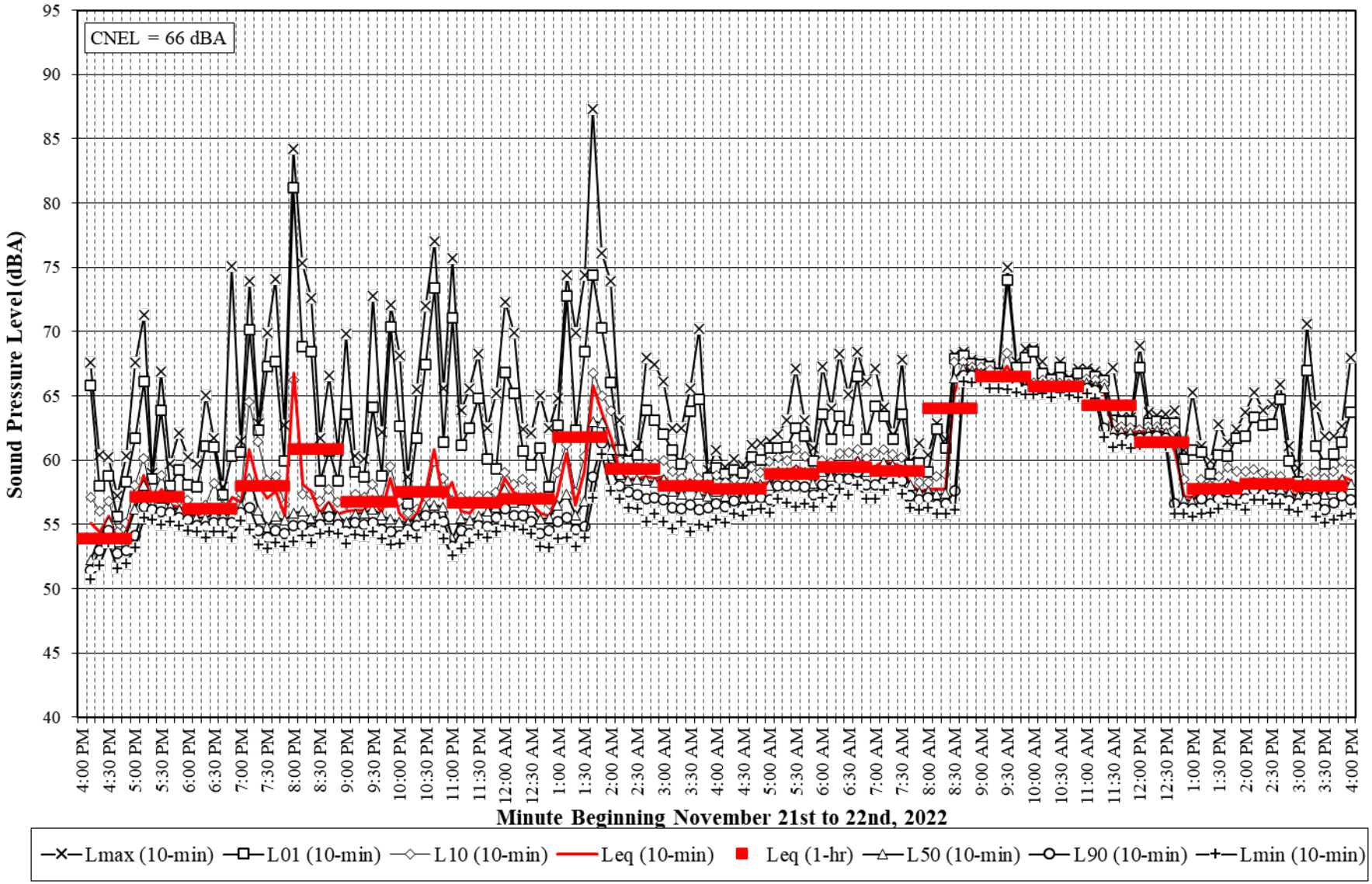


Chart 2: Hourly Noise Levels at LT-V2

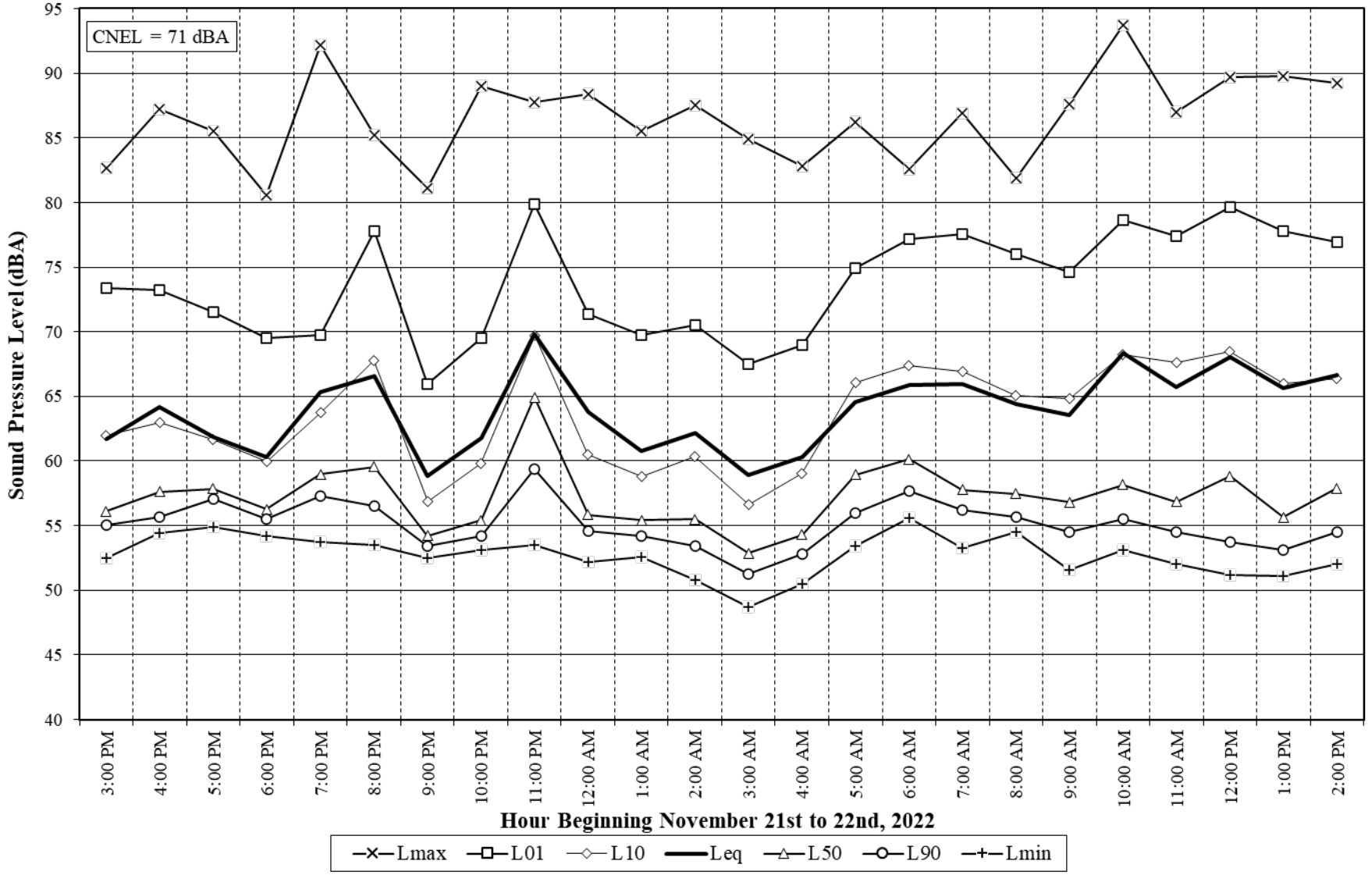


Chart 2a: 10-minute Measured & Average Hourly Noise Levels at LT-V2

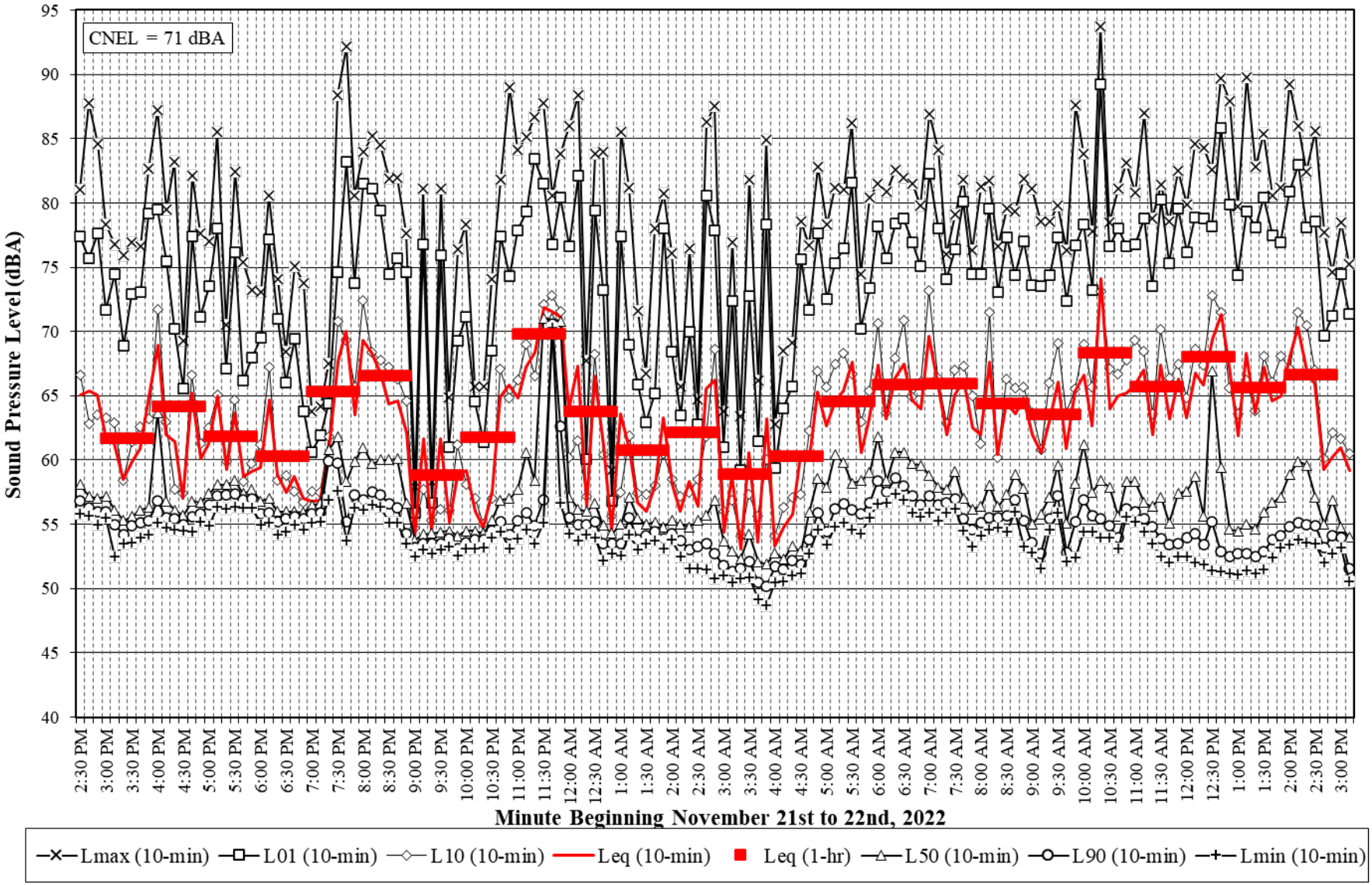


Chart 3: Hourly Noise Levels at LT-V3

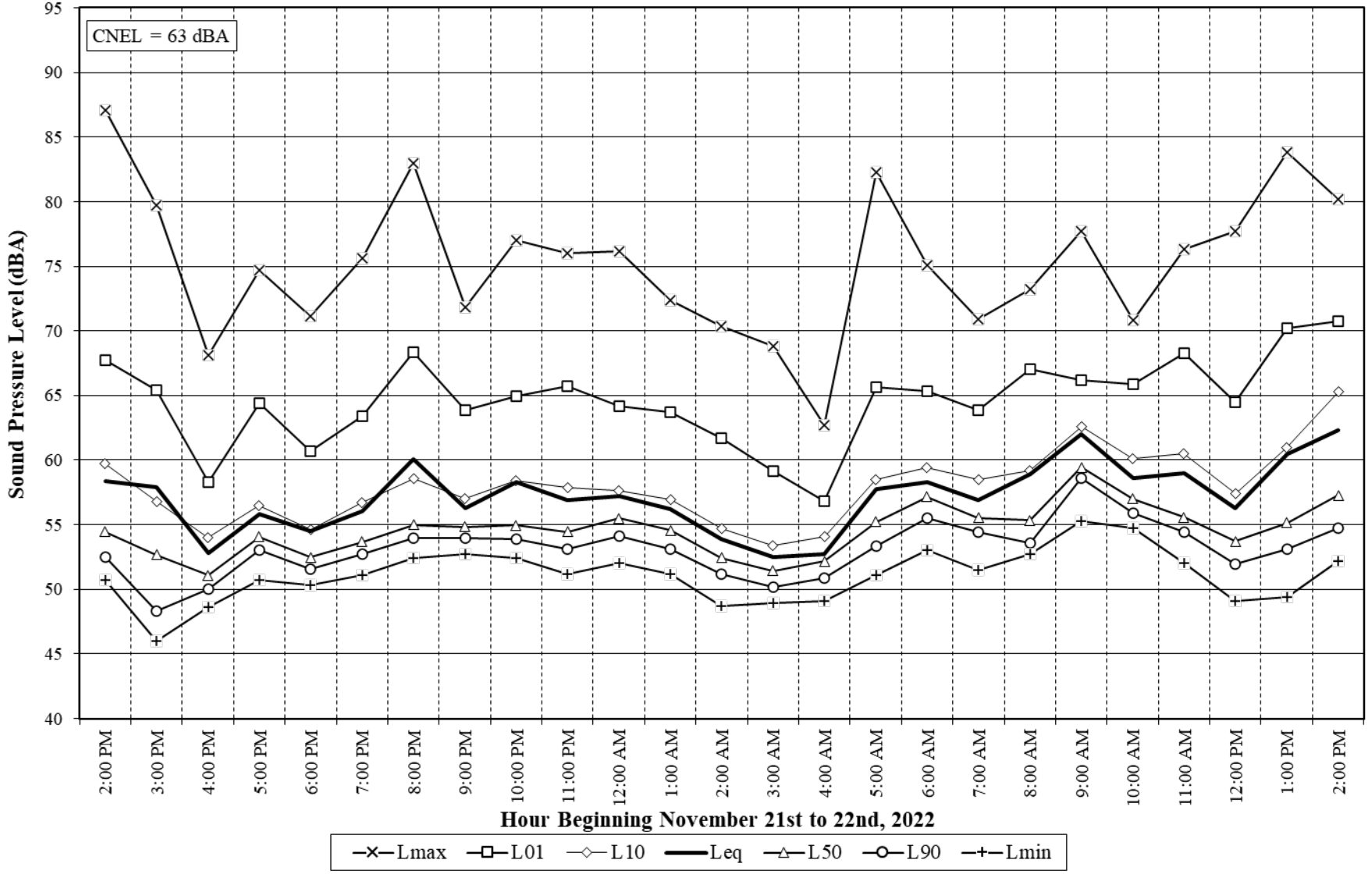


Chart 3a: 10-minute Measured & Average Hourly Noise Levels at LT-V3

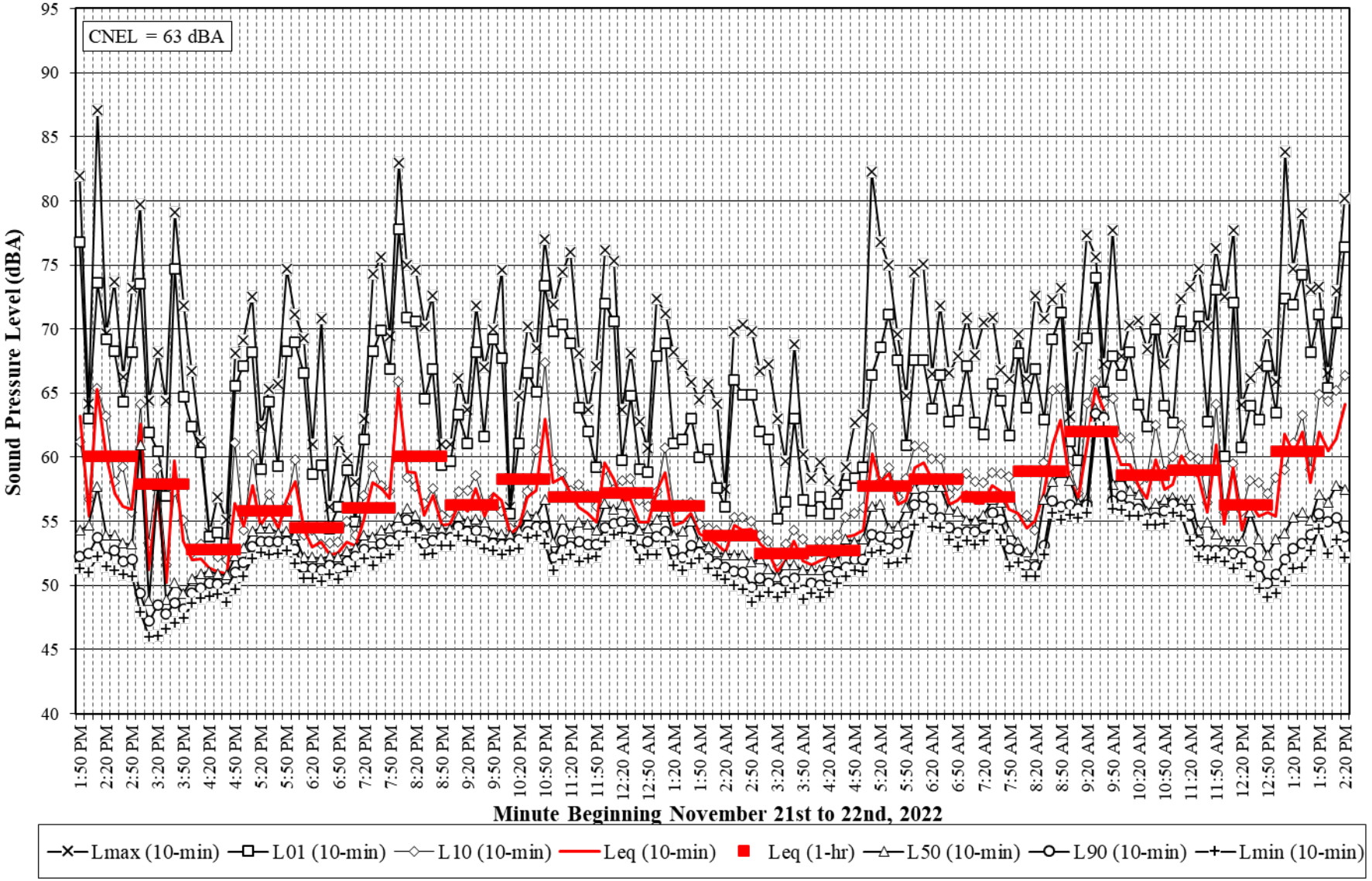


Chart 4: Hourly Noise Levels at LT-V4

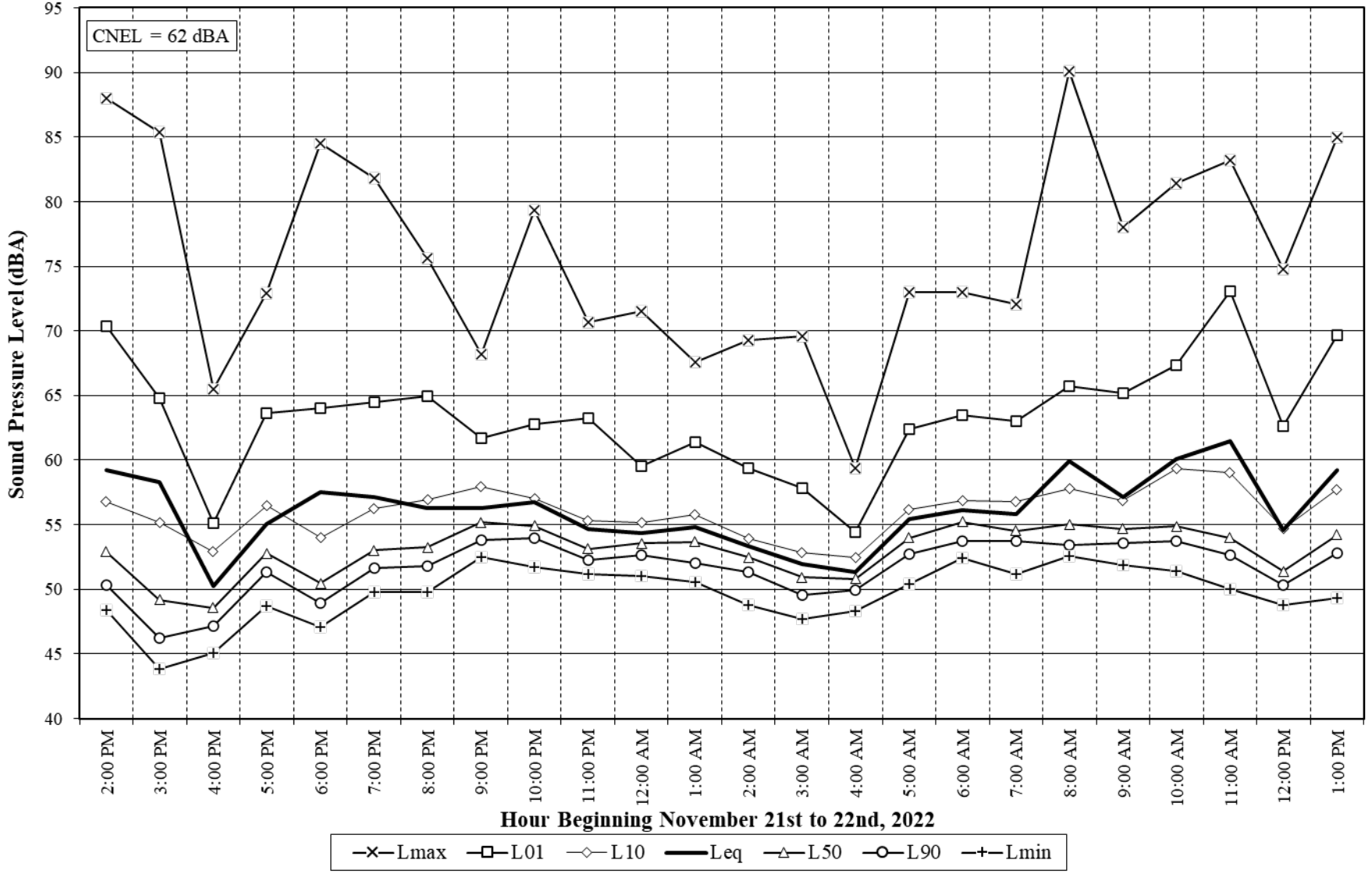


Chart 4a: 10-minute Measured & Average Hourly Noise Levels at LT-V4

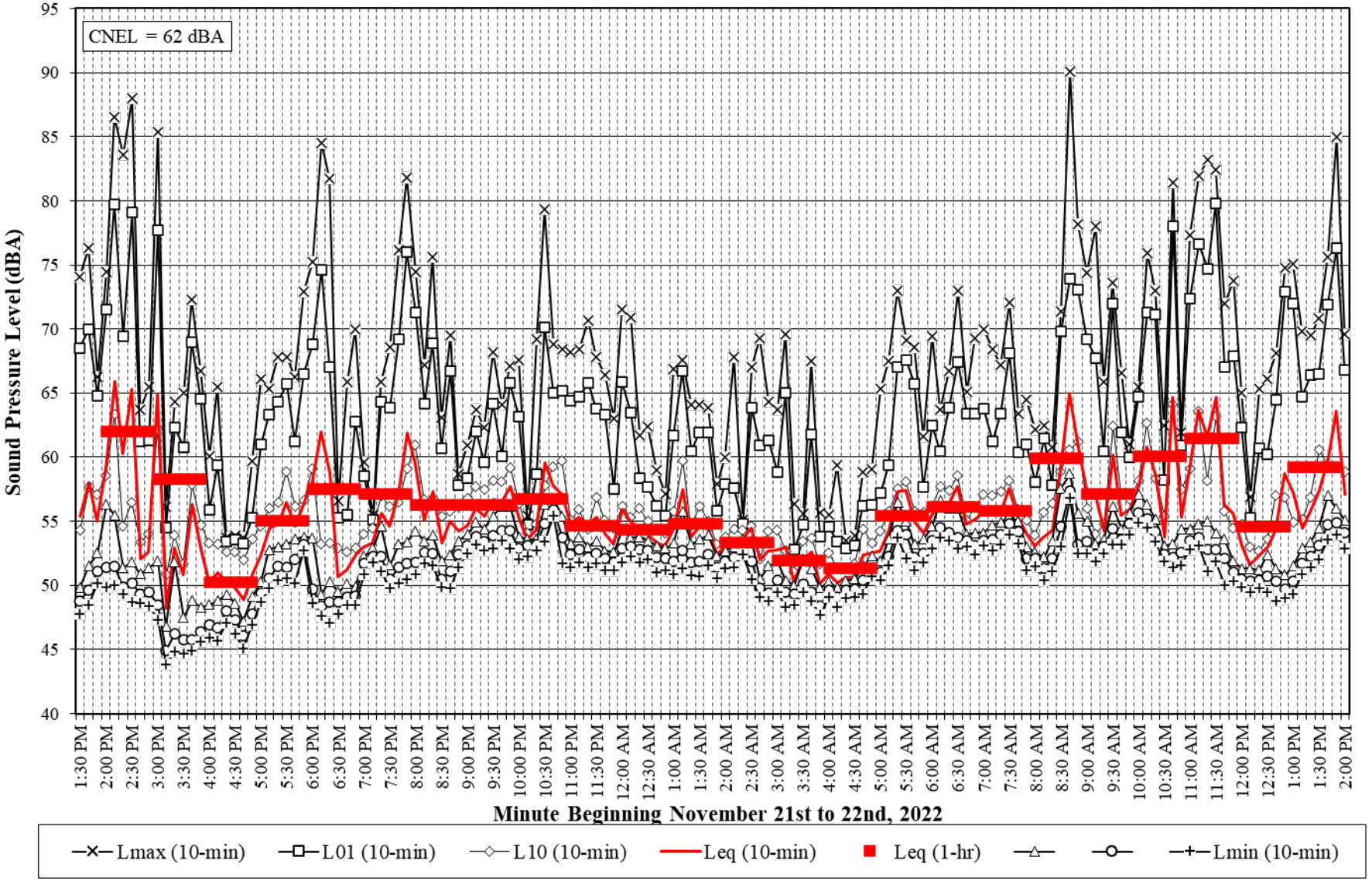


Chart 5: Hourly Noise Levels at LT-V5

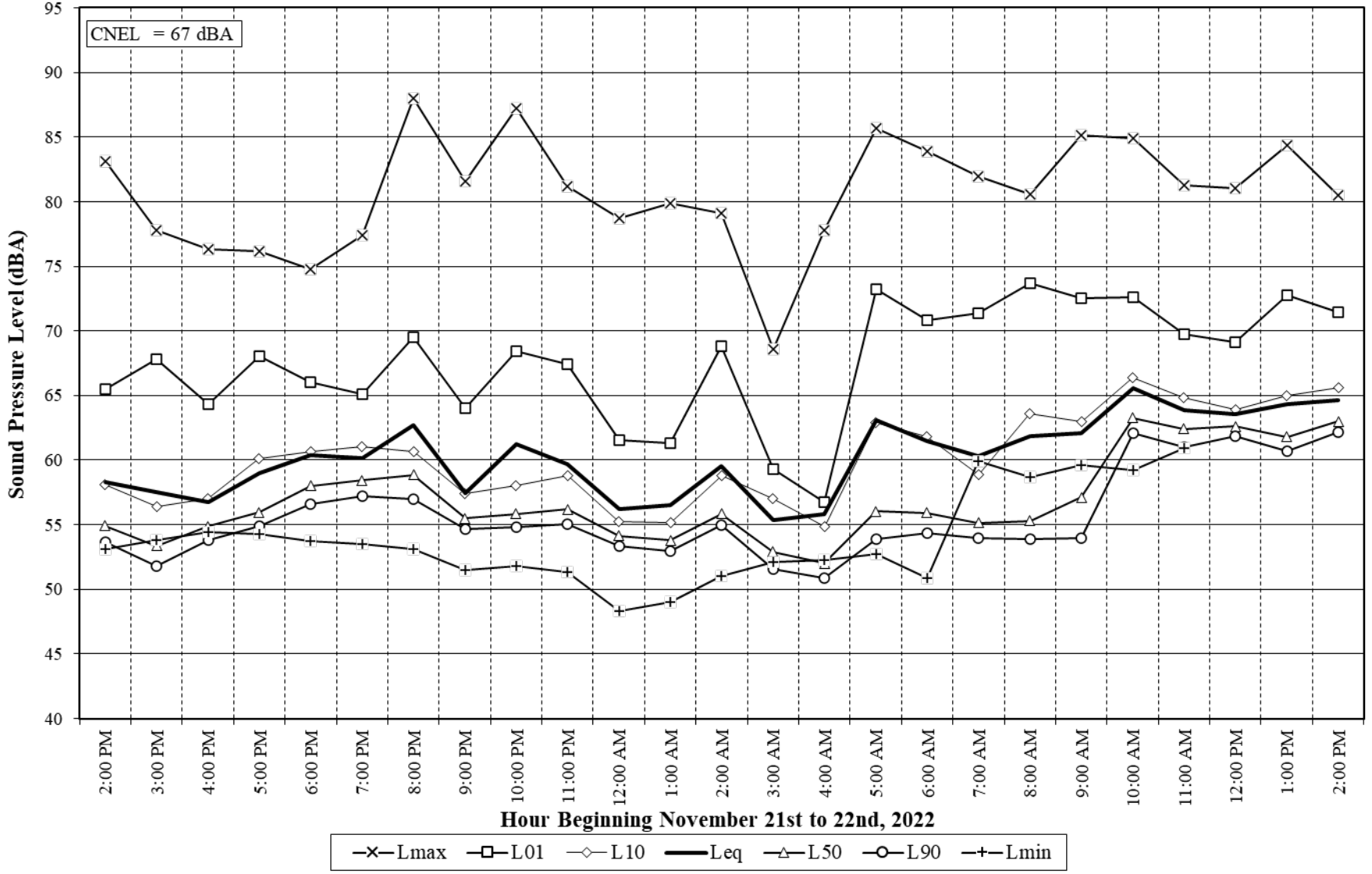


Chart 5a: 10-minute Measured & Average Hourly Noise Levels at LT-V5

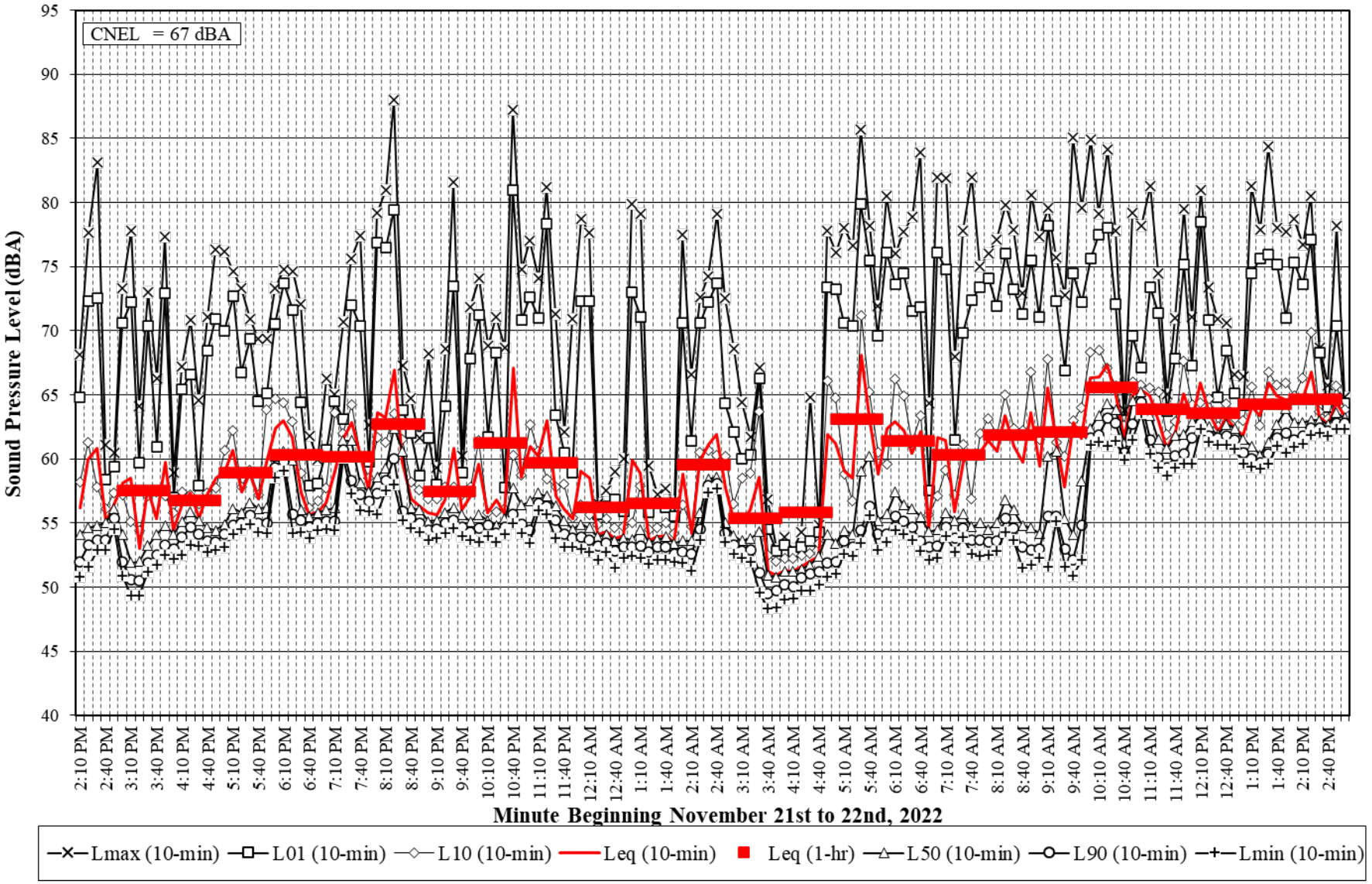


Table 1: A-weighted Hourly Noise Levels at LT-V1

Date	Hour beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	5:00 PM	67.6	58.1	52.6	52.1	48.5	46.2	41.0
21-Nov-22	6:00 PM	71.7	59.6	51.8	52.7	46.5	44.3	41.6
21-Nov-22	7:00 PM	72.4	58.1	53.2	52.9	48.5	46.9	44.5
21-Nov-22	8:00 PM	56.0	50.3	48.0	46.9	46.5	45.5	44.0
21-Nov-22	9:00 PM	63.9	53.8	48.4	47.5	45.8	44.7	42.2
21-Nov-22	10:00 PM	68.5	54.2	48.6	47.7	45.6	44.4	42.7
21-Nov-22	11:00 PM	67.6	51.8	48.3	47.7	46.8	45.7	43.6
22-Nov-22	12:00 AM	57.5	51.4	49.2	48.2	47.8	47.0	44.8
22-Nov-22	1:00 AM	61.5	51.5	48.8	47.9	47.3	46.3	44.4
22-Nov-22	2:00 AM	52.6	48.3	46.2	45.1	44.5	43.2	38.1
22-Nov-22	3:00 AM	57.1	46.5	43.7	42.4	41.8	40.8	39.0
22-Nov-22	4:00 AM	59.2	50.3	45.6	44.2	42.8	41.6	39.8
22-Nov-22	5:00 AM	66.7	54.2	48.7	48.6	45.2	43.6	41.7
22-Nov-22	6:00 AM	62.9	56.7	51.5	49.6	48.3	46.6	43.6
22-Nov-22	7:00 AM	84.5	65.0	57.8	63.8	52.7	50.2	45.9
22-Nov-22	8:00 AM	85.1	65.0	61.3	65.5	52.3	48.2	45.2
22-Nov-22	9:00 AM	67.4	61.8	58.5	55.0	52.7	46.5	40.2
22-Nov-22	10:00 AM	84.0	63.7	59.3	56.8	51.8	46.1	39.6
22-Nov-22	11:00 AM	70.2	58.8	54.7	51.8	48.3	44.8	41.5
22-Nov-22	12:00 PM	65.7	59.2	52.7	50.8	47.6	45.4	42.6
22-Nov-22	1:00 PM	77.7	64.1	58.1	58.4	50.7	47.3	44.6
22-Nov-22	2:00 PM	77.0	70.3	67.6	66.1	58.9	54.0	46.0
22-Nov-22	3:00 PM	76.3	64.8	60.8	60.4	56.9	52.5	48.2
22-Nov-22	4:00 PM	75.6	64.1	58.3	55.8	52.2	49.6	45.6

Table 1a: A-weighted 10-minute Noise Levels at LT-V1

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	4:10 PM	67.6	65.8	57.1	55.1	52.2	51.4	50.7
21-Nov-22	4:20 PM	60.4	58.0	56.0	54.4	53.9	53.0	51.8
21-Nov-22	4:30 PM	60.2	58.8	56.8	55.6	55.2	54.5	53.6
21-Nov-22	4:40 PM	57.2	55.6	54.4	53.6	53.6	52.7	51.6
21-Nov-22	4:50 PM	60.3	58.3	55.1	54.3	54.2	53.0	52.0
21-Nov-22	5:00 PM	67.6	61.7	58.0	56.5	56.2	54.1	53.2
21-Nov-22	5:10 PM	71.3	66.1	60.1	58.8	58.0	56.4	55.5
21-Nov-22	5:20 PM	59.0	58.5	57.1	56.7	56.6	56.1	55.4
21-Nov-22	5:30 PM	66.9	63.9	58.8	57.7	57.0	56.0	55.0
21-Nov-22	5:40 PM	59.7	58.0	57.0	56.5	56.4	55.9	55.2
21-Nov-22	5:50 PM	62.1	59.2	56.9	56.3	56.1	55.5	54.9
21-Nov-22	6:00 PM	60.2	58.1	56.9	56.1	56.0	55.4	54.5
21-Nov-22	6:10 PM	59.7	57.9	56.1	55.6	55.5	54.9	54.4
21-Nov-22	6:20 PM	65.0	61.1	56.5	56.0	55.5	54.8	54.0
21-Nov-22	6:30 PM	61.7	61.0	58.2	56.5	55.8	55.1	54.4

Table 1a (continued): A-weighted 10-minute Noise Levels at LT-V1

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	6:40 PM	57.9	57.3	56.4	55.8	55.7	55.1	54.4
21-Nov-22	6:50 PM	75.1	60.3	56.7	57.1	55.8	55.1	54.0
21-Nov-22	7:00 PM	61.5	60.6	57.4	56.7	56.4	55.9	55.3
21-Nov-22	7:10 PM	73.9	70.1	64.5	60.8	58.6	56.3	54.6
21-Nov-22	7:20 PM	62.9	62.3	61.4	58.1	56.1	54.5	53.4
21-Nov-22	7:30 PM	69.9	67.3	58.4	57.0	54.8	54.0	53.1
21-Nov-22	7:40 PM	74.1	67.7	58.7	57.6	55.6	54.5	53.6
21-Nov-22	7:50 PM	62.7	59.9	56.6	55.6	55.3	54.3	53.3
21-Nov-22	8:00 PM	84.2	81.2	66.2	66.8	55.9	54.9	53.7
21-Nov-22	8:10 PM	75.3	68.8	57.3	58.1	56.0	54.9	54.1
21-Nov-22	8:20 PM	72.6	68.4	57.3	57.6	55.5	54.5	53.6
21-Nov-22	8:30 PM	61.7	58.4	56.8	55.9	55.7	55.0	54.3
21-Nov-22	8:40 PM	66.6	60.7	57.7	56.7	56.3	55.6	54.4
21-Nov-22	8:50 PM	60.7	58.4	56.7	55.8	55.6	55.0	54.3
21-Nov-22	9:00 PM	69.8	63.6	56.6	56.0	55.2	54.4	53.5
21-Nov-22	9:10 PM	60.3	59.1	57.3	56.1	55.8	55.1	54.2
21-Nov-22	9:20 PM	60.1	58.7	57.1	56.1	55.9	55.0	54.1
21-Nov-22	9:30 PM	72.8	64.1	58.1	57.2	56.2	55.1	54.4
21-Nov-22	9:40 PM	62.2	58.8	56.9	55.9	55.7	54.6	53.9
21-Nov-22	9:50 PM	72.1	70.4	59.5	58.6	55.4	54.4	53.4
21-Nov-22	10:00 PM	68.1	62.6	56.8	55.9	55.2	54.1	53.5
21-Nov-22	10:10 PM	58.7	56.6	55.9	55.2	55.1	54.6	54.1
21-Nov-22	10:20 PM	65.5	61.7	56.2	55.9	55.5	54.9	54.0
21-Nov-22	10:30 PM	72.0	67.4	57.1	57.7	56.3	55.7	54.8
21-Nov-22	10:40 PM	77.0	73.4	59.9	60.8	56.5	55.6	55.0
21-Nov-22	10:50 PM	65.6	61.4	58.6	57.0	56.3	55.2	53.9
21-Nov-22	11:00 PM	75.7	71.1	56.9	58.3	53.9	53.3	52.6
21-Nov-22	11:10 PM	63.9	61.2	57.1	56.0	55.5	54.5	53.1
21-Nov-22	11:20 PM	65.6	62.5	56.8	55.9	55.3	54.3	53.6
21-Nov-22	11:30 PM	68.3	64.8	57.2	56.8	55.6	54.9	54.2
21-Nov-22	11:40 PM	62.5	60.1	57.2	56.2	56.0	54.8	54.0
21-Nov-22	11:50 PM	65.2	59.3	57.5	56.6	56.3	55.5	54.4
22-Nov-22	12:00 AM	72.3	66.8	59.0	58.6	57.7	56.2	54.9
22-Nov-22	12:10 AM	69.9	65.2	58.1	57.5	56.7	55.7	54.8
22-Nov-22	12:20 AM	62.4	60.7	58.5	57.2	56.9	55.7	54.6
22-Nov-22	12:30 AM	62.1	59.6	57.9	56.6	56.3	55.2	54.3
22-Nov-22	12:40 AM	65.0	60.9	57.1	55.9	55.4	54.3	53.3
22-Nov-22	12:50 AM	62.5	57.9	56.6	55.6	55.5	54.5	53.2
22-Nov-22	1:00 AM	64.8	62.7	59.0	57.3	56.5	55.2	53.9

Table 1a (continued): A-weighted 10-minute Noise Levels at LT-V1

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	1:10 AM	74.4	72.8	61.2	60.5	57.3	55.5	54.0
22-Nov-22	1:20 AM	69.9	62.3	57.5	56.5	55.7	54.6	53.3
22-Nov-22	1:30 AM	74.4	68.4	60.3	59.1	56.8	54.8	54.0
22-Nov-22	1:40 AM	87.3	74.4	66.8	65.8	63.0	58.7	57.1
22-Nov-22	1:50 AM	76.1	70.3	65.0	63.6	62.9	61.3	60.5
22-Nov-22	2:00 AM	73.9	66.0	63.8	61.7	60.8	59.4	57.6
22-Nov-22	2:10 AM	63.1	60.8	60.0	59.0	58.9	58.0	57.0
22-Nov-22	2:20 AM	60.2	59.9	59.4	58.5	58.4	57.5	56.3
22-Nov-22	2:30 AM	61.1	60.4	59.4	58.5	58.5	57.3	56.2
22-Nov-22	2:40 AM	68.0	63.9	59.7	58.7	58.4	57.0	55.2
22-Nov-22	2:50 AM	67.4	63.1	59.7	58.6	58.3	57.1	55.8
22-Nov-22	3:00 AM	66.1	62.0	60.0	58.7	58.5	56.9	55.2
22-Nov-22	3:10 AM	62.5	60.8	59.1	57.8	57.6	56.3	54.7
22-Nov-22	3:20 AM	62.5	59.7	58.6	57.5	57.3	56.2	55.2
22-Nov-22	3:30 AM	65.6	63.8	60.1	58.5	58.0	56.5	54.4
22-Nov-22	3:40 AM	70.2	64.7	58.6	57.9	57.3	56.1	55.0
22-Nov-22	3:50 AM	59.2	58.6	58.1	57.3	57.2	56.3	54.8
22-Nov-22	4:00 AM	60.8	59.4	58.8	57.7	57.6	56.6	55.4
22-Nov-22	4:10 AM	59.5	58.9	58.3	57.3	57.2	56.4	55.1
22-Nov-22	4:20 AM	60.1	59.2	58.5	57.7	57.5	56.8	55.8
22-Nov-22	4:30 AM	59.6	59.0	57.9	57.2	57.1	56.3	55.7
22-Nov-22	4:40 AM	61.2	60.2	59.4	58.3	58.3	57.1	56.1
22-Nov-22	4:50 AM	61.3	60.0	59.0	58.2	58.1	57.1	56.2
22-Nov-22	5:00 AM	61.5	60.9	59.9	58.3	58.0	56.9	55.9
22-Nov-22	5:10 AM	62.0	60.9	60.2	59.2	59.1	58.0	57.0
22-Nov-22	5:20 AM	63.1	61.0	60.0	59.1	59.0	58.0	56.7
22-Nov-22	5:30 AM	67.1	62.5	60.8	59.5	59.3	58.0	56.4
22-Nov-22	5:40 AM	63.1	61.9	60.3	59.2	59.0	57.9	56.6
22-Nov-22	5:50 AM	60.9	59.9	59.0	58.3	58.2	57.3	56.4
22-Nov-22	6:00 AM	67.3	63.6	60.0	59.3	59.1	58.1	57.1
22-Nov-22	6:10 AM	64.0	61.6	59.8	58.8	58.7	57.7	56.4
22-Nov-22	6:20 AM	68.3	63.4	60.5	59.7	59.3	58.5	57.8
22-Nov-22	6:30 AM	65.1	62.3	60.6	59.5	59.3	58.5	57.3
22-Nov-22	6:40 AM	68.4	66.5	60.8	60.2	59.9	59.1	58.1
22-Nov-22	6:50 AM	66.1	61.6	60.1	59.2	59.1	58.1	57.0
22-Nov-22	7:00 AM	67.1	64.2	60.6	59.5	59.1	58.1	57.0
22-Nov-22	7:10 AM	64.1	63.4	60.8	59.9	59.8	58.9	57.7
22-Nov-22	7:20 AM	62.0	61.6	60.4	59.7	59.6	58.8	58.2
22-Nov-22	7:30 AM	67.8	63.6	60.2	59.5	59.2	58.4	57.4

Table 1a (continued): A-weighted 10-minute Noise Levels at LT-V1

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	7:40 AM	59.9	59.6	59.1	58.1	58.0	57.2	56.3
22-Nov-22	7:50 AM	61.3	59.8	58.3	57.6	57.5	56.9	56.1
22-Nov-22	8:00 AM	60.4	59.1	58.3	57.7	57.6	57.1	56.3
22-Nov-22	8:10 AM	62.9	62.4	58.7	57.7	57.3	56.5	55.8
22-Nov-22	8:20 AM	61.6	60.9	58.9	57.7	57.4	56.6	55.8
22-Nov-22	8:30 AM	68.2	67.9	67.6	65.2	66.4	57.6	56.1
22-Nov-22	8:40 AM	68.4	68.1	67.6	67.1	67.1	66.6	66.1
22-Nov-22	8:50 AM	67.8	67.5	67.2	66.9	66.9	66.6	66.0
22-Nov-22	9:00 AM	67.6	67.4	67.2	66.9	66.8	66.5	66.1
22-Nov-22	9:10 AM	67.5	67.3	67.0	66.6	66.5	66.2	65.6
22-Nov-22	9:20 AM	67.0	66.7	66.5	66.2	66.2	66.0	65.6
22-Nov-22	9:30 AM	75.0	74.0	68.3	67.3	66.3	66.0	65.5
22-Nov-22	9:40 AM	67.7	67.2	66.4	66.1	66.1	65.8	65.3
22-Nov-22	9:50 AM	68.7	68.0	66.2	65.9	65.8	65.5	65.1
22-Nov-22	10:00 AM	68.7	68.4	66.0	65.8	65.7	65.5	65.1
22-Nov-22	10:10 AM	67.7	66.7	66.2	65.9	65.9	65.6	65.2
22-Nov-22	10:20 AM	66.6	66.3	66.0	65.7	65.7	65.4	64.9
22-Nov-22	10:30 AM	67.7	67.2	66.0	65.8	65.7	65.5	65.3
22-Nov-22	10:40 AM	66.4	66.1	65.9	65.7	65.7	65.4	65.0
22-Nov-22	10:50 AM	67.1	66.7	65.9	65.6	65.6	65.3	64.9
22-Nov-22	11:00 AM	67.1	66.7	66.3	66.0	66.0	65.6	65.2
22-Nov-22	11:10 AM	66.9	66.5	66.2	65.8	65.8	65.4	64.8
22-Nov-22	11:20 AM	66.5	66.2	65.9	65.2	65.6	62.5	61.8
22-Nov-22	11:30 AM	67.2	63.9	62.8	62.3	62.3	61.7	61.0
22-Nov-22	11:40 AM	63.3	63.0	62.6	62.2	62.2	61.7	61.2
22-Nov-22	11:50 AM	63.3	63.0	62.5	62.1	62.1	61.6	60.9
22-Nov-22	12:00 PM	68.9	67.2	62.4	62.2	62.0	61.7	61.2
22-Nov-22	12:10 PM	63.7	62.9	62.6	62.2	62.2	61.8	61.4
22-Nov-22	12:20 PM	63.5	63.0	62.6	62.3	62.3	61.9	61.4
22-Nov-22	12:30 PM	63.6	62.9	62.6	62.1	62.1	61.7	61.1
22-Nov-22	12:40 PM	63.9	62.9	62.4	60.6	61.6	56.6	55.8
22-Nov-22	12:50 PM	60.8	60.1	58.5	57.2	56.9	56.3	55.8
22-Nov-22	1:00 PM	65.3	60.8	57.7	57.1	56.8	56.2	55.6
22-Nov-22	1:10 PM	61.1	60.6	58.5	57.8	57.6	57.0	55.8
22-Nov-22	1:20 PM	59.9	58.9	58.0	57.3	57.2	56.6	55.9
22-Nov-22	1:30 PM	62.8	60.4	58.7	57.8	57.6	57.0	56.2
22-Nov-22	1:40 PM	61.4	60.3	59.4	58.4	58.2	57.5	56.6
22-Nov-22	1:50 PM	62.4	61.7	59.1	58.2	57.9	57.3	56.5
22-Nov-22	2:00 PM	63.7	61.9	59.1	58.1	57.7	57.0	56.1

Table 1a (continued): A-weighted 10-minute Noise Levels at LT-V1

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	2:10 PM	65.3	63.3	59.3	58.6	58.3	57.7	56.9
22-Nov-22	2:20 PM	63.9	62.7	59.0	58.3	58.0	57.4	56.9
22-Nov-22	2:30 PM	64.3	62.8	58.7	58.1	57.8	57.1	56.6
22-Nov-22	2:40 PM	65.9	64.7	58.7	58.2	57.7	57.0	56.6
22-Nov-22	2:50 PM	61.1	59.9	58.2	57.5	57.4	56.8	56.1
22-Nov-22	3:00 PM	59.4	58.3	57.7	57.2	57.2	56.6	56.0
22-Nov-22	3:10 PM	70.6	67.0	58.6	58.5	57.7	57.1	56.5
22-Nov-22	3:20 PM	64.2	61.1	59.1	58.0	57.6	57.0	55.6
22-Nov-22	3:30 PM	61.9	59.7	58.6	57.4	57.3	56.1	55.1
22-Nov-22	3:40 PM	61.9	60.5	59.1	57.9	57.7	56.7	55.4
22-Nov-22	3:50 PM	62.6	61.4	59.9	58.7	58.5	57.2	55.7
22-Nov-22	4:00 PM	68.0	63.7	59.3	58.4	58.1	56.9	55.8

Table 1b: un-weighted 10-minute Octave Band Leq Noise Levels at LT-V1

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	4:10 PM	66.5	63.6	58.0	53.1	48.6	39.8	34.0
21-Nov-22	4:20 PM	67.1	64.8	58.0	51.7	47.1	38.0	32.1
21-Nov-22	4:30 PM	68.7	67.0	58.4	52.5	49.4	34.6	24.6
21-Nov-22	4:40 PM	68.0	66.7	57.1	50.4	44.3	32.9	24.4
21-Nov-22	4:50 PM	66.7	65.9	57.5	51.9	46.0	36.2	26.3
21-Nov-22	5:00 PM	69.3	68.2	58.9	54.3	49.0	39.3	35.3
21-Nov-22	5:10 PM	71.2	69.5	61.0	57.2	51.2	43.5	42.8
21-Nov-22	5:20 PM	70.9	68.8	59.2	54.4	48.8	38.6	28.8
21-Nov-22	5:30 PM	71.8	69.3	59.7	56.3	49.6	38.9	27.8
21-Nov-22	5:40 PM	71.6	69.1	58.4	54.2	48.3	38.2	28.5
21-Nov-22	5:50 PM	71.1	68.4	58.8	54.2	47.6	36.0	25.5
21-Nov-22	6:00 PM	71.5	68.3	58.4	54.1	47.3	36.6	29.4
21-Nov-22	6:10 PM	71.8	68.3	58.1	53.3	45.6	36.5	30.7
21-Nov-22	6:20 PM	71.8	68.0	58.8	54.2	45.4	37.7	31.3
21-Nov-22	6:30 PM	72.6	68.6	58.5	54.9	46.3	40.3	30.3
21-Nov-22	6:40 PM	71.5	68.1	58.4	54.2	44.9	35.3	25.3
21-Nov-22	6:50 PM	71.8	68.0	58.4	54.2	45.2	50.2	29.1
21-Nov-22	7:00 PM	72.1	68.1	59.2	55.2	46.3	38.9	28.5
21-Nov-22	7:10 PM	72.6	68.9	62.0	58.6	52.9	52.9	35.8
21-Nov-22	7:20 PM	74.0	65.9	60.1	56.5	51.3	39.8	29.5
21-Nov-22	7:30 PM	67.1	64.0	60.9	56.4	48.4	34.1	23.7
21-Nov-22	7:40 PM	66.2	63.8	59.2	57.0	52.6	37.9	24.9
21-Nov-22	7:50 PM	65.2	61.5	59.1	55.1	48.9	36.7	26.3

Table 1b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V1

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	8:00 PM	65.5	62.6	60.2	67.3	63.3	47.6	27.4
21-Nov-22	8:10 PM	65.4	62.2	58.7	57.8	53.2	41.7	23.3
21-Nov-22	8:20 PM	64.3	61.7	58.3	56.9	53.0	40.7	22.5
21-Nov-22	8:30 PM	64.6	62.0	58.0	55.7	49.4	37.0	21.2
21-Nov-22	8:40 PM	66.3	63.4	58.9	56.6	49.4	37.8	26.4
21-Nov-22	8:50 PM	66.5	64.4	58.4	55.2	48.3	36.8	23.0
21-Nov-22	9:00 PM	66.8	65.1	58.0	54.4	50.7	37.5	23.1
21-Nov-22	9:10 PM	66.0	64.0	59.2	55.0	49.3	39.9	23.4
21-Nov-22	9:20 PM	66.5	64.3	59.0	55.0	49.3	38.7	22.5
21-Nov-22	9:30 PM	67.1	63.9	59.8	56.4	50.7	42.8	25.5
21-Nov-22	9:40 PM	68.1	63.8	59.0	54.9	48.5	40.2	26.3
21-Nov-22	9:50 PM	66.0	64.0	60.4	58.5	51.5	44.7	41.7
21-Nov-22	10:00 PM	64.4	64.1	58.6	54.9	49.4	39.3	24.0
21-Nov-22	10:10 PM	64.1	63.4	57.7	54.5	48.0	38.7	23.1
21-Nov-22	10:20 PM	64.7	63.5	57.2	55.4	49.2	39.9	26.8
21-Nov-22	10:30 PM	64.8	64.4	59.1	56.6	52.7	42.1	28.6
21-Nov-22	10:40 PM	64.4	63.3	58.4	61.2	55.3	43.5	27.8
21-Nov-22	10:50 PM	63.9	63.5	58.3	56.6	50.9	41.4	26.5
21-Nov-22	11:00 PM	62.6	62.6	57.5	57.1	55.5	41.4	23.1
21-Nov-22	11:10 PM	64.0	63.3	58.9	55.4	49.2	37.9	23.0
21-Nov-22	11:20 PM	63.4	63.6	58.6	55.3	48.9	39.1	26.7
21-Nov-22	11:30 PM	63.4	63.3	58.7	56.9	49.8	39.4	29.4
21-Nov-22	11:40 PM	64.3	63.6	58.3	56.0	49.5	38.5	27.6
21-Nov-22	11:50 PM	62.8	63.3	59.4	56.3	49.4	37.5	26.8
22-Nov-22	12:00 AM	64.6	63.8	61.1	58.7	52.0	39.6	26.8
22-Nov-22	12:10 AM	64.3	62.6	58.9	57.4	51.5	42.2	34.9
22-Nov-22	12:20 AM	63.6	63.3	59.8	57.0	50.1	40.2	32.5
22-Nov-22	12:30 AM	62.6	62.3	59.5	56.6	49.7	36.5	20.3
22-Nov-22	12:40 AM	61.6	61.2	58.4	56.1	48.4	36.4	19.8
22-Nov-22	12:50 AM	61.1	62.0	59.1	55.5	48.1	35.9	20.0
22-Nov-22	1:00 AM	61.9	62.8	60.2	57.4	50.7	35.7	17.7
22-Nov-22	1:10 AM	65.4	66.2	62.9	60.9	52.7	45.0	30.9
22-Nov-22	1:20 AM	62.2	63.3	59.5	57.0	47.5	34.0	24.0
22-Nov-22	1:30 AM	64.9	65.0	61.6	58.9	52.1	45.3	27.3
22-Nov-22	1:40 AM	77.3	72.4	65.9	61.6	55.2	61.2	41.3
22-Nov-22	1:50 AM	74.6	71.8	65.4	61.7	55.6	54.5	42.6
22-Nov-22	2:00 AM	72.0	68.0	63.2	61.1	54.6	49.3	41.0
22-Nov-22	2:10 AM	66.3	63.2	61.1	59.7	51.6	38.7	25.9
22-Nov-22	2:20 AM	63.6	62.7	60.5	59.2	51.2	38.3	24.3

Table 1b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V1

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	2:30 AM	62.7	63.1	60.3	59.3	51.1	38.7	26.0
22-Nov-22	2:40 AM	61.7	61.6	60.2	59.4	51.9	39.1	27.4
22-Nov-22	2:50 AM	62.2	62.2	60.1	59.4	51.6	38.8	26.5
22-Nov-22	3:00 AM	65.4	63.1	60.4	59.5	51.6	38.7	26.4
22-Nov-22	3:10 AM	60.9	61.0	59.4	58.7	50.6	38.6	26.7
22-Nov-22	3:20 AM	59.7	59.9	59.1	58.3	50.4	40.2	32.3
22-Nov-22	3:30 AM	66.4	64.4	59.5	59.1	51.1	39.4	27.4
22-Nov-22	3:40 AM	63.0	62.5	59.5	58.8	50.6	37.6	23.0
22-Nov-22	3:50 AM	60.4	60.9	59.0	58.1	50.6	37.8	23.1
22-Nov-22	4:00 AM	64.7	61.5	58.8	58.5	51.2	38.4	24.6
22-Nov-22	4:10 AM	60.8	61.0	58.8	58.0	50.6	38.0	23.9
22-Nov-22	4:20 AM	61.5	61.5	59.4	58.2	51.2	38.3	23.4
22-Nov-22	4:30 AM	61.9	60.9	58.5	57.9	50.4	38.1	23.1
22-Nov-22	4:40 AM	63.7	62.7	59.7	59.1	51.4	38.9	24.7
22-Nov-22	4:50 AM	64.2	62.5	59.4	58.8	51.3	38.8	23.9
22-Nov-22	5:00 AM	68.4	63.4	59.8	58.8	51.0	38.7	25.3
22-Nov-22	5:10 AM	69.3	64.9	60.3	59.7	51.9	39.9	26.2
22-Nov-22	5:20 AM	67.0	63.8	60.0	59.8	52.1	40.1	28.3
22-Nov-22	5:30 AM	66.0	63.8	60.3	60.4	52.1	40.1	28.3
22-Nov-22	5:40 AM	66.1	63.5	60.0	60.2	51.3	39.6	28.7
22-Nov-22	5:50 AM	66.3	63.1	60.1	58.8	50.5	38.0	24.2
22-Nov-22	6:00 AM	66.2	63.2	60.7	60.0	52.0	39.2	26.4
22-Nov-22	6:10 AM	66.1	63.5	60.3	59.4	51.3	38.7	26.0
22-Nov-22	6:20 AM	67.5	64.4	61.0	60.3	52.2	39.0	25.2
22-Nov-22	6:30 AM	66.6	64.9	61.5	59.9	51.9	39.3	27.0
22-Nov-22	6:40 AM	65.8	64.8	62.8	60.5	52.7	39.1	24.9
22-Nov-22	6:50 AM	65.8	64.8	61.6	59.5	52.0	39.5	29.8
22-Nov-22	7:00 AM	66.3	65.0	62.5	59.5	52.1	40.7	28.5
22-Nov-22	7:10 AM	68.6	65.4	63.5	59.8	52.0	40.4	28.4
22-Nov-22	7:20 AM	68.1	65.7	62.5	59.8	51.5	39.6	28.3
22-Nov-22	7:30 AM	67.9	65.6	62.0	59.8	52.0	37.6	22.8
22-Nov-22	7:40 AM	67.8	64.1	61.0	58.1	50.7	36.5	23.6
22-Nov-22	7:50 AM	67.6	63.8	60.4	57.6	50.3	37.0	25.3
22-Nov-22	8:00 AM	67.3	63.9	60.7	57.6	49.8	36.3	24.3
22-Nov-22	8:10 AM	66.1	63.4	60.4	58.1	49.0	38.7	33.1
22-Nov-22	8:20 AM	65.9	63.1	60.5	58.0	49.2	38.6	32.9
22-Nov-22	8:30 AM	66.3	67.6	65.2	66.5	57.0	45.1	31.7
22-Nov-22	8:40 AM	66.5	68.8	66.8	68.6	59.1	46.9	32.5
22-Nov-22	8:50 AM	65.9	68.5	66.7	68.3	59.0	46.7	32.4

Table 1b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V1

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	9:00 AM	65.0	68.1	66.8	68.3	58.9	46.5	31.9
22-Nov-22	9:10 AM	64.3	67.7	66.8	67.9	58.6	46.2	31.5
22-Nov-22	9:20 AM	64.1	67.3	67.0	67.4	58.2	46.2	33.4
22-Nov-22	9:30 AM	67.2	69.2	68.8	68.1	59.6	51.5	36.9
22-Nov-22	9:40 AM	65.4	67.6	67.5	67.0	58.2	45.7	31.2
22-Nov-22	9:50 AM	64.9	67.4	67.5	66.7	58.2	45.4	30.7
22-Nov-22	10:00 AM	65.7	68.3	67.8	66.5	58.4	45.2	30.7
22-Nov-22	10:10 AM	65.8	69.1	67.8	66.3	58.6	46.5	36.6
22-Nov-22	10:20 AM	64.3	68.0	67.8	66.2	58.3	45.9	32.6
22-Nov-22	10:30 AM	64.3	68.3	68.0	66.2	58.3	46.2	31.1
22-Nov-22	10:40 AM	64.3	67.6	67.9	66.2	58.0	45.8	30.7
22-Nov-22	10:50 AM	64.6	67.9	68.0	66.2	57.8	45.4	31.3
22-Nov-22	11:00 AM	64.4	68.4	68.0	66.7	58.3	46.1	30.8
22-Nov-22	11:10 AM	64.1	68.0	68.0	66.4	58.3	46.4	32.3
22-Nov-22	11:20 AM	65.1	67.9	67.2	65.7	57.6	46.2	31.1
22-Nov-22	11:30 AM	64.1	65.8	63.4	63.0	55.5	44.7	30.0
22-Nov-22	11:40 AM	63.2	66.3	63.4	62.7	55.6	43.8	30.3
22-Nov-22	11:50 AM	63.4	66.6	63.5	62.4	55.6	44.3	33.7
22-Nov-22	12:00 PM	63.0	66.4	63.7	62.6	55.6	42.9	28.1
22-Nov-22	12:10 PM	63.5	66.7	64.1	62.3	55.7	43.6	29.4
22-Nov-22	12:20 PM	62.8	66.3	64.0	62.4	55.8	44.0	28.8
22-Nov-22	12:30 PM	63.5	66.3	63.9	62.3	55.7	43.6	30.6
22-Nov-22	12:40 PM	64.5	66.1	62.7	60.5	53.8	41.9	27.5
22-Nov-22	12:50 PM	63.6	65.5	60.4	56.3	49.3	40.8	32.8
22-Nov-22	1:00 PM	64.6	65.5	59.4	56.2	49.8	43.4	32.1
22-Nov-22	1:10 PM	64.1	66.1	60.7	56.9	50.2	41.8	27.9
22-Nov-22	1:20 PM	63.5	65.2	59.8	56.5	50.1	42.7	26.6
22-Nov-22	1:30 PM	64.1	65.7	60.2	56.9	50.8	44.4	31.7
22-Nov-22	1:40 PM	65.2	66.1	61.2	57.4	51.3	44.8	35.0
22-Nov-22	1:50 PM	66.1	65.8	60.7	57.4	51.1	44.1	33.5
22-Nov-22	2:00 PM	65.2	65.9	60.6	57.1	50.9	44.5	32.0
22-Nov-22	2:10 PM	66.2	66.4	61.0	57.9	51.3	44.3	32.0
22-Nov-22	2:20 PM	65.6	66.4	60.9	57.5	50.8	43.8	30.2
22-Nov-22	2:30 PM	65.1	66.3	60.5	57.1	50.7	44.0	29.8
22-Nov-22	2:40 PM	65.2	66.2	60.8	57.3	50.6	44.0	30.2
22-Nov-22	2:50 PM	64.8	66.0	60.0	56.6	50.3	42.7	28.7
22-Nov-22	3:00 PM	64.7	65.8	59.8	56.3	49.7	41.1	28.5
22-Nov-22	3:10 PM	65.6	66.5	60.4	58.3	50.4	42.2	26.4
22-Nov-22	3:20 PM	65.2	66.2	61.6	57.1	49.6	40.8	27.9

Table 1b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V1

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	3:30 PM	64.5	63.8	60.0	57.3	49.8	39.6	28.4
22-Nov-22	3:40 PM	65.5	64.1	60.4	57.9	50.4	40.2	28.4
22-Nov-22	3:50 PM	67.9	66.9	61.0	58.1	51.1	42.3	32.8
22-Nov-22	4:00 PM	66.1	65.4	60.2	58.0	51.7	43.1	34.2

Table 2: A-weighted Hourly Noise Levels at LT-V2

Date	Hour beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	3:00 PM	82.7	73.4	62.0	61.7	56.1	55.1	52.5
21-Nov-22	4:00 PM	87.2	73.2	63.0	64.1	57.6	55.7	54.4
21-Nov-22	5:00 PM	85.5	71.5	61.7	61.9	57.9	57.1	54.9
21-Nov-22	6:00 PM	80.6	69.5	60.0	60.3	56.3	55.6	54.2
21-Nov-22	7:00 PM	92.2	69.8	63.8	65.3	59.0	57.3	53.7
21-Nov-22	8:00 PM	85.2	77.8	67.8	66.6	59.6	56.5	53.5
21-Nov-22	9:00 PM	81.1	65.9	56.9	58.8	54.2	53.5	52.5
21-Nov-22	10:00 PM	89.0	69.6	59.8	61.8	55.4	54.2	53.1
21-Nov-22	11:00 PM	87.8	79.9	69.7	69.9	64.9	59.4	53.5
22-Nov-22	12:00 AM	88.4	71.4	60.5	63.8	55.9	54.6	52.2
22-Nov-22	1:00 AM	85.5	69.7	58.8	60.8	55.4	54.2	52.6
22-Nov-22	2:00 AM	87.5	70.5	60.4	62.2	55.5	53.4	50.8
22-Nov-22	3:00 AM	84.9	67.5	56.7	58.9	52.9	51.3	48.7
22-Nov-22	4:00 AM	82.8	69.0	59.0	60.3	54.3	52.8	50.5
22-Nov-22	5:00 AM	86.2	74.9	66.1	64.6	59.0	56.0	53.4
22-Nov-22	6:00 AM	82.6	77.2	67.4	65.8	60.1	57.7	55.6
22-Nov-22	7:00 AM	86.9	77.6	67.0	66.0	57.8	56.2	53.3
22-Nov-22	8:00 AM	81.9	76.0	65.1	64.4	57.5	55.7	54.5
22-Nov-22	9:00 AM	87.6	74.7	64.8	63.5	56.8	54.5	51.6
22-Nov-22	10:00 AM	93.7	78.7	68.2	68.4	58.2	55.5	53.1
22-Nov-22	11:00 AM	87.0	77.4	67.6	65.7	56.8	54.5	52.0
22-Nov-22	12:00 PM	89.7	79.6	68.5	68.0	58.8	53.7	51.2
22-Nov-22	1:00 PM	89.8	77.8	66.0	65.6	55.6	53.1	51.1
22-Nov-22	2:00 PM	89.2	76.9	66.4	66.7	57.9	54.5	52.0

Table 2a: A-weighted 10-minute Noise Levels at LT-V2

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	2:30 PM	81.0	77.4	66.6	65.1	58.1	56.8	55.8
21-Nov-22	2:40 PM	87.8	75.7	62.8	65.4	57.2	56.3	55.7
21-Nov-22	2:50 PM	84.6	77.6	63.5	65.1	57.0	56.0	55.0
21-Nov-22	3:00 PM	78.3	71.7	63.3	61.6	57.2	56.0	55.5
21-Nov-22	3:10 PM	76.8	74.5	62.9	61.3	56.1	55.0	52.5
21-Nov-22	3:20 PM	75.9	68.9	58.4	58.5	55.3	54.2	53.5
21-Nov-22	3:30 PM	76.9	72.9	61.4	59.9	55.6	54.9	53.6

Table 2a(continued): A-weighted 10-minute Noise Levels at LT-V2

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	3:40 PM	76.6	73.1	62.6	60.9	56.1	55.1	54.0
21-Nov-22	3:50 PM	82.7	79.2	63.2	65.0	56.3	55.3	54.2
21-Nov-22	4:00 PM	87.2	79.5	71.7	68.9	63.7	56.8	55.1
21-Nov-22	4:10 PM	79.5	75.5	63.0	62.0	56.8	55.5	54.7
21-Nov-22	4:20 PM	83.2	70.2	57.7	61.4	56.1	55.4	54.6
21-Nov-22	4:30 PM	69.3	65.6	57.4	57.0	55.7	55.0	54.5
21-Nov-22	4:40 PM	82.1	77.4	66.6	65.2	56.8	55.6	54.4
21-Nov-22	4:50 PM	77.6	71.1	61.3	60.1	56.7	55.8	55.2
21-Nov-22	5:00 PM	77.0	73.5	62.5	61.3	57.4	56.5	54.9
21-Nov-22	5:10 PM	85.5	78.0	65.1	65.0	58.1	57.2	56.4
21-Nov-22	5:20 PM	70.5	67.1	59.9	59.3	58.1	57.3	56.2
21-Nov-22	5:30 PM	82.4	76.2	64.7	63.7	58.4	57.4	56.4
21-Nov-22	5:40 PM	75.4	66.2	58.3	58.7	57.4	56.9	56.3
21-Nov-22	5:50 PM	73.2	68.0	59.7	59.1	57.7	57.0	56.3
21-Nov-22	6:00 PM	73.1	69.5	61.2	59.4	56.8	55.8	55.0
21-Nov-22	6:10 PM	80.6	77.2	67.2	64.7	57.0	55.9	55.1
21-Nov-22	6:20 PM	74.1	71.0	58.4	58.9	56.0	55.2	54.2
21-Nov-22	6:30 PM	68.4	66.0	58.8	57.5	56.0	55.4	54.4
21-Nov-22	6:40 PM	75.1	69.4	57.6	58.7	56.0	55.6	55.0
21-Nov-22	6:50 PM	73.8	63.8	56.7	57.0	55.9	55.4	54.6
21-Nov-22	7:00 PM	63.8	60.6	57.6	56.8	56.5	55.8	55.1
21-Nov-22	7:10 PM	64.2	61.9	57.5	56.9	56.6	55.9	55.2
21-Nov-22	7:20 PM	67.5	64.4	61.8	61.0	60.8	59.9	56.9
21-Nov-22	7:30 PM	88.4	74.6	70.8	67.7	61.8	59.8	57.6
21-Nov-22	7:40 PM	92.2	83.2	69.3	70.0	58.3	55.2	53.7
21-Nov-22	7:50 PM	80.6	73.8	65.7	63.5	59.9	57.3	56.3
21-Nov-22	8:00 PM	84.0	81.5	72.4	69.3	61.0	56.9	56.1
21-Nov-22	8:10 PM	85.2	81.1	68.4	68.3	59.7	57.5	56.5
21-Nov-22	8:20 PM	84.5	79.4	67.8	66.7	60.0	57.3	56.4
21-Nov-22	8:30 PM	81.9	74.5	67.2	64.4	60.0	56.6	55.1
21-Nov-22	8:40 PM	82.0	75.7	66.3	64.6	60.1	56.3	55.1
21-Nov-22	8:50 PM	77.6	74.6	64.6	62.1	56.6	54.3	53.5
21-Nov-22	9:00 PM	57.9	55.9	54.7	54.0	53.8	53.2	52.5
21-Nov-22	9:10 PM	81.1	76.8	57.7	61.7	54.2	53.5	53.0
21-Nov-22	9:20 PM	58.3	56.7	55.3	54.5	54.3	53.5	52.7
21-Nov-22	9:30 PM	81.1	75.9	56.2	61.7	54.4	53.5	53.0
21-Nov-22	9:40 PM	64.9	61.0	56.1	55.2	54.5	53.9	53.3
21-Nov-22	9:50 PM	76.4	69.3	61.2	58.8	54.1	53.1	52.6
21-Nov-22	10:00 PM	78.3	71.1	58.1	59.2	54.5	53.6	53.1

Table 2a(continued): A-weighted 10-minute Noise Levels at LT-V2

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	10:10 PM	65.7	64.6	57.0	56.0	54.5	53.8	53.1
21-Nov-22	10:20 PM	65.7	61.4	55.0	54.8	54.3	53.8	53.2
21-Nov-22	10:30 PM	74.1	68.5	57.0	57.6	55.3	54.5	54.0
21-Nov-22	10:40 PM	81.8	77.4	67.1	64.9	56.9	55.2	54.4
21-Nov-22	10:50 PM	89.0	74.3	64.8	65.8	57.0	54.2	53.1
21-Nov-22	11:00 PM	84.1	77.9	66.2	64.8	57.7	55.3	53.9
21-Nov-22	11:10 PM	85.1	79.3	69.0	67.2	60.6	55.9	54.6
21-Nov-22	11:20 PM	86.7	83.4	66.5	68.4	58.4	54.9	53.5
21-Nov-22	11:30 PM	87.8	81.5	72.1	71.9	71.0	56.9	55.1
21-Nov-22	11:40 PM	80.6	76.8	72.8	71.6	71.0	70.6	70.3
21-Nov-22	11:50 PM	83.8	80.4	71.6	71.1	70.8	62.6	56.7
22-Nov-22	12:00 AM	86.0	76.6	60.2	63.9	57.1	55.5	54.3
22-Nov-22	12:10 AM	88.4	82.1	61.5	67.3	56.2	55.0	53.7
22-Nov-22	12:20 AM	67.7	60.1	57.2	56.4	56.0	55.0	54.2
22-Nov-22	12:30 AM	83.8	79.4	68.2	66.5	56.6	55.2	54.0
22-Nov-22	12:40 AM	84.0	73.2	60.4	61.1	54.9	53.5	52.2
22-Nov-22	12:50 AM	59.2	56.8	55.6	54.5	54.3	53.5	52.7
22-Nov-22	1:00 AM	85.5	77.4	57.5	63.6	55.0	53.5	52.6
22-Nov-22	1:10 AM	81.2	69.0	61.9	60.8	57.1	55.5	54.2
22-Nov-22	1:20 AM	71.6	65.9	57.4	56.7	55.5	53.8	53.0
22-Nov-22	1:30 AM	66.7	62.9	57.3	56.0	55.0	54.1	53.5
22-Nov-22	1:40 AM	78.0	65.2	58.0	58.1	55.2	54.4	53.7
22-Nov-22	1:50 AM	80.7	78.0	60.5	63.3	54.8	53.9	53.1
22-Nov-22	2:00 AM	76.1	68.4	58.5	58.1	55.3	54.3	53.8
22-Nov-22	2:10 AM	65.7	63.5	57.2	56.0	55.0	53.7	52.5
22-Nov-22	2:20 AM	76.5	70.0	57.5	58.3	54.8	53.0	51.6
22-Nov-22	2:30 AM	64.7	62.8	58.5	56.4	55.3	53.3	51.6
22-Nov-22	2:40 AM	86.3	80.6	61.8	65.5	55.7	53.5	51.5
22-Nov-22	2:50 AM	87.5	77.9	68.6	66.2	56.9	52.7	50.8
22-Nov-22	3:00 AM	63.8	61.0	56.0	54.4	53.7	51.8	51.0
22-Nov-22	3:10 AM	76.9	72.4	56.9	58.8	52.9	51.3	50.5
22-Nov-22	3:20 AM	63.4	59.2	54.1	53.1	52.3	51.6	50.8
22-Nov-22	3:30 AM	81.8	72.8	57.3	60.6	54.2	52.1	50.9
22-Nov-22	3:40 AM	66.2	61.5	55.6	53.6	52.1	50.5	49.2
22-Nov-22	3:50 AM	84.9	78.3	60.0	63.2	51.9	50.2	48.7
22-Nov-22	4:00 AM	62.8	59.4	54.1	53.3	52.8	51.7	50.5
22-Nov-22	4:10 AM	68.5	64.0	56.3	54.8	52.3	51.5	50.6
22-Nov-22	4:20 AM	69.1	65.7	57.1	55.8	53.3	52.2	51.0
22-Nov-22	4:30 AM	78.6	75.6	57.3	60.4	52.9	51.9	51.2

Table 2a(continued): A-weighted 10-minute Noise Levels at LT-V2

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	4:40 AM	76.7	71.7	62.3	60.2	55.9	53.8	52.7
22-Nov-22	4:50 AM	82.8	77.6	66.9	65.3	58.6	55.9	54.6
22-Nov-22	5:00 AM	78.3	72.5	65.7	62.7	57.9	54.4	53.4
22-Nov-22	5:10 AM	81.2	75.3	67.5	64.6	60.4	56.2	54.8
22-Nov-22	5:20 AM	81.0	76.5	68.3	65.4	59.8	56.6	55.1
22-Nov-22	5:30 AM	86.2	81.6	66.7	67.6	58.2	56.1	54.6
22-Nov-22	5:40 AM	74.5	70.2	63.0	60.6	58.4	55.8	54.3
22-Nov-22	5:50 AM	80.4	73.4	65.4	63.2	59.0	56.7	55.5
22-Nov-22	6:00 AM	81.5	78.2	70.6	67.4	61.8	58.4	56.6
22-Nov-22	6:10 AM	80.9	75.7	63.7	63.2	58.4	57.5	56.7
22-Nov-22	6:20 AM	82.6	78.4	67.9	66.4	60.6	58.6	57.4
22-Nov-22	6:30 AM	82.0	78.8	70.9	67.5	60.6	58.0	56.9
22-Nov-22	6:40 AM	81.5	76.9	64.9	64.7	59.7	57.2	55.9
22-Nov-22	6:50 AM	79.8	75.1	66.1	64.0	59.6	56.5	55.6
22-Nov-22	7:00 AM	86.9	82.3	73.2	69.6	58.8	57.2	55.9
22-Nov-22	7:10 AM	84.1	78.0	66.4	65.9	57.9	56.5	55.3
22-Nov-22	7:20 AM	76.0	74.1	62.8	62.0	57.7	56.7	55.9
22-Nov-22	7:30 AM	79.1	76.4	67.0	65.1	59.1	57.0	56.2
22-Nov-22	7:40 AM	81.8	80.1	67.3	66.2	57.0	55.4	54.5
22-Nov-22	7:50 AM	76.3	74.5	65.0	62.5	56.2	54.6	53.3
22-Nov-22	8:00 AM	81.3	74.5	61.3	62.0	56.4	55.1	54.1
22-Nov-22	8:10 AM	81.7	79.6	71.5	67.6	58.0	55.5	54.6
22-Nov-22	8:20 AM	76.6	73.1	60.2	60.4	56.4	55.5	54.7
22-Nov-22	8:30 AM	79.6	77.3	66.3	64.5	57.3	55.7	54.4
22-Nov-22	8:40 AM	79.3	74.4	65.6	63.6	58.9	56.9	56.0
22-Nov-22	8:50 AM	81.9	77.0	65.7	64.8	57.8	55.3	53.3
22-Nov-22	9:00 AM	81.1	73.6	63.7	62.0	55.0	53.6	52.8
22-Nov-22	9:10 AM	78.6	73.5	60.8	60.6	55.8	52.7	51.6
22-Nov-22	9:20 AM	78.6	74.4	66.0	63.0	57.1	55.4	54.6
22-Nov-22	9:30 AM	79.8	77.3	69.1	66.1	59.6	57.2	55.9
22-Nov-22	9:40 AM	76.3	72.4	63.7	60.9	55.1	52.8	52.1
22-Nov-22	9:50 AM	87.6	76.7	65.5	65.4	58.2	55.2	52.4
22-Nov-22	10:00 AM	83.8	78.3	69.0	66.6	61.2	56.9	54.4
22-Nov-22	10:10 AM	77.8	73.2	65.7	62.7	57.5	55.7	54.4
22-Nov-22	10:20 AM	93.7	89.2	73.1	74.1	58.4	55.4	54.0
22-Nov-22	10:30 AM	78.5	76.6	67.1	64.0	57.9	54.9	54.0
22-Nov-22	10:40 AM	81.1	78.0	66.7	65.0	55.6	54.0	53.1
22-Nov-22	10:50 AM	83.1	76.6	67.8	65.2	58.3	56.2	55.6
22-Nov-22	11:00 AM	80.8	76.8	69.3	65.8	58.3	56.0	55.2

Table 2a(continued): A-weighted 10-minute Noise Levels at LT-V2

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	11:10 AM	87.0	78.8	68.5	67.0	56.7	55.4	54.4
22-Nov-22	11:20 AM	78.8	73.5	63.6	62.0	56.4	54.8	53.5
22-Nov-22	11:30 AM	81.4	80.3	70.2	67.4	57.1	53.9	52.5
22-Nov-22	11:40 AM	78.6	75.3	66.4	63.2	55.1	53.4	52.0
22-Nov-22	11:50 AM	82.5	79.6	67.5	66.3	57.4	53.5	52.5
22-Nov-22	12:00 PM	79.9	76.2	64.8	63.3	57.6	54.0	52.5
22-Nov-22	12:10 PM	84.6	78.9	68.6	66.8	58.7	54.3	52.0
22-Nov-22	12:20 PM	84.3	78.8	67.4	65.8	55.6	53.4	51.9
22-Nov-22	12:30 PM	82.6	78.2	72.8	69.4	66.9	55.2	51.4
22-Nov-22	12:40 PM	89.7	85.8	71.5	71.3	59.4	52.9	51.3
22-Nov-22	12:50 PM	87.9	79.9	65.6	67.2	54.6	52.5	51.2
22-Nov-22	1:00 PM	79.7	74.4	63.6	61.9	54.5	52.7	51.1
22-Nov-22	1:10 PM	89.8	79.3	66.2	68.3	55.0	52.7	51.4
22-Nov-22	1:20 PM	82.8	78.1	63.8	63.7	54.6	52.5	51.2
22-Nov-22	1:30 PM	85.4	80.4	68.1	67.2	55.9	52.9	51.5
22-Nov-22	1:40 PM	80.6	77.5	66.1	64.6	56.7	53.8	52.4
22-Nov-22	1:50 PM	81.2	76.9	68.1	65.0	57.1	54.1	53.2
22-Nov-22	2:00 PM	89.2	80.9	67.1	68.1	58.9	54.8	53.4
22-Nov-22	2:10 PM	86.0	83.0	71.5	70.3	59.9	55.1	53.8
22-Nov-22	2:20 PM	82.4	78.1	70.5	66.9	59.6	55.0	53.6
22-Nov-22	2:30 PM	85.6	78.6	67.0	65.9	57.1	54.9	53.5
22-Nov-22	2:40 PM	77.7	69.7	60.1	59.3	55.0	53.2	52.0
22-Nov-22	2:50 PM	74.6	71.2	62.1	60.3	56.9	54.1	52.7
22-Nov-22	3:00 PM	78.5	74.5	61.7	61.0	54.8	54.0	53.2
22-Nov-22	3:10 PM	75.2	71.4	60.5	59.2	54.0	51.6	50.6

Table 2b: un-weighted 10-minute Octave Band Leq Noise Levels at LT-V2

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	2:30 PM	68.1	62.7	59.2	62.2	61.0	57.8	51.9
21-Nov-22	2:40 PM	62.4	61.1	56.5	60.7	59.3	61.1	53.2
21-Nov-22	2:50 PM	64.8	62.4	60.9	63.2	60.7	57.5	50.3
21-Nov-22	3:00 PM	64.6	62.6	59.0	60.0	57.2	53.0	45.3
21-Nov-22	3:10 PM	70.6	60.5	55.2	58.4	57.2	54.2	47.8
21-Nov-22	3:20 PM	62.1	58.0	54.9	56.2	55.2	49.2	42.1
21-Nov-22	3:30 PM	69.5	60.4	56.7	58.4	55.4	50.8	46.0
21-Nov-22	3:40 PM	66.2	61.7	57.7	58.9	56.7	52.7	46.3
21-Nov-22	3:50 PM	70.5	63.4	58.4	64.2	61.1	54.9	49.0
21-Nov-22	4:00 PM	77.4	74.4	66.6	66.3	64.8	59.3	54.4

Table 2b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V2

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	4:10 PM	65.2	64.6	60.9	60.6	57.1	53.3	47.1
21-Nov-22	4:20 PM	63.3	61.6	57.1	59.7	57.3	52.3	48.0
21-Nov-22	4:30 PM	62.6	59.7	55.3	54.7	53.1	47.6	40.2
21-Nov-22	4:40 PM	66.1	61.9	58.2	62.4	60.8	58.5	53.0
21-Nov-22	4:50 PM	63.1	61.1	57.8	58.0	56.2	50.9	42.8
21-Nov-22	5:00 PM	64.0	61.0	57.1	59.3	57.1	52.9	47.5
21-Nov-22	5:10 PM	65.0	63.3	59.3	62.3	62.2	55.9	49.8
21-Nov-22	5:20 PM	63.2	60.7	56.8	57.5	55.5	49.3	42.2
21-Nov-22	5:30 PM	64.7	63.2	58.8	61.3	59.7	55.4	51.1
21-Nov-22	5:40 PM	62.5	59.3	55.7	56.9	54.9	49.3	42.2
21-Nov-22	5:50 PM	65.9	61.5	56.8	57.4	55.1	49.6	41.6
21-Nov-22	6:00 PM	71.8	61.8	56.4	57.9	55.1	48.9	40.0
21-Nov-22	6:10 PM	68.4	63.8	61.4	62.2	60.0	55.9	53.9
21-Nov-22	6:20 PM	64.8	60.7	57.0	57.5	54.5	49.1	43.0
21-Nov-22	6:30 PM	64.7	61.0	56.4	56.4	52.8	47.1	38.2
21-Nov-22	6:40 PM	64.2	61.2	56.4	56.9	54.0	50.2	43.8
21-Nov-22	6:50 PM	62.3	59.6	55.7	56.2	52.6	45.7	36.1
21-Nov-22	7:00 PM	64.0	61.7	56.6	55.9	51.9	45.1	35.0
21-Nov-22	7:10 PM	62.6	61.8	56.1	55.9	52.2	45.9	35.6
21-Nov-22	7:20 PM	66.7	64.2	58.6	59.7	57.0	50.0	42.1
21-Nov-22	7:30 PM	74.5	68.1	64.8	66.5	63.1	59.5	52.0
21-Nov-22	7:40 PM	76.2	67.3	64.6	70.2	64.6	60.7	53.0
21-Nov-22	7:50 PM	76.7	66.5	61.3	60.8	57.6	54.8	52.7
21-Nov-22	8:00 PM	74.5	69.2	64.6	68.4	65.7	59.0	50.3
21-Nov-22	8:10 PM	71.8	66.6	63.4	67.0	64.8	58.3	49.8
21-Nov-22	8:20 PM	70.4	67.0	62.8	65.1	63.2	56.7	50.1
21-Nov-22	8:30 PM	71.2	67.5	62.6	62.7	60.0	55.2	48.8
21-Nov-22	8:40 PM	70.2	67.4	62.6	62.8	59.5	56.5	49.4
21-Nov-22	8:50 PM	68.0	64.7	59.2	60.2	58.0	52.6	47.3
21-Nov-22	9:00 PM	61.9	59.0	53.7	54.0	48.2	39.8	31.4
21-Nov-22	9:10 PM	65.5	59.8	57.4	58.9	58.2	53.7	49.0
21-Nov-22	9:20 PM	63.0	58.7	54.4	54.5	48.9	39.6	30.9
21-Nov-22	9:30 PM	63.3	58.6	55.4	59.6	59.6	49.8	37.1
21-Nov-22	9:40 PM	63.5	58.9	55.1	55.2	49.6	41.9	33.7
21-Nov-22	9:50 PM	63.2	60.2	56.8	57.3	54.0	49.9	44.4
21-Nov-22	10:00 PM	63.6	60.2	56.3	57.9	54.8	49.2	45.5
21-Nov-22	10:10 PM	63.2	59.1	54.8	55.6	50.4	45.5	38.0
21-Nov-22	10:20 PM	63.9	58.6	54.3	55.0	49.4	39.1	27.2
21-Nov-22	10:30 PM	63.8	58.9	55.2	57.6	52.8	45.5	32.3

Table 2b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V2

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	10:40 PM	67.6	65.5	60.9	63.9	61.3	54.1	46.1
21-Nov-22	10:50 PM	67.4	66.1	62.2	63.3	62.4	56.8	50.5
21-Nov-22	11:00 PM	69.0	65.8	61.8	62.9	60.8	55.5	48.6
21-Nov-22	11:10 PM	70.8	67.6	63.1	65.7	63.7	56.9	50.5
21-Nov-22	11:20 PM	68.5	65.2	61.7	68.1	65.1	56.3	45.8
21-Nov-22	11:30 PM	71.3	68.3	66.3	69.3	66.7	64.9	61.0
21-Nov-22	11:40 PM	77.3	67.7	65.9	69.1	65.9	65.2	61.0
21-Nov-22	11:50 PM	75.5	64.9	64.5	68.4	66.0	64.6	60.2
22-Nov-22	12:00 AM	65.7	61.0	57.6	63.7	60.2	48.8	35.2
22-Nov-22	12:10 AM	66.4	63.3	59.8	65.8	64.7	54.3	45.8
22-Nov-22	12:20 AM	64.8	61.0	56.4	56.6	50.9	40.2	28.5
22-Nov-22	12:30 AM	67.1	65.8	66.9	64.8	61.6	57.4	51.2
22-Nov-22	12:40 AM	64.5	62.0	56.8	57.7	55.1	53.2	51.7
22-Nov-22	12:50 AM	62.4	59.7	54.4	54.8	48.9	36.0	23.1
22-Nov-22	1:00 AM	64.9	60.0	57.1	62.8	61.2	47.3	31.4
22-Nov-22	1:10 AM	69.8	67.5	59.4	60.9	55.0	44.2	29.0
22-Nov-22	1:20 AM	65.5	62.9	56.3	57.2	50.2	40.5	28.8
22-Nov-22	1:30 AM	65.4	60.0	55.9	56.6	49.8	38.3	28.5
22-Nov-22	1:40 AM	66.7	61.5	55.9	57.7	53.6	46.0	36.8
22-Nov-22	1:50 AM	66.2	62.0	58.7	61.0	59.3	54.6	50.9
22-Nov-22	2:00 AM	66.8	69.0	59.0	56.9	50.9	43.3	35.7
22-Nov-22	2:10 AM	64.3	61.0	56.1	56.3	49.2	42.7	35.5
22-Nov-22	2:20 AM	65.0	62.5	56.3	57.1	53.4	48.5	41.9
22-Nov-22	2:30 AM	64.9	63.6	56.2	56.1	50.4	43.9	35.0
22-Nov-22	2:40 AM	65.9	62.7	58.4	64.2	62.8	52.6	44.9
22-Nov-22	2:50 AM	75.2	67.9	64.9	65.5	60.6	57.4	49.3
22-Nov-22	3:00 AM	66.4	61.9	54.9	53.9	47.8	40.2	29.1
22-Nov-22	3:10 AM	63.4	60.8	55.9	56.7	54.1	50.9	44.6
22-Nov-22	3:20 AM	61.3	58.8	53.3	53.5	46.8	37.6	27.7
22-Nov-22	3:30 AM	69.1	63.0	58.1	58.5	56.2	51.2	47.6
22-Nov-22	3:40 AM	63.3	59.8	54.2	54.2	46.3	35.3	28.3
22-Nov-22	3:50 AM	66.3	61.4	56.1	59.9	60.6	53.9	50.1
22-Nov-22	4:00 AM	66.8	60.5	53.6	53.5	46.1	34.8	24.9
22-Nov-22	4:10 AM	61.2	58.5	53.8	54.1	50.2	42.9	31.9
22-Nov-22	4:20 AM	62.4	59.4	54.6	55.0	51.3	44.1	37.1
22-Nov-22	4:30 AM	62.4	60.8	55.4	57.8	56.6	52.4	46.7
22-Nov-22	4:40 AM	66.5	64.7	57.7	58.6	55.7	50.7	43.6
22-Nov-22	4:50 AM	68.1	65.0	60.4	63.2	61.5	57.0	50.8
22-Nov-22	5:00 AM	70.6	67.1	60.0	60.5	58.6	53.1	45.4

Table 2b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V2

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	5:10 AM	73.7	70.9	62.8	62.5	60.2	54.3	46.0
22-Nov-22	5:20 AM	70.3	66.5	60.6	63.8	60.8	56.7	51.8
22-Nov-22	5:30 AM	66.3	62.7	60.5	66.5	64.5	57.0	46.2
22-Nov-22	5:40 AM	67.8	64.6	58.6	59.4	56.0	50.5	44.4
22-Nov-22	5:50 AM	71.2	65.2	59.6	61.1	58.5	54.9	49.2
22-Nov-22	6:00 AM	69.4	65.7	61.7	65.4	63.7	59.0	52.7
22-Nov-22	6:10 AM	70.6	64.4	60.1	62.3	59.4	52.3	44.4
22-Nov-22	6:20 AM	70.8	65.4	61.5	64.0	62.4	58.2	53.2
22-Nov-22	6:30 AM	71.1	67.9	63.1	64.9	63.2	59.7	54.9
22-Nov-22	6:40 AM	68.7	62.2	59.6	62.3	61.0	56.0	51.5
22-Nov-22	6:50 AM	67.3	62.9	59.6	62.3	59.6	55.8	48.3
22-Nov-22	7:00 AM	67.9	63.8	62.0	67.0	65.3	62.3	57.1
22-Nov-22	7:10 AM	70.3	63.3	61.9	64.0	62.3	56.6	51.2
22-Nov-22	7:20 AM	70.5	62.6	58.8	60.6	57.6	52.6	46.2
22-Nov-22	7:30 AM	72.6	68.4	63.0	63.5	59.5	55.9	52.6
22-Nov-22	7:40 AM	69.9	64.2	62.4	64.0	61.5	58.7	53.1
22-Nov-22	7:50 AM	71.4	64.4	60.6	61.1	57.9	53.0	47.2
22-Nov-22	8:00 AM	67.5	61.8	57.8	60.2	57.5	53.6	48.1
22-Nov-22	8:10 AM	73.5	65.3	61.9	64.9	63.3	60.1	54.8
22-Nov-22	8:20 AM	66.3	62.2	57.7	58.9	55.7	51.2	45.2
22-Nov-22	8:30 AM	73.4	67.8	62.8	62.7	59.3	56.3	49.4
22-Nov-22	8:40 AM	67.1	63.0	59.7	62.0	59.1	55.3	47.3
22-Nov-22	8:50 AM	71.7	64.2	63.1	63.7	59.4	56.1	49.1
22-Nov-22	9:00 AM	64.2	61.3	58.0	60.4	57.5	53.6	47.5
22-Nov-22	9:10 AM	65.3	62.3	56.5	59.0	56.0	52.1	45.6
22-Nov-22	9:20 AM	68.4	63.1	59.8	61.5	58.2	54.4	48.2
22-Nov-22	9:30 AM	70.7	66.4	63.7	65.6	60.3	57.2	49.3
22-Nov-22	9:40 AM	67.3	61.8	58.3	59.6	55.2	52.7	45.2
22-Nov-22	9:50 AM	72.8	72.2	65.6	62.5	60.4	55.9	50.6
22-Nov-22	10:00 AM	73.2	70.9	63.7	63.7	61.4	58.2	53.8
22-Nov-22	10:10 AM	68.0	65.0	60.6	61.0	57.4	54.6	49.1
22-Nov-22	10:20 AM	68.7	68.9	72.3	73.7	69.1	64.3	58.1
22-Nov-22	10:30 AM	68.5	68.2	61.8	61.8	59.6	55.3	49.2
22-Nov-22	10:40 AM	72.0	68.1	61.9	63.4	60.6	56.4	49.0
22-Nov-22	10:50 AM	67.8	67.8	61.5	63.3	60.7	57.2	51.0
22-Nov-22	11:00 AM	69.1	67.4	63.4	63.2	62.3	56.7	50.9
22-Nov-22	11:10 AM	69.9	66.4	65.6	65.4	63.5	56.2	50.1
22-Nov-22	11:20 AM	68.9	65.3	61.7	60.6	57.1	51.9	45.3
22-Nov-22	11:30 AM	79.3	65.7	64.7	65.7	63.0	58.9	52.6

Table 2b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V2

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	11:40 AM	67.9	62.7	58.4	60.8	59.3	54.8	49.9
22-Nov-22	11:50 AM	71.1	68.4	65.7	64.4	61.4	57.7	51.2
22-Nov-22	12:00 PM	69.2	65.2	59.2	60.3	58.2	55.8	53.1
22-Nov-22	12:10 PM	69.6	68.2	66.3	65.3	60.8	58.3	53.2
22-Nov-22	12:20 PM	68.5	65.1	60.2	63.4	61.9	58.0	51.3
22-Nov-22	12:30 PM	76.4	68.8	64.8	66.3	63.6	62.8	58.0
22-Nov-22	12:40 PM	71.9	66.7	65.6	70.4	66.9	60.5	55.1
22-Nov-22	12:50 PM	72.8	66.9	65.8	65.9	62.9	57.3	50.7
22-Nov-22	1:00 PM	67.5	63.5	57.3	59.4	57.5	53.8	48.8
22-Nov-22	1:10 PM	71.7	65.8	73.0	61.7	63.0	57.3	52.2
22-Nov-22	1:20 PM	64.6	62.1	57.9	60.6	60.3	55.6	50.4
22-Nov-22	1:30 PM	67.2	66.1	68.4	64.9	62.4	58.0	52.0
22-Nov-22	1:40 PM	68.2	65.3	61.0	62.6	60.2	56.4	50.2
22-Nov-22	1:50 PM	72.3	67.9	61.2	62.5	60.8	56.9	51.1
22-Nov-22	2:00 PM	70.3	70.3	66.5	66.6	63.9	58.4	53.1
22-Nov-22	2:10 PM	69.7	67.3	66.9	69.4	65.9	61.4	55.8
22-Nov-22	2:20 PM	68.7	66.8	62.7	64.3	62.2	59.0	55.2
22-Nov-22	2:30 PM	68.0	64.5	59.0	63.9	60.6	59.3	52.8
22-Nov-22	2:40 PM	69.5	62.7	56.8	57.7	55.0	49.7	43.6
22-Nov-22	2:50 PM	68.1	65.0	58.8	58.0	55.3	51.4	46.8
22-Nov-22	3:00 PM	69.3	64.2	59.8	59.5	55.9	52.2	47.1
22-Nov-22	3:10 PM	68.4	63.8	58.9	57.4	54.5	49.3	43.1

Table 3: A-weighted Hourly Noise Levels at LT-V3

Date	Hour beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	2:00 PM	87.1	67.8	59.7	58.4	54.5	52.5	50.7
21-Nov-22	3:00 PM	79.7	65.4	56.8	57.9	52.7	48.3	46.0
21-Nov-22	4:00 PM	68.1	58.3	54.0	52.8	51.1	50.1	48.6
21-Nov-22	5:00 PM	74.7	64.4	56.5	55.8	54.1	53.1	50.7
21-Nov-22	6:00 PM	71.1	60.7	54.7	54.5	52.5	51.6	50.3
21-Nov-22	7:00 PM	75.6	63.4	56.7	56.1	53.7	52.7	51.1
21-Nov-22	8:00 PM	83.0	68.4	58.6	60.1	55.0	54.0	52.4
21-Nov-22	9:00 PM	71.8	63.9	57.0	56.3	54.8	53.9	52.7
21-Nov-22	10:00 PM	77.0	64.9	58.4	58.3	55.0	53.9	52.4
21-Nov-22	11:00 PM	76.0	65.7	57.9	56.9	54.5	53.1	51.2
22-Nov-22	12:00 AM	76.2	64.2	57.6	57.2	55.5	54.2	52.0
22-Nov-22	1:00 AM	72.4	63.7	56.9	56.2	54.6	53.1	51.2
22-Nov-22	2:00 AM	70.4	61.7	54.7	53.9	52.4	51.2	48.7
22-Nov-22	3:00 AM	68.8	59.1	53.4	52.5	51.4	50.2	48.9
22-Nov-22	4:00 AM	62.7	56.8	54.1	52.7	52.2	50.9	49.1
22-Nov-22	5:00 AM	82.3	65.6	58.5	57.8	55.2	53.4	51.1
22-Nov-22	6:00 AM	75.1	65.3	59.4	58.3	57.2	55.5	53.0
22-Nov-22	7:00 AM	70.9	63.9	58.5	56.9	55.5	54.4	51.5
22-Nov-22	8:00 AM	73.2	67.1	59.2	58.9	55.3	53.6	52.7
22-Nov-22	9:00 AM	77.7	66.2	62.6	62.0	59.4	58.6	55.3
22-Nov-22	10:00 AM	70.8	65.9	60.2	58.6	57.0	55.9	54.7
22-Nov-22	11:00 AM	76.3	68.3	60.5	59.0	55.6	54.5	52.0
22-Nov-22	12:00 PM	77.7	64.5	57.4	56.3	53.7	52.0	49.1
22-Nov-22	1:00 PM	83.8	70.2	61.0	60.5	55.2	53.1	49.4
22-Nov-22	2:00 PM	80.2	70.8	65.3	62.3	57.3	54.7	52.2

Table 3a: A-weighted 10-minute Noise Levels at LT-V3

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	1:50 PM	82.0	76.8	61.2	63.2	54.3	52.3	51.3
21-Nov-22	2:00 PM	64.2	63.0	56.7	55.4	54.7	52.5	51.0
21-Nov-22	2:10 PM	87.1	73.6	65.4	65.3	57.7	53.7	52.3
21-Nov-22	2:20 PM	69.7	69.2	63.2	60.2	53.9	52.2	51.5
21-Nov-22	2:30 PM	73.7	68.3	58.1	57.2	53.9	52.7	51.2
21-Nov-22	2:40 PM	66.3	64.3	59.3	56.2	53.3	51.9	50.9
21-Nov-22	2:50 PM	73.2	68.2	55.7	55.9	53.2	52.0	50.7
21-Nov-22	3:00 PM	79.7	73.5	64.1	62.6	61.0	49.4	47.9
21-Nov-22	3:10 PM	64.4	61.9	53.3	51.2	48.8	47.2	46.0
21-Nov-22	3:20 PM	68.2	60.5	59.1	57.1	57.8	48.5	46.1
21-Nov-22	3:30 PM	64.4	57.0	51.6	50.2	48.9	47.8	46.6
21-Nov-22	3:40 PM	79.1	74.7	57.3	59.7	50.2	48.6	47.1
21-Nov-22	3:50 PM	71.8	64.7	55.1	53.5	49.4	48.2	47.5
21-Nov-22	4:00 PM	66.7	62.4	52.5	52.0	50.5	49.4	48.6

Table 3a (continued): A-weighted 10-minute Noise Levels at LT-V3

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	4:10 PM	61.2	60.4	53.2	52.1	50.9	49.8	49.0
21-Nov-22	4:20 PM	54.1	53.8	52.8	51.4	51.1	50.2	49.2
21-Nov-22	4:30 PM	56.9	54.1	52.2	51.1	50.9	50.1	49.3
21-Nov-22	4:40 PM	55.1	53.3	52.0	50.9	50.8	49.8	48.7
21-Nov-22	4:50 PM	68.1	65.6	61.1	56.4	52.3	51.0	49.7
21-Nov-22	5:00 PM	69.1	67.1	54.3	54.6	52.9	51.8	50.7
21-Nov-22	5:10 PM	72.5	68.2	60.2	57.8	54.2	53.0	52.1
21-Nov-22	5:20 PM	62.4	59.1	55.8	54.7	54.5	53.4	52.6
21-Nov-22	5:30 PM	65.3	64.3	57.1	55.8	54.5	53.4	52.4
21-Nov-22	5:40 PM	65.7	59.3	55.3	54.5	54.1	53.4	52.5
21-Nov-22	5:50 PM	74.7	68.3	56.2	56.6	54.2	53.4	52.7
21-Nov-22	6:00 PM	71.1	69.0	59.8	58.1	53.9	52.8	51.7
21-Nov-22	6:10 PM	69.3	66.6	53.9	54.3	52.2	51.4	50.6
21-Nov-22	6:20 PM	61.0	58.7	54.3	53.0	52.2	51.3	50.6
21-Nov-22	6:30 PM	70.8	59.4	53.2	53.4	52.1	51.2	50.3
21-Nov-22	6:40 PM	56.1	54.4	53.3	52.4	52.3	51.6	50.9
21-Nov-22	6:50 PM	61.3	56.1	53.4	52.5	52.2	51.3	50.5
21-Nov-22	7:00 PM	59.9	59.0	55.0	53.4	52.7	51.9	51.1
21-Nov-22	7:10 PM	58.1	55.0	53.9	53.1	52.9	52.3	51.5
21-Nov-22	7:20 PM	63.0	61.4	57.0	55.1	53.9	52.8	52.1
21-Nov-22	7:30 PM	74.3	68.3	59.3	58.0	53.8	52.6	51.6
21-Nov-22	7:40 PM	75.6	69.9	57.8	57.6	54.3	53.3	52.2
21-Nov-22	7:50 PM	69.4	66.9	57.3	56.8	54.5	53.5	52.4
21-Nov-22	8:00 PM	83.0	77.8	65.9	65.4	55.3	53.9	53.1
21-Nov-22	8:10 PM	75.0	70.9	58.4	58.9	56.0	55.1	54.2
21-Nov-22	8:20 PM	74.6	70.6	57.7	58.8	55.5	54.5	53.7
21-Nov-22	8:30 PM	70.2	64.6	56.4	55.5	54.3	53.3	52.4
21-Nov-22	8:40 PM	72.6	66.9	57.6	57.0	54.5	53.5	52.5
21-Nov-22	8:50 PM	61.0	59.4	55.5	54.7	54.4	53.7	53.1
21-Nov-22	9:00 PM	61.0	59.7	55.7	54.8	54.4	53.7	53.1
21-Nov-22	9:10 PM	66.2	63.3	57.3	56.3	55.4	54.6	53.9
21-Nov-22	9:20 PM	63.7	61.1	57.4	55.8	55.0	54.2	53.5
21-Nov-22	9:30 PM	71.8	68.2	58.6	57.6	55.2	54.3	53.4
21-Nov-22	9:40 PM	67.0	61.6	56.3	55.4	54.9	53.5	52.9
21-Nov-22	9:50 PM	70.0	69.2	56.9	57.2	54.1	53.3	52.7
21-Nov-22	10:00 PM	74.6	67.7	55.8	56.6	54.0	53.2	52.4
21-Nov-22	10:10 PM	56.1	55.6	54.5	54.0	53.9	53.3	52.7
21-Nov-22	10:20 PM	64.8	61.1	54.8	54.6	54.2	53.6	52.9
21-Nov-22	10:30 PM	70.2	66.6	57.3	56.9	55.5	54.2	53.7

Table 3a (continued): A-weighted 10-minute Noise Levels at LT-V3

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	10:40 PM	68.5	65.1	60.6	57.4	55.4	54.6	53.9
21-Nov-22	10:50 PM	77.0	73.4	67.4	63.0	56.7	54.6	53.3
21-Nov-22	11:00 PM	71.9	69.8	59.7	58.0	53.4	52.2	51.2
21-Nov-22	11:10 PM	74.5	70.4	58.8	58.4	55.2	53.5	52.0
21-Nov-22	11:20 PM	76.0	68.9	57.4	57.2	54.1	53.0	52.4
21-Nov-22	11:30 PM	68.1	63.9	57.9	56.1	54.9	53.4	51.9
21-Nov-22	11:40 PM	63.7	62.0	57.1	55.6	54.8	53.2	52.1
21-Nov-22	11:50 PM	67.1	59.2	56.2	54.9	54.3	53.2	52.3
22-Nov-22	12:00 AM	76.2	72.0	59.0	59.6	56.4	54.5	53.4
22-Nov-22	12:10 AM	75.3	70.6	57.5	58.3	55.9	54.8	54.0
22-Nov-22	12:20 AM	63.7	59.8	58.2	56.6	56.3	55.0	54.1
22-Nov-22	12:30 AM	68.1	64.8	58.3	56.7	55.6	54.4	53.5
22-Nov-22	12:40 AM	62.8	59.1	56.6	54.9	54.3	52.8	52.0
22-Nov-22	12:50 AM	60.7	58.8	56.2	54.9	54.5	53.4	52.4
22-Nov-22	1:00 AM	72.4	67.9	57.3	57.4	55.2	53.8	52.4
22-Nov-22	1:10 AM	71.2	68.9	60.7	58.8	55.8	54.2	53.4
22-Nov-22	1:20 AM	68.2	61.1	56.0	54.7	53.9	52.7	51.6
22-Nov-22	1:30 AM	67.2	61.4	56.3	54.9	54.2	52.2	51.2
22-Nov-22	1:40 AM	65.9	63.0	56.5	55.6	55.0	53.1	51.7
22-Nov-22	1:50 AM	64.5	60.0	54.8	54.0	53.4	52.6	52.1
22-Nov-22	2:00 AM	65.7	60.6	54.5	53.7	53.0	52.1	51.3
22-Nov-22	2:10 AM	64.2	57.6	54.3	53.2	52.6	51.7	50.8
22-Nov-22	2:20 AM	57.5	56.1	53.8	52.6	52.4	51.4	50.5
22-Nov-22	2:30 AM	69.8	66.0	55.3	54.7	52.4	51.1	50.0
22-Nov-22	2:40 AM	70.4	64.9	55.3	54.3	52.4	51.0	49.7
22-Nov-22	2:50 AM	69.8	64.9	55.0	54.4	51.8	49.9	48.7
22-Nov-22	3:00 AM	66.7	62.0	53.9	53.2	52.1	50.6	49.2
22-Nov-22	3:10 AM	67.3	61.4	53.5	52.7	51.3	50.2	49.5
22-Nov-22	3:20 AM	63.0	55.2	51.9	51.1	50.7	49.8	49.1
22-Nov-22	3:30 AM	59.7	56.5	53.2	52.0	51.6	50.3	49.5
22-Nov-22	3:40 AM	68.8	63.0	54.3	53.5	51.6	50.6	49.8
22-Nov-22	3:50 AM	60.2	56.7	53.6	51.9	51.2	49.6	48.9
22-Nov-22	4:00 AM	58.4	55.8	52.6	51.6	51.2	50.2	49.4
22-Nov-22	4:10 AM	59.6	56.9	53.5	51.9	51.2	50.0	49.1
22-Nov-22	4:20 AM	58.2	55.6	53.4	52.2	51.9	50.7	49.5
22-Nov-22	4:30 AM	57.3	56.4	53.9	52.3	51.8	51.0	50.2
22-Nov-22	4:40 AM	59.2	57.8	55.3	53.8	53.6	51.4	50.7
22-Nov-22	4:50 AM	62.7	58.4	55.6	53.9	53.4	52.0	51.2
22-Nov-22	5:00 AM	63.3	59.2	56.1	54.3	53.6	52.0	51.1

Table 3a (continued): A-weighted 10-minute Noise Levels at LT-V3

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	5:10 AM	82.3	66.4	62.3	60.3	56.2	54.0	52.6
22-Nov-22	5:20 AM	76.8	68.6	58.1	58.0	56.3	53.8	52.7
22-Nov-22	5:30 AM	75.0	71.1	59.2	58.7	54.5	52.9	51.7
22-Nov-22	5:40 AM	69.6	67.6	56.9	56.3	54.6	53.3	51.8
22-Nov-22	5:50 AM	64.8	60.9	58.3	56.6	56.1	54.1	52.1
22-Nov-22	6:00 AM	74.5	67.6	60.9	59.2	57.6	56.3	54.7
22-Nov-22	6:10 AM	75.1	67.6	60.8	59.6	58.3	56.9	55.3
22-Nov-22	6:20 AM	66.5	63.8	59.9	58.3	57.7	56.0	54.6
22-Nov-22	6:30 AM	71.8	66.4	59.9	58.6	57.7	55.3	54.5
22-Nov-22	6:40 AM	66.6	62.8	57.1	56.3	55.9	54.5	53.6
22-Nov-22	6:50 AM	67.9	63.6	57.8	56.6	55.8	54.1	53.0
22-Nov-22	7:00 AM	70.9	67.1	58.7	57.3	55.1	54.2	53.5
22-Nov-22	7:10 AM	68.0	62.7	58.1	56.4	55.1	54.2	53.2
22-Nov-22	7:20 AM	70.5	61.8	58.0	56.4	55.5	54.5	53.5
22-Nov-22	7:30 AM	70.9	65.7	58.8	57.8	56.7	55.7	54.8
22-Nov-22	7:40 AM	66.8	64.4	58.7	57.3	56.5	55.1	53.6
22-Nov-22	7:50 AM	66.1	61.7	58.5	55.9	54.2	52.9	51.5
22-Nov-22	8:00 AM	69.6	68.1	55.3	55.6	53.4	52.8	51.8
22-Nov-22	8:10 AM	66.1	63.9	55.5	54.5	52.6	51.6	50.7
22-Nov-22	8:20 AM	72.6	66.9	54.3	55.0	52.4	51.5	50.7
22-Nov-22	8:30 AM	70.8	62.9	59.6	57.2	56.7	53.1	52.4
22-Nov-22	8:40 AM	72.3	69.2	65.2	61.0	58.1	56.6	55.7
22-Nov-22	8:50 AM	73.2	71.3	65.4	62.9	58.8	56.1	55.1
22-Nov-22	9:00 AM	63.2	61.2	59.2	58.2	58.2	56.3	55.5
22-Nov-22	9:10 AM	68.7	59.8	57.2	56.9	56.4	56.0	55.3
22-Nov-22	9:20 AM	77.3	69.3	64.2	61.1	56.9	56.3	55.7
22-Nov-22	9:30 AM	75.6	74.0	66.0	65.4	63.8	63.4	62.3
22-Nov-22	9:40 AM	67.3	65.1	64.3	63.6	63.4	63.1	62.4
22-Nov-22	9:50 AM	77.7	67.9	64.6	61.2	57.9	56.6	56.0
22-Nov-22	10:00 AM	67.9	66.4	61.5	59.4	58.5	57.0	55.9
22-Nov-22	10:10 AM	70.3	68.2	61.5	59.4	57.4	56.1	55.4
22-Nov-22	10:20 AM	70.7	64.1	58.1	57.7	57.1	56.0	55.4
22-Nov-22	10:30 AM	68.4	62.4	58.4	56.8	55.8	55.2	54.7
22-Nov-22	10:40 AM	70.8	70.0	62.5	59.8	56.4	55.3	54.7
22-Nov-22	10:50 AM	67.3	64.0	58.9	57.5	56.7	55.8	54.8
22-Nov-22	11:00 AM	69.3	62.7	60.0	57.9	56.9	56.4	55.7
22-Nov-22	11:10 AM	72.4	70.6	62.5	60.1	56.6	56.0	55.4
22-Nov-22	11:20 AM	73.3	69.4	60.1	58.9	56.7	55.5	53.5
22-Nov-22	11:30 AM	74.7	71.0	59.9	58.5	54.3	53.4	52.3

Table 3a (continued): A-weighted 10-minute Noise Levels at LT-V3

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	11:40 AM	70.2	62.8	56.5	55.7	54.9	52.7	52.0
22-Nov-22	11:50 AM	76.3	73.1	64.1	61.0	54.0	52.7	52.2
22-Nov-22	12:00 PM	72.5	60.1	55.7	54.8	53.5	52.6	51.9
22-Nov-22	12:10 PM	77.7	72.1	59.5	59.2	53.5	52.5	51.3
22-Nov-22	12:20 PM	64.1	60.8	55.8	54.3	53.5	52.3	51.7
22-Nov-22	12:30 PM	66.2	64.0	58.2	56.5	55.7	52.6	50.7
22-Nov-22	12:40 PM	67.0	62.9	58.0	55.4	53.6	51.5	49.8
22-Nov-22	12:50 PM	69.7	67.1	57.2	55.7	52.4	50.2	49.1
22-Nov-22	1:00 PM	65.9	63.5	58.4	55.4	53.6	50.9	49.4
22-Nov-22	1:10 PM	83.8	72.4	59.0	61.8	54.1	52.0	50.3
22-Nov-22	1:20 PM	74.7	71.9	61.1	60.3	55.3	52.9	51.3
22-Nov-22	1:30 PM	79.0	74.2	63.3	62.0	55.7	53.3	51.4
22-Nov-22	1:40 PM	73.1	68.2	59.0	58.0	55.1	54.0	52.7
22-Nov-22	1:50 PM	73.3	71.1	64.9	62.0	57.1	55.6	54.4
22-Nov-22	2:00 PM	66.6	65.4	64.4	60.5	56.5	55.0	52.5
22-Nov-22	2:10 PM	73.0	70.5	65.2	61.4	57.8	55.3	53.6
22-Nov-22	2:20 PM	80.2	76.4	66.4	64.1	57.5	53.8	52.2

Table 3b: un-weighted 10-minute Octave Band Leq Noise Levels at LT-V3

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
2022-11-21	1:50 PM	65.9	57.6	56.4	56.5	61.5	50.8	43.8
2022-11-21	2:00 PM	62.4	56.4	55.0	55.0	50.5	40.0	37.9
2022-11-21	2:10 PM	65.5	62.7	61.2	62.6	62.2	55.1	49.9
2022-11-21	2:20 PM	66.1	59.5	58.4	56.9	57.3	49.8	44.4
2022-11-21	2:30 PM	66.0	58.8	57.6	55.9	52.8	43.2	36.7
2022-11-21	2:40 PM	60.4	57.9	55.6	54.1	53.0	42.7	37.2
2022-11-21	2:50 PM	61.8	56.4	55.4	55.2	51.6	41.6	31.9
2022-11-21	3:00 PM	64.5	62.7	58.1	60.6	59.7	51.3	45.7
2022-11-21	3:10 PM	57.1	54.4	50.5	50.4	47.1	36.1	34.3
2022-11-21	3:20 PM	57.0	51.8	51.1	58.2	49.2	38.4	32.1
2022-11-21	3:30 PM	59.0	56.1	51.1	49.2	45.6	34.0	28.3
2022-11-21	3:40 PM	59.5	56.2	53.7	59.1	57.3	39.3	33.3
2022-11-21	3:50 PM	57.3	56.3	54.1	54.1	47.2	31.8	32.0
2022-11-21	4:00 PM	58.2	55.5	52.0	50.7	48.0	34.8	34.4
2022-11-21	4:10 PM	60.3	56.9	53.6	51.4	46.6	32.1	34.4
2022-11-21	4:20 PM	58.9	55.3	52.0	50.9	46.8	33.4	30.3
2022-11-21	4:30 PM	60.7	56.0	52.3	50.6	46.0	33.3	31.5
2022-11-21	4:40 PM	60.8	56.2	51.4	50.7	45.9	32.9	24.1

Table 3b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V3

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
2022-11-21	4:50 PM	60.8	59.0	54.9	54.5	52.9	44.8	39.8
2022-11-21	5:00 PM	61.7	58.3	53.8	55.0	48.2	36.6	27.4
2022-11-21	5:10 PM	62.2	60.5	56.7	57.0	53.6	44.6	42.1
2022-11-21	5:20 PM	62.0	55.9	54.8	54.0	50.7	38.9	28.7
2022-11-21	5:30 PM	62.6	57.5	55.9	55.7	51.0	38.4	26.5
2022-11-21	5:40 PM	61.4	55.3	54.3	53.9	50.3	39.9	32.4
2022-11-21	5:50 PM	62.0	56.0	55.3	55.5	53.2	39.5	31.7
2022-11-21	6:00 PM	62.9	61.9	56.6	56.4	54.6	44.9	38.6
2022-11-21	6:10 PM	61.5	58.0	54.9	53.5	49.0	42.9	36.0
2022-11-21	6:20 PM	60.5	57.1	55.3	52.8	46.2	35.8	33.1
2022-11-21	6:30 PM	60.6	56.0	54.6	53.4	47.8	32.9	29.7
2022-11-21	6:40 PM	60.6	56.4	54.8	52.6	45.6	30.6	25.9
2022-11-21	6:50 PM	60.2	56.2	54.9	52.7	46.0	30.8	24.3
2022-11-21	7:00 PM	61.8	57.0	55.7	53.4	46.5	30.0	22.6
2022-11-21	7:10 PM	60.5	56.0	55.3	53.5	46.6	30.2	20.2
2022-11-21	7:20 PM	64.3	59.6	57.1	55.1	48.6	34.1	24.1
2022-11-21	7:30 PM	62.8	61.3	59.2	57.4	53.3	41.0	34.1
2022-11-21	7:40 PM	60.2	58.5	56.6	57.5	53.8	38.4	23.2
2022-11-21	7:50 PM	62.4	56.8	56.0	55.9	52.7	44.0	41.6
2022-11-21	8:00 PM	60.7	57.8	59.2	65.6	62.0	47.7	36.7
2022-11-21	8:10 PM	60.9	58.6	58.7	58.8	54.3	45.0	34.3
2022-11-21	8:20 PM	59.2	57.1	58.1	58.7	54.6	39.9	23.9
2022-11-21	8:30 PM	60.1	56.6	55.7	55.4	50.9	39.1	28.0
2022-11-21	8:40 PM	62.2	58.3	56.1	57.0	52.0	40.8	29.8
2022-11-21	8:50 PM	61.1	58.6	55.7	54.6	49.4	37.0	23.7
2022-11-21	9:00 PM	61.7	59.6	55.8	54.6	49.5	38.1	24.1
2022-11-21	9:10 PM	62.3	58.8	56.1	56.1	51.6	40.1	26.2
2022-11-21	9:20 PM	62.0	59.0	55.9	55.3	51.2	38.6	24.6
2022-11-21	9:30 PM	62.3	58.8	56.4	57.2	53.9	40.7	26.3
2022-11-21	9:40 PM	63.4	58.0	55.5	55.8	50.1	38.7	25.8
2022-11-21	9:50 PM	61.2	58.2	56.8	57.0	52.9	41.2	26.8
2022-11-21	10:00 PM	61.1	57.3	55.8	56.7	52.1	38.3	26.5
2022-11-21	10:10 PM	60.6	56.6	55.0	54.0	48.8	35.1	20.9
2022-11-21	10:20 PM	62.1	57.2	54.8	54.7	49.8	36.1	20.3
2022-11-21	10:30 PM	62.1	57.6	56.0	56.4	53.0	43.3	24.5
2022-11-21	10:40 PM	62.2	58.2	55.9	57.2	53.6	40.4	24.2
2022-11-21	10:50 PM	62.5	59.7	58.2	60.6	61.1	49.6	40.4
2022-11-21	11:00 PM	60.8	57.3	56.0	57.6	54.3	42.1	33.0
2022-11-21	11:10 PM	62.2	57.7	56.2	57.9	55.3	44.5	34.2

Table 3b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V3

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
2022-11-21	11:20 PM	61.3	58.5	56.0	56.4	53.6	40.8	28.6
2022-11-21	11:30 PM	62.3	57.7	56.4	55.7	51.9	38.8	26.2
2022-11-21	11:40 PM	62.9	57.5	55.3	55.1	51.7	38.7	26.6
2022-11-21	11:50 PM	61.3	56.8	54.5	54.4	51.0	36.6	25.6
2022-11-22	12:00 AM	62.2	57.7	57.2	59.6	55.7	43.6	34.9
2022-11-22	12:10 AM	62.6	57.5	56.9	58.1	54.5	39.6	22.8
2022-11-22	12:20 AM	62.4	57.6	56.6	56.1	52.7	38.0	25.8
2022-11-22	12:30 AM	61.6	57.0	56.8	55.9	53.3	39.2	28.3
2022-11-22	12:40 AM	61.4	55.7	54.8	54.3	51.1	36.6	24.9
2022-11-22	12:50 AM	61.6	55.6	54.7	54.6	50.8	34.1	20.3
2022-11-22	1:00 AM	60.5	55.9	55.8	57.0	54.3	36.4	19.4
2022-11-22	1:10 AM	65.1	61.8	58.9	59.2	53.4	40.7	23.9
2022-11-22	1:20 AM	61.8	57.9	55.4	55.1	49.3	33.4	19.9
2022-11-22	1:30 AM	64.1	57.5	55.4	54.9	50.1	34.8	19.6
2022-11-22	1:40 AM	66.6	58.7	56.3	55.2	50.9	36.4	22.9
2022-11-22	1:50 AM	62.1	56.1	54.7	54.0	49.2	33.0	18.8
2022-11-22	2:00 AM	62.6	57.7	54.9	53.8	48.7	30.4	20.5
2022-11-22	2:10 AM	61.6	55.4	55.0	53.1	47.8	29.6	22.2
2022-11-22	2:20 AM	60.5	55.4	54.5	52.7	47.2	30.2	20.3
2022-11-22	2:30 AM	61.6	56.9	55.8	54.0	50.3	39.7	33.1
2022-11-22	2:40 AM	61.7	56.2	55.7	54.1	49.5	35.4	22.4
2022-11-22	2:50 AM	61.2	56.7	53.9	54.5	50.0	31.7	20.8
2022-11-22	3:00 AM	62.4	57.1	54.8	53.0	48.3	29.2	20.7
2022-11-22	3:10 AM	60.3	55.1	53.4	53.2	47.5	31.6	20.6
2022-11-22	3:20 AM	59.1	54.8	52.5	51.4	45.6	30.8	18.6
2022-11-22	3:30 AM	62.8	57.2	53.8	51.8	46.3	30.4	19.2
2022-11-22	3:40 AM	60.8	56.2	54.5	54.1	47.5	30.3	17.1
2022-11-22	3:50 AM	59.0	55.1	53.1	52.0	46.7	30.1	17.0
2022-11-22	4:00 AM	61.6	55.0	52.9	51.5	46.2	30.5	17.3
2022-11-22	4:10 AM	59.0	55.0	52.8	52.0	46.8	31.5	17.2
2022-11-22	4:20 AM	59.3	54.5	52.9	52.3	47.4	31.2	17.3
2022-11-22	4:30 AM	58.8	55.4	53.0	52.2	47.8	31.9	21.1
2022-11-22	4:40 AM	61.4	57.5	54.6	53.5	49.2	32.6	18.0
2022-11-22	4:50 AM	60.5	56.5	54.1	53.8	49.7	31.8	18.3
2022-11-22	5:00 AM	62.5	57.3	54.0	53.6	50.3	37.4	31.9
2022-11-22	5:10 AM	65.4	59.3	55.8	57.1	57.1	51.2	46.6
2022-11-22	5:20 AM	64.5	58.7	55.0	57.6	53.3	46.6	34.3
2022-11-22	5:30 AM	63.5	57.8	56.1	58.3	54.8	40.0	29.4
2022-11-22	5:40 AM	63.6	59.1	55.4	55.3	52.3	43.1	37.8

Table 3b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V3

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
2022-11-22	5:50 AM	63.6	60.3	55.6	55.5	53.2	37.5	26.3
2022-11-22	6:00 AM	64.0	60.5	57.3	58.8	55.2	45.8	40.5
2022-11-22	6:10 AM	65.5	60.3	57.8	58.5	56.0	45.9	39.8
2022-11-22	6:20 AM	65.6	59.7	56.6	57.4	54.4	45.1	39.3
2022-11-22	6:30 AM	64.1	59.0	57.3	58.3	53.8	45.2	40.4
2022-11-22	6:40 AM	63.1	58.8	55.7	56.2	52.0	36.7	30.9
2022-11-22	6:50 AM	63.4	59.3	54.7	56.2	52.5	43.1	38.4
2022-11-22	7:00 AM	63.6	59.7	55.9	57.8	52.7	37.5	34.0
2022-11-22	7:10 AM	65.2	60.4	56.8	56.1	51.3	38.7	33.1
2022-11-22	7:20 AM	64.0	60.3	55.9	55.9	51.4	39.4	32.3
2022-11-22	7:30 AM	63.7	62.2	57.3	58.0	52.9	39.6	32.6
2022-11-22	7:40 AM	65.8	59.7	55.5	57.3	52.6	41.6	34.4
2022-11-22	7:50 AM	64.3	57.4	54.1	56.5	49.9	36.5	30.8
2022-11-22	8:00 AM	62.5	57.4	54.7	56.4	48.5	36.1	28.8
2022-11-22	8:10 AM	62.4	58.8	56.9	54.5	48.0	34.9	24.5
2022-11-22	8:20 AM	61.5	59.4	55.4	53.7	51.2	36.8	24.4
2022-11-22	8:30 AM	63.0	61.3	57.6	56.9	52.5	40.4	32.6
2022-11-22	8:40 AM	64.9	60.8	58.5	60.3	57.3	46.9	40.3
2022-11-22	8:50 AM	68.1	62.5	60.3	61.7	59.7	48.9	41.2
2022-11-22	9:00 AM	61.4	58.5	57.8	58.4	52.6	40.1	40.5
2022-11-22	9:10 AM	61.2	60.1	57.4	57.1	51.5	37.4	32.4
2022-11-22	9:20 AM	61.2	60.3	58.5	58.9	58.5	47.8	41.9
2022-11-22	9:30 AM	65.7	65.7	63.2	63.4	63.0	51.3	43.0
2022-11-22	9:40 AM	63.3	62.0	59.5	59.8	62.2	48.6	42.5
2022-11-22	9:50 AM	62.4	61.5	58.5	59.2	58.2	49.0	43.7
2022-11-22	10:00 AM	66.4	60.0	59.0	59.3	54.2	41.9	39.9
2022-11-22	10:10 AM	63.7	61.6	58.1	58.6	55.1	46.4	40.3
2022-11-22	10:20 AM	65.6	60.9	56.9	57.6	52.6	42.2	34.7
2022-11-22	10:30 AM	59.6	60.0	56.7	56.8	51.5	41.0	34.1
2022-11-22	10:40 AM	64.7	61.7	57.9	58.5	55.8	48.1	44.0
2022-11-22	10:50 AM	61.4	60.8	57.4	57.6	52.1	41.4	35.3
2022-11-22	11:00 AM	61.0	60.1	57.4	58.1	52.8	42.1	34.5
2022-11-22	11:10 AM	62.6	61.3	59.5	59.8	55.7	46.2	39.6
2022-11-22	11:20 AM	64.6	61.6	57.8	57.8	54.8	45.4	40.5
2022-11-22	11:30 AM	64.1	61.5	58.7	57.3	54.5	44.9	38.0
2022-11-22	11:40 AM	60.1	58.5	55.0	55.5	50.6	41.0	36.8
2022-11-22	11:50 AM	64.2	62.4	59.9	58.9	57.2	50.2	45.1
2022-11-22	12:00 PM	59.3	58.4	54.0	54.5	50.5	37.8	30.6
2022-11-22	12:10 PM	65.0	62.2	60.1	58.4	53.9	46.5	41.1

Table 3b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V3

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
2022-11-22	12:20 PM	59.9	57.6	53.2	54.0	49.6	41.0	32.4
2022-11-22	12:30 PM	60.6	58.8	53.7	55.9	50.8	45.3	43.7
2022-11-22	12:40 PM	63.2	59.3	53.9	54.1	51.5	42.1	37.4
2022-11-22	12:50 PM	63.1	62.1	56.3	54.7	50.6	42.2	38.5
2022-11-22	1:00 PM	62.8	59.7	53.3	54.4	51.1	43.8	36.8
2022-11-22	1:10 PM	64.9	60.8	63.1	57.8	58.0	51.5	47.3
2022-11-22	1:20 PM	62.7	59.7	55.8	56.3	58.2	47.1	41.1
2022-11-22	1:30 PM	64.7	61.9	60.8	60.1	58.1	51.3	45.9
2022-11-22	1:40 PM	62.6	61.1	55.4	56.0	53.9	47.9	44.4
2022-11-22	1:50 PM	66.0	62.2	57.5	60.3	58.8	50.7	44.2
2022-11-22	2:00 PM	66.2	62.0	56.2	59.3	57.1	47.7	41.1
2022-11-22	2:10 PM	67.6	63.7	59.3	60.0	57.7	49.1	42.8
2022-11-22	2:20 PM	63.0	60.8	58.0	59.5	57.4	57.2	57.0

Table 4: A-weighted Hourly Noise Levels at LT-V4

Date	Hour beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	2:00 PM	88.0	70.4	56.8	59.2	52.9	50.3	48.4
21-Nov-22	3:00 PM	85.4	64.8	55.2	58.3	49.2	46.3	43.8
21-Nov-22	4:00 PM	65.5	55.2	52.9	50.3	48.6	47.1	45.1
21-Nov-22	5:00 PM	72.9	63.7	56.5	55.1	52.8	51.4	48.7
21-Nov-22	6:00 PM	84.5	64.0	54.0	57.5	50.5	49.0	47.1
21-Nov-22	7:00 PM	81.8	64.5	56.2	57.2	53.0	51.7	49.8
21-Nov-22	8:00 PM	75.6	64.9	57.0	56.3	53.2	51.8	49.8
21-Nov-22	9:00 PM	68.2	61.7	57.9	56.3	55.2	53.8	52.5
21-Nov-22	10:00 PM	79.3	62.8	57.0	56.8	54.9	53.9	51.7
21-Nov-22	11:00 PM	70.7	63.3	55.3	54.6	53.1	52.3	51.2
22-Nov-22	12:00 AM	71.5	59.5	55.2	54.4	53.6	52.6	51.0
22-Nov-22	1:00 AM	67.6	61.4	55.8	54.8	53.7	52.0	50.6
22-Nov-22	2:00 AM	69.3	59.4	53.9	53.3	52.5	51.4	48.8
22-Nov-22	3:00 AM	69.6	57.8	52.8	52.0	50.9	49.5	47.7
22-Nov-22	4:00 AM	59.4	54.4	52.5	51.3	50.8	50.0	48.3
22-Nov-22	5:00 AM	73.0	62.4	56.2	55.5	54.0	52.7	50.4
22-Nov-22	6:00 AM	73.0	63.5	56.9	56.1	55.2	53.7	52.4
22-Nov-22	7:00 AM	72.1	63.0	56.8	55.8	54.5	53.7	51.2
22-Nov-22	8:00 AM	90.1	65.7	57.8	59.9	55.0	53.5	52.6
22-Nov-22	9:00 AM	78.0	65.2	56.8	57.1	54.7	53.6	51.9
22-Nov-22	10:00 AM	81.4	67.4	59.4	60.0	54.9	53.7	51.4
22-Nov-22	11:00 AM	83.2	73.1	59.1	61.5	54.0	52.7	50.0
22-Nov-22	12:00 PM	74.8	62.7	54.7	54.6	51.4	50.3	48.8
22-Nov-22	1:00 PM	85.0	69.6	57.7	59.2	54.2	52.8	49.3

Table 4a(continued): A-weighted 10-minute Noise Levels at LT-V4

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	1:30 PM	74.1	68.5	54.3	55.4	49.8	48.8	47.8
21-Nov-22	1:40 PM	76.3	70.0	57.7	58.0	51.5	49.6	48.5
21-Nov-22	1:50 PM	66.3	64.8	57.1	55.0	52.5	51.1	50.2
21-Nov-22	2:00 PM	74.5	71.5	58.6	59.2	56.3	51.4	49.9
21-Nov-22	2:10 PM	86.5	79.7	63.4	65.9	55.5	51.5	50.0
21-Nov-22	2:20 PM	83.6	69.4	54.6	60.3	51.4	49.9	49.3
21-Nov-22	2:30 PM	88.0	79.1	56.5	65.3	51.8	50.2	48.7
21-Nov-22	2:40 PM	63.7	61.2	53.4	52.1	50.9	49.3	48.6
21-Nov-22	2:50 PM	65.5	61.3	54.0	52.6	51.4	49.5	48.4
21-Nov-22	3:00 PM	85.4	77.7	62.2	64.9	51.9	48.5	47.3
21-Nov-22	3:10 PM	56.1	54.5	50.8	48.2	46.8	44.9	43.8
21-Nov-22	3:20 PM	64.3	62.3	53.9	52.9	51.8	46.2	44.8
21-Nov-22	3:30 PM	65.0	60.8	51.7	50.8	47.5	45.8	44.7
21-Nov-22	3:40 PM	72.3	69.0	57.9	56.3	48.8	45.8	44.9
21-Nov-22	3:50 PM	66.7	64.6	54.7	52.8	48.3	46.4	45.6
21-Nov-22	4:00 PM	60.1	55.9	53.3	50.3	48.5	46.9	45.9
21-Nov-22	4:10 PM	65.5	59.4	53.2	51.0	48.8	46.7	45.7
21-Nov-22	4:20 PM	53.7	53.4	52.6	50.3	49.3	48.0	47.1
21-Nov-22	4:30 PM	53.9	53.6	52.6	49.8	48.6	47.3	46.2
21-Nov-22	4:40 PM	53.7	53.3	52.0	48.9	47.2	46.1	45.1
21-Nov-22	4:50 PM	59.7	55.3	53.6	50.9	49.1	47.8	46.9
21-Nov-22	5:00 PM	66.1	61.0	54.6	52.3	50.3	49.4	48.7
21-Nov-22	5:10 PM	65.3	63.3	56.0	54.5	52.8	50.6	49.8
21-Nov-22	5:20 PM	67.8	64.3	56.5	54.8	53.0	51.5	50.4
21-Nov-22	5:30 PM	67.8	65.7	58.9	56.5	53.2	51.4	50.6
21-Nov-22	5:40 PM	66.3	61.2	56.2	54.6	53.6	52.0	50.2
21-Nov-22	5:50 PM	72.9	66.5	56.6	56.5	53.8	53.2	52.7
21-Nov-22	6:00 PM	75.2	68.8	59.1	58.0	53.7	49.7	48.6
21-Nov-22	6:10 PM	84.5	74.6	53.2	62.0	49.3	48.4	47.6
21-Nov-22	6:20 PM	81.7	67.0	53.3	58.7	50.3	48.7	47.1
21-Nov-22	6:30 PM	56.6	55.3	52.9	50.7	49.5	48.7	47.8
21-Nov-22	6:40 PM	65.9	55.5	52.6	51.2	50.1	49.1	48.5
21-Nov-22	6:50 PM	70.0	62.8	52.9	52.4	49.9	49.2	48.5
21-Nov-22	7:00 PM	59.6	58.5	54.0	53.0	52.3	51.7	50.9
21-Nov-22	7:10 PM	55.5	55.1	54.5	53.3	52.9	52.3	51.8
21-Nov-22	7:20 PM	65.9	64.3	57.0	55.6	54.6	52.3	51.1
21-Nov-22	7:30 PM	68.6	63.9	56.2	54.6	51.6	50.5	49.8
21-Nov-22	7:40 PM	76.2	69.2	56.5	57.1	53.2	51.4	50.2
21-Nov-22	7:50 PM	81.8	76.0	59.1	61.9	53.4	51.7	50.5

Table 4a(continued): A-weighted 10-minute Noise Levels at LT-V4

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	8:00 PM	74.5	71.3	61.0	59.5	54.2	51.8	50.9
21-Nov-22	8:10 PM	67.2	64.2	56.7	55.1	53.5	52.6	51.7
21-Nov-22	8:20 PM	75.6	68.9	56.8	57.3	53.9	52.5	51.6
21-Nov-22	8:30 PM	63.1	60.7	55.4	53.3	51.9	50.5	49.9
21-Nov-22	8:40 PM	69.5	66.7	55.8	55.0	52.4	51.1	49.8
21-Nov-22	8:50 PM	58.7	57.8	56.1	54.2	53.5	52.4	51.4
21-Nov-22	9:00 PM	60.9	58.4	56.8	54.7	54.0	53.1	52.5
21-Nov-22	9:10 PM	63.7	62.0	57.7	56.0	54.9	53.8	53.2
21-Nov-22	9:20 PM	62.3	59.6	57.5	55.4	54.4	53.4	52.7
21-Nov-22	9:30 PM	68.2	64.2	58.2	56.7	55.4	53.9	52.9
21-Nov-22	9:40 PM	64.1	60.1	58.1	56.5	56.2	54.3	53.5
21-Nov-22	9:50 PM	67.1	65.8	59.2	57.7	56.2	54.3	52.9
21-Nov-22	10:00 PM	67.6	63.2	56.4	55.2	53.8	52.9	52.0
21-Nov-22	10:10 PM	55.4	54.7	54.1	53.6	53.6	53.1	52.3
21-Nov-22	10:20 PM	69.2	58.7	54.8	54.3	53.6	53.2	52.7
21-Nov-22	10:30 PM	79.3	70.1	57.8	59.6	56.3	54.8	53.4
21-Nov-22	10:40 PM	68.8	65.0	59.3	57.8	56.7	55.9	55.4
21-Nov-22	10:50 PM	68.4	65.2	59.7	57.1	55.4	53.7	51.7
21-Nov-22	11:00 PM	68.2	64.4	55.1	54.8	53.2	52.4	51.4
21-Nov-22	11:10 PM	68.4	64.7	55.9	55.3	53.8	52.8	51.8
21-Nov-22	11:20 PM	70.7	65.8	54.4	54.8	53.0	52.2	51.4
21-Nov-22	11:30 PM	67.8	63.8	56.9	55.3	53.5	52.5	51.7
21-Nov-22	11:40 PM	66.4	63.3	55.1	54.1	52.7	52.1	51.2
21-Nov-22	11:50 PM	63.0	57.5	54.5	53.2	52.6	51.8	51.2
22-Nov-22	12:00 AM	71.5	65.9	56.2	55.9	54.3	52.9	51.8
22-Nov-22	12:10 AM	70.9	63.5	55.3	55.0	53.7	53.0	52.3
22-Nov-22	12:20 AM	61.7	58.4	56.0	54.4	53.8	52.8	51.8
22-Nov-22	12:30 AM	62.4	57.7	55.0	53.9	53.5	52.7	52.0
22-Nov-22	12:40 AM	59.0	56.2	54.4	53.3	53.1	52.2	51.0
22-Nov-22	12:50 AM	57.1	55.4	54.1	53.1	52.9	52.1	51.2
22-Nov-22	1:00 AM	66.9	61.7	55.8	54.5	53.3	51.9	50.9
22-Nov-22	1:10 AM	67.6	66.7	59.7	57.5	55.8	52.7	51.3
22-Nov-22	1:20 AM	64.1	60.5	54.6	53.8	53.2	51.8	50.8
22-Nov-22	1:30 AM	64.1	61.9	56.2	54.6	53.6	51.9	50.7
22-Nov-22	1:40 AM	63.9	61.9	55.0	54.4	53.9	52.4	51.6
22-Nov-22	1:50 AM	57.9	55.8	53.2	52.4	52.3	51.4	50.6
22-Nov-22	2:00 AM	60.0	57.9	53.8	53.1	52.7	51.9	51.3
22-Nov-22	2:10 AM	67.8	57.6	54.4	53.6	53.0	52.2	51.4
22-Nov-22	2:20 AM	55.1	54.8	54.3	53.6	53.6	53.0	52.4

Table 4a(continued): A-weighted 10-minute Noise Levels at LT-V4

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	2:30 AM	67.0	63.9	54.6	54.5	53.5	51.9	50.5
22-Nov-22	2:40 AM	69.3	60.9	52.1	52.0	50.5	49.8	49.1
22-Nov-22	2:50 AM	64.3	61.3	54.2	52.7	51.5	49.4	48.8
22-Nov-22	3:00 AM	63.7	58.8	54.3	52.8	51.9	50.4	49.5
22-Nov-22	3:10 AM	69.6	65.0	52.7	53.0	50.4	49.5	48.3
22-Nov-22	3:20 AM	56.4	52.8	51.1	50.2	50.0	49.3	48.5
22-Nov-22	3:30 AM	55.6	54.7	53.5	52.1	52.1	50.1	49.5
22-Nov-22	3:40 AM	67.5	61.8	53.7	52.6	51.3	49.5	48.8
22-Nov-22	3:50 AM	55.7	53.8	51.7	50.1	49.8	48.4	47.7
22-Nov-22	4:00 AM	55.5	54.6	52.5	50.9	50.3	49.6	49.1
22-Nov-22	4:10 AM	59.4	53.4	51.4	50.2	49.8	49.1	48.3
22-Nov-22	4:20 AM	53.5	52.9	51.4	50.6	50.4	49.6	49.0
22-Nov-22	4:30 AM	53.9	53.1	51.7	50.7	50.5	49.7	49.1
22-Nov-22	4:40 AM	58.8	56.2	54.4	52.4	51.5	50.4	49.3
22-Nov-22	4:50 AM	59.1	56.3	53.3	52.5	52.3	51.3	50.7
22-Nov-22	5:00 AM	65.3	57.2	54.2	52.7	51.9	51.0	50.4
22-Nov-22	5:10 AM	67.5	59.4	55.8	54.3	53.6	52.3	51.6
22-Nov-22	5:20 AM	73.0	67.0	57.6	57.3	56.5	54.3	53.7
22-Nov-22	5:30 AM	69.1	67.6	58.1	57.4	55.0	54.0	52.1
22-Nov-22	5:40 AM	68.6	65.7	55.8	54.9	53.2	52.2	51.2
22-Nov-22	5:50 AM	61.6	57.7	55.7	54.1	53.6	52.5	51.8
22-Nov-22	6:00 AM	69.4	62.5	56.2	55.5	54.6	53.5	52.9
22-Nov-22	6:10 AM	63.7	60.5	57.7	56.5	56.6	54.5	53.7
22-Nov-22	6:20 AM	66.7	63.9	57.4	56.5	56.0	54.1	53.5
22-Nov-22	6:30 AM	73.0	67.4	58.6	57.7	56.0	53.7	52.9
22-Nov-22	6:40 AM	65.1	63.4	55.1	54.8	54.0	53.5	53.0
22-Nov-22	6:50 AM	69.3	63.4	56.1	55.2	54.1	53.1	52.4
22-Nov-22	7:00 AM	70.0	63.8	57.1	55.7	54.1	53.5	53.1
22-Nov-22	7:10 AM	68.4	61.2	57.0	55.6	54.7	53.6	52.7
22-Nov-22	7:20 AM	67.2	63.4	57.3	55.8	54.9	54.0	53.2
22-Nov-22	7:30 AM	72.1	68.1	58.2	57.6	55.4	54.8	54.0
22-Nov-22	7:40 AM	63.4	60.4	55.9	55.3	55.0	54.2	53.3
22-Nov-22	7:50 AM	64.5	61.0	55.1	54.0	53.0	52.1	51.2
22-Nov-22	8:00 AM	62.2	58.1	53.9	53.1	52.6	52.1	51.5
22-Nov-22	8:10 AM	62.5	61.5	55.7	53.8	52.2	51.3	50.4
22-Nov-22	8:20 AM	60.8	57.8	56.4	54.3	53.5	52.1	51.1
22-Nov-22	8:30 AM	71.4	69.8	58.9	59.1	57.6	54.6	53.0
22-Nov-22	8:40 AM	90.1	73.9	60.6	65.0	58.7	57.4	56.8
22-Nov-22	8:50 AM	78.2	73.1	61.2	60.7	55.6	53.2	52.5

Table 4a(continued): A-weighted 10-minute Noise Levels at LT-V4

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	9:00 AM	74.4	69.2	56.0	57.2	55.0	53.4	52.5
22-Nov-22	9:10 AM	78.0	67.7	54.0	57.1	53.2	52.4	51.9
22-Nov-22	9:20 AM	65.9	60.5	54.8	54.2	53.6	53.0	52.5
22-Nov-22	9:30 AM	73.6	72.0	62.4	60.2	56.2	54.4	53.2
22-Nov-22	9:40 AM	66.6	61.9	57.1	55.5	54.4	53.6	53.2
22-Nov-22	9:50 AM	61.0	60.0	56.7	55.9	55.6	54.8	54.0
22-Nov-22	10:00 AM	65.5	64.7	58.2	57.8	57.1	55.7	54.9
22-Nov-22	10:10 AM	75.9	71.3	62.7	60.8	56.3	55.2	54.5
22-Nov-22	10:20 AM	73.0	71.1	58.3	58.6	55.2	54.2	53.4
22-Nov-22	10:30 AM	62.5	58.2	55.4	53.8	53.1	52.4	51.9
22-Nov-22	10:40 AM	81.4	78.0	64.1	64.7	53.2	52.2	51.4
22-Nov-22	10:50 AM	61.9	60.9	57.5	55.3	54.4	52.6	51.6
22-Nov-22	11:00 AM	77.3	72.4	59.1	59.5	54.4	53.5	52.8
22-Nov-22	11:10 AM	82.0	76.6	63.6	63.7	54.8	53.7	53.1
22-Nov-22	11:20 AM	83.2	74.7	58.2	61.6	55.0	52.8	51.1
22-Nov-22	11:30 AM	82.4	79.8	63.2	64.7	54.1	52.8	51.9
22-Nov-22	11:40 AM	72.0	67.0	55.8	56.3	53.6	52.1	50.0
22-Nov-22	11:50 AM	73.8	67.9	54.5	55.6	51.9	51.0	50.3
22-Nov-22	12:00 PM	65.0	62.3	54.8	53.1	51.3	50.5	49.9
22-Nov-22	12:10 PM	56.9	55.3	53.0	51.6	51.3	50.3	49.5
22-Nov-22	12:20 PM	65.3	60.7	52.7	52.3	51.2	50.4	49.8
22-Nov-22	12:30 PM	66.1	60.2	53.6	53.0	52.4	50.7	49.5
22-Nov-22	12:40 PM	68.1	64.5	57.0	54.3	51.3	50.3	48.8
22-Nov-22	12:50 PM	74.8	72.9	56.9	58.7	50.8	49.7	49.0
22-Nov-22	1:00 PM	75.1	72.0	54.9	57.2	51.5	50.3	49.3
22-Nov-22	1:10 PM	69.8	64.7	55.2	54.5	52.9	51.7	50.9
22-Nov-22	1:20 PM	69.5	66.4	56.9	55.8	53.4	52.3	51.4
22-Nov-22	1:30 PM	70.8	66.5	60.6	57.4	54.5	53.1	52.0
22-Nov-22	1:40 PM	75.6	71.9	59.3	59.9	57.0	54.7	53.6
22-Nov-22	1:50 PM	85.0	76.3	59.3	63.6	56.0	54.9	54.0
22-Nov-22	2:00 PM	69.6	66.8	58.9	57.1	55.1	54.1	52.9

Table 4b: un-weighted 10-minute Octave Band Leq Noise Levels at LT-V4

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	1:30 PM	64.8	59.8	56.5	53.3	48.4	46.5	40.5
21-Nov-22	1:40 PM	64.5	61.0	55.4	54.4	51.1	52.1	46.7
21-Nov-22	1:50 PM	65.2	60.8	54.5	52.9	48.9	46.4	41.8
21-Nov-22	2:00 PM	66.4	61.7	58.3	57.7	52.6	51.4	45.1

Table 4b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V4

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	2:20 PM	66.5	61.6	56.8	55.2	52.4	55.8	50.0
21-Nov-22	2:30 PM	68.9	61.5	67.2	63.9	58.5	55.9	49.4
21-Nov-22	2:40 PM	63.9	58.0	53.7	51.5	45.1	40.1	33.0
21-Nov-22	2:50 PM	65.2	57.7	53.4	50.9	46.4	43.0	36.5
21-Nov-22	3:00 PM	67.8	64.3	62.7	63.4	59.2	57.2	51.8
21-Nov-22	3:10 PM	58.1	53.3	48.7	46.9	42.1	38.8	30.0
21-Nov-22	3:20 PM	57.5	54.3	50.8	51.6	46.0	45.1	38.0
21-Nov-22	3:30 PM	60.3	55.8	50.6	47.3	44.7	43.7	38.2
21-Nov-22	3:40 PM	61.7	59.8	55.4	54.9	49.4	48.3	43.6
21-Nov-22	3:50 PM	59.6	56.8	54.0	51.8	45.3	43.5	37.4
21-Nov-22	4:00 PM	59.4	57.9	51.2	47.8	44.1	41.3	32.8
21-Nov-22	4:10 PM	60.8	58.2	52.3	48.3	43.9	42.8	34.9
21-Nov-22	4:20 PM	59.5	55.8	51.0	48.6	44.1	41.4	33.2
21-Nov-22	4:30 PM	59.8	55.7	50.3	48.2	43.5	40.8	33.1
21-Nov-22	4:40 PM	58.9	55.1	49.5	46.5	42.7	40.6	33.0
21-Nov-22	4:50 PM	60.5	56.3	51.3	49.3	44.6	41.8	34.4
21-Nov-22	5:00 PM	62.1	58.0	53.2	50.4	45.6	43.3	37.8
21-Nov-22	5:10 PM	61.9	58.6	54.3	52.7	48.2	45.8	41.5
21-Nov-22	5:20 PM	62.1	58.2	54.4	53.0	48.7	46.0	42.5
21-Nov-22	5:30 PM	63.2	59.2	55.9	56.3	49.8	45.7	42.7
21-Nov-22	5:40 PM	60.9	56.8	53.3	52.8	48.1	46.9	42.8
21-Nov-22	5:50 PM	61.4	61.8	57.5	56.1	48.6	47.0	42.1
21-Nov-22	6:00 PM	63.2	59.1	55.7	55.7	52.2	50.5	46.4
21-Nov-22	6:10 PM	63.8	64.6	57.8	58.4	55.6	55.8	52.9
21-Nov-22	6:20 PM	61.2	59.6	54.6	53.8	52.0	53.3	49.4
21-Nov-22	6:30 PM	59.5	56.3	52.7	50.2	42.5	39.5	30.9
21-Nov-22	6:40 PM	59.8	57.1	52.7	50.6	43.5	40.2	34.2
21-Nov-22	6:50 PM	59.6	57.1	52.9	51.4	44.7	43.6	38.5
21-Nov-22	7:00 PM	60.7	58.4	54.3	52.6	45.1	42.5	34.0
21-Nov-22	7:10 PM	59.2	56.8	53.2	53.1	46.1	44.0	35.7
21-Nov-22	7:20 PM	66.0	61.7	56.0	54.5	48.6	45.5	38.9
21-Nov-22	7:30 PM	63.7	60.4	57.0	54.2	46.4	42.0	33.7
21-Nov-22	7:40 PM	61.8	59.8	55.8	57.1	51.6	45.6	35.8
21-Nov-22	7:50 PM	66.1	61.1	58.0	58.7	55.3	54.9	53.3
21-Nov-22	8:00 PM	60.0	57.1	56.1	60.7	53.6	46.2	38.4
21-Nov-22	8:10 PM	60.7	58.0	55.6	55.4	48.0	43.4	37.0
21-Nov-22	8:20 PM	59.7	57.3	56.0	57.8	50.3	44.4	38.0
21-Nov-22	8:30 PM	59.2	56.6	53.4	52.7	46.4	43.7	38.5
21-Nov-22	8:40 PM	63.2	58.7	54.7	56.0	46.9	42.6	37.2

Table 4b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V4

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	8:50 PM	63.3	58.9	54.4	53.6	47.0	44.1	39.2
21-Nov-22	9:00 PM	64.3	59.6	54.7	54.0	48.3	44.4	38.1
21-Nov-22	9:10 PM	64.1	59.3	54.9	55.1	50.2	46.3	40.1
21-Nov-22	9:20 PM	64.2	59.8	54.8	54.4	49.5	45.4	39.1
21-Nov-22	9:30 PM	64.6	59.6	55.3	55.7	51.5	46.6	40.1
21-Nov-22	9:40 PM	66.4	62.3	55.4	55.2	50.2	47.0	40.1
21-Nov-22	9:50 PM	63.2	63.5	57.2	56.6	51.4	47.4	40.7
21-Nov-22	10:00 PM	63.0	60.1	54.8	54.6	48.9	44.3	38.1
21-Nov-22	10:10 PM	63.1	60.9	54.3	53.8	46.1	37.9	29.4
21-Nov-22	10:20 PM	64.3	60.8	54.2	54.0	47.7	41.4	36.6
21-Nov-22	10:30 PM	64.4	62.2	58.3	57.5	53.2	52.4	47.6
21-Nov-22	10:40 PM	64.5	61.9	56.5	57.8	52.1	46.3	37.4
21-Nov-22	10:50 PM	64.4	61.1	56.6	56.4	51.5	46.6	40.2
21-Nov-22	11:00 PM	63.4	60.5	55.7	55.1	48.1	39.3	30.3
21-Nov-22	11:10 PM	64.0	60.0	55.8	55.4	49.5	40.7	30.2
21-Nov-22	11:20 PM	63.8	61.2	55.1	55.2	47.9	40.9	30.2
21-Nov-22	11:30 PM	63.7	60.7	55.9	55.1	48.5	42.5	37.7
21-Nov-22	11:40 PM	63.8	60.4	54.7	54.7	47.0	35.8	28.7
21-Nov-22	11:50 PM	64.1	61.5	54.3	53.1	45.8	35.3	29.6
22-Nov-22	12:00 AM	65.8	61.0	56.3	56.0	50.3	39.4	28.2
22-Nov-22	12:10 AM	64.3	59.7	55.6	55.4	48.4	37.5	28.1
22-Nov-22	12:20 AM	63.6	59.5	56.0	54.8	47.0	36.3	28.3
22-Nov-22	12:30 AM	63.3	58.8	55.9	54.2	46.9	36.1	28.7
22-Nov-22	12:40 AM	62.7	58.0	55.5	53.5	46.0	35.1	27.8
22-Nov-22	12:50 AM	62.7	58.2	55.3	53.4	45.4	34.1	28.4
22-Nov-22	1:00 AM	62.3	57.9	55.6	55.1	47.7	35.3	27.9
22-Nov-22	1:10 AM	67.3	63.8	58.6	57.9	50.0	40.6	28.2
22-Nov-22	1:20 AM	64.2	58.9	55.6	54.7	45.1	33.2	27.3
22-Nov-22	1:30 AM	66.4	61.5	56.0	54.8	46.5	39.5	28.0
22-Nov-22	1:40 AM	66.2	60.2	56.4	54.6	46.5	35.5	27.9
22-Nov-22	1:50 AM	63.6	58.7	54.9	52.7	43.7	32.9	27.8
22-Nov-22	2:00 AM	64.5	59.5	55.9	53.4	43.4	32.4	27.2
22-Nov-22	2:10 AM	63.3	59.4	55.8	53.3	45.1	40.1	37.2
22-Nov-22	2:20 AM	62.6	59.5	55.4	53.6	45.5	42.2	33.9
22-Nov-22	2:30 AM	62.7	59.5	55.7	54.0	47.1	44.6	37.5
22-Nov-22	2:40 AM	62.2	58.1	54.4	52.5	43.5	32.7	27.1
22-Nov-22	2:50 AM	63.6	59.9	54.6	52.8	44.7	34.1	27.2
22-Nov-22	3:00 AM	65.7	60.2	55.7	52.8	42.8	30.0	27.5
22-Nov-22	3:10 AM	61.8	58.2	54.9	52.2	45.2	41.7	37.6

Table 4b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V4

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	3:20 AM	59.8	56.5	53.7	50.4	40.8	32.3	27.5
22-Nov-22	3:30 AM	65.9	60.5	54.7	51.6	42.8	32.3	27.7
22-Nov-22	3:40 AM	63.2	59.3	55.4	53.2	42.5	31.8	27.4
22-Nov-22	3:50 AM	60.1	56.2	53.2	50.3	41.1	31.7	26.7
22-Nov-22	4:00 AM	65.1	57.8	53.4	50.7	41.4	31.4	27.2
22-Nov-22	4:10 AM	60.0	56.8	53.1	50.6	41.2	31.5	27.4
22-Nov-22	4:20 AM	60.2	57.2	52.9	50.9	42.2	31.5	26.9
22-Nov-22	4:30 AM	60.7	57.1	53.1	50.8	42.5	33.6	27.4
22-Nov-22	4:40 AM	63.2	59.2	55.2	52.5	44.0	32.3	27.3
22-Nov-22	4:50 AM	63.9	59.5	54.6	52.8	44.2	33.2	27.4
22-Nov-22	5:00 AM	67.7	59.5	54.2	52.7	45.0	34.0	27.7
22-Nov-22	5:10 AM	68.8	59.8	54.9	53.8	47.1	42.3	37.7
22-Nov-22	5:20 AM	68.4	59.5	55.7	57.4	50.0	46.7	37.4
22-Nov-22	5:30 AM	65.7	58.7	56.9	57.8	50.3	44.3	37.4
22-Nov-22	5:40 AM	65.2	60.8	55.4	54.3	48.1	43.8	37.9
22-Nov-22	5:50 AM	65.2	60.2	55.5	54.2	46.9	38.3	32.4
22-Nov-22	6:00 AM	66.0	60.3	57.0	56.0	48.6	37.3	29.1
22-Nov-22	6:10 AM	67.2	61.5	56.9	56.8	48.7	42.0	29.2
22-Nov-22	6:20 AM	68.4	62.5	56.6	56.3	48.4	44.1	36.8
22-Nov-22	6:30 AM	67.2	60.3	57.6	57.8	50.3	45.8	41.1
22-Nov-22	6:40 AM	66.0	59.4	56.2	54.8	47.2	40.8	37.4
22-Nov-22	6:50 AM	65.6	59.4	55.7	55.1	48.2	42.7	38.8
22-Nov-22	7:00 AM	66.5	60.0	56.6	56.6	48.3	37.3	25.5
22-Nov-22	7:10 AM	68.1	61.0	57.4	55.1	47.8	40.7	36.4
22-Nov-22	7:20 AM	66.6	60.9	56.6	55.1	48.0	46.1	40.0
22-Nov-22	7:30 AM	66.7	62.3	58.8	57.8	50.3	43.1	40.6
22-Nov-22	7:40 AM	66.3	60.7	56.3	55.9	46.7	39.3	33.8
22-Nov-22	7:50 AM	66.3	59.1	55.1	54.1	46.0	40.5	34.6
22-Nov-22	8:00 AM	66.2	59.3	55.1	53.6	44.1	35.8	28.5
22-Nov-22	8:10 AM	65.7	60.5	57.2	53.9	43.2	37.8	28.5
22-Nov-22	8:20 AM	66.0	61.7	56.1	53.5	46.8	41.7	35.3
22-Nov-22	8:30 AM	65.8	64.6	59.6	57.7	53.1	49.7	44.1
22-Nov-22	8:40 AM	65.9	62.7	59.1	58.9	56.2	55.5	59.0
22-Nov-22	8:50 AM	66.2	62.1	61.0	60.2	53.8	51.3	44.3
22-Nov-22	9:00 AM	63.4	62.5	57.2	56.5	49.8	47.1	43.0
22-Nov-22	9:10 AM	64.7	66.8	58.0	54.9	49.2	46.5	42.8
22-Nov-22	9:20 AM	61.4	58.4	54.2	54.4	47.3	40.6	36.5
22-Nov-22	9:30 AM	64.2	63.4	60.9	60.5	53.3	46.9	36.2
22-Nov-22	9:40 AM	63.2	60.0	56.8	55.5	47.9	41.1	36.2

Table 4b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V4

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	9:50 AM	63.0	60.9	56.4	55.7	48.7	43.6	34.7
22-Nov-22	10:00 AM	74.0	62.9	58.5	57.3	50.0	45.0	38.2
22-Nov-22	10:10 AM	73.7	65.5	58.6	57.7	54.6	52.6	49.5
22-Nov-22	10:20 AM	71.4	64.6	57.6	57.0	51.9	49.4	43.6
22-Nov-22	10:30 AM	62.1	62.6	54.8	53.3	46.3	40.0	28.5
22-Nov-22	10:40 AM	67.4	64.4	62.0	62.5	58.6	57.9	52.5
22-Nov-22	10:50 AM	62.4	62.8	55.9	54.6	48.1	43.4	38.2
22-Nov-22	11:00 AM	65.6	63.5	59.0	58.0	53.0	51.0	45.1
22-Nov-22	11:10 AM	66.8	65.1	61.9	62.2	57.6	55.9	49.3
22-Nov-22	11:20 AM	65.5	64.1	61.9	60.6	55.2	52.3	46.4
22-Nov-22	11:30 AM	64.2	67.5	65.1	63.5	57.8	56.1	50.7
22-Nov-22	11:40 AM	61.9	61.7	55.7	54.1	50.0	48.3	42.2
22-Nov-22	11:50 AM	61.8	61.9	55.4	53.3	49.0	47.8	41.5
22-Nov-22	12:00 PM	61.3	61.6	52.8	52.7	45.7	40.4	35.0
22-Nov-22	12:10 PM	62.4	61.6	52.4	50.4	43.5	37.9	31.8
22-Nov-22	12:20 PM	60.7	61.6	51.6	50.2	44.8	43.5	35.7
22-Nov-22	12:30 PM	61.3	62.2	52.3	51.7	46.2	42.0	34.8
22-Nov-22	12:40 PM	63.3	62.3	53.6	52.4	47.8	45.1	39.9
22-Nov-22	12:50 PM	64.4	65.1	60.3	57.5	51.4	48.9	42.0
22-Nov-22	1:00 PM	62.7	63.4	55.2	54.3	51.3	49.8	44.0
22-Nov-22	1:10 PM	62.6	63.4	54.5	51.7	47.9	46.0	37.9
22-Nov-22	1:20 PM	63.2	63.3	54.4	53.6	50.0	47.3	41.1
22-Nov-22	1:30 PM	63.0	63.8	56.2	53.9	53.3	47.4	39.6
22-Nov-22	1:40 PM	64.6	65.3	59.1	57.9	53.9	52.2	45.7
22-Nov-22	1:50 PM	68.3	64.8	61.8	62.4	57.3	55.9	50.1
22-Nov-22	2:00 PM	63.4	64.9	56.4	55.3	50.7	48.0	41.4

Table 5: A-weighted Hourly Noise Levels at LT-V5

Date	Hour beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	2:00 PM	83.1	65.5	58.1	58.3	54.9	53.6	50.8
21-Nov-22	3:00 PM	77.8	67.8	56.4	57.6	53.4	51.8	49.3
21-Nov-22	4:00 PM	76.3	64.4	57.0	56.7	54.9	53.8	52.2
21-Nov-22	5:00 PM	76.2	68.1	60.1	59.0	56.0	54.9	53.1
21-Nov-22	6:00 PM	74.8	66.0	60.6	60.3	58.0	56.6	53.8
21-Nov-22	7:00 PM	77.4	65.1	61.0	60.1	58.4	57.2	54.4
21-Nov-22	8:00 PM	88.0	69.6	60.6	62.7	58.9	57.0	54.3
21-Nov-22	9:00 PM	81.6	64.0	57.4	57.4	55.5	54.7	53.7
21-Nov-22	10:00 PM	87.2	68.5	58.0	61.2	55.8	54.8	53.5
21-Nov-22	11:00 PM	81.2	67.5	58.8	59.7	56.2	55.1	53.1
22-Nov-22	12:00 AM	78.7	61.6	55.3	56.2	54.2	53.4	51.5
22-Nov-22	1:00 AM	79.9	61.4	55.2	56.5	53.8	53.0	51.8
22-Nov-22	2:00 AM	79.1	68.8	58.8	59.5	55.8	55.0	51.3
22-Nov-22	3:00 AM	68.6	59.3	57.0	55.3	52.9	51.6	48.3
22-Nov-22	4:00 AM	77.8	56.7	54.8	55.8	52.0	50.8	49.0
22-Nov-22	5:00 AM	85.7	73.2	62.9	63.1	56.1	53.9	51.0
22-Nov-22	6:00 AM	83.9	70.8	61.8	61.4	55.9	54.4	52.1
22-Nov-22	7:00 AM	82.0	71.3	58.9	60.3	55.2	54.0	52.3
22-Nov-22	8:00 AM	80.6	73.7	63.6	61.9	55.3	53.9	52.8
22-Nov-22	9:00 AM	85.1	72.5	63.0	62.1	57.1	54.0	50.9
22-Nov-22	10:00 AM	84.9	72.6	66.4	65.6	63.3	62.1	59.9
22-Nov-22	11:00 AM	81.3	69.8	64.8	63.9	62.4	61.0	58.7
22-Nov-22	12:00 PM	81.0	69.2	63.9	63.6	62.6	61.9	59.6
22-Nov-22	1:00 PM	84.4	72.7	65.0	64.3	61.8	60.7	59.2
22-Nov-22	2:00 PM	80.5	71.5	65.6	64.6	63.0	62.2	60.9

Table 5a: A-weighted 10-minute Noise Levels at LT-V5

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	2:10 PM	68.1	64.8	58.2	56.2	54.1	52.0	50.8
21-Nov-22	2:20 PM	77.6	72.3	61.3	60.0	54.6	53.3	51.6
21-Nov-22	2:30 PM	83.1	72.5	57.8	60.8	54.8	53.7	52.9
21-Nov-22	2:40 PM	61.1	58.4	56.1	55.1	55.0	53.7	52.9
21-Nov-22	2:50 PM	60.5	59.4	57.3	56.4	56.1	55.4	54.5
21-Nov-22	3:00 PM	73.3	70.6	57.2	58.1	54.1	52.0	50.9
21-Nov-22	3:10 PM	77.8	72.2	55.1	58.5	51.9	50.6	49.3
21-Nov-22	3:20 PM	64.1	59.7	54.4	53.0	52.0	50.5	49.3
21-Nov-22	3:30 PM	73.0	70.4	57.1	57.7	53.2	51.9	51.2
21-Nov-22	3:40 PM	66.3	60.9	57.4	55.3	54.1	52.5	51.7
21-Nov-22	3:50 PM	77.3	72.9	57.1	59.7	54.8	53.3	52.5
21-Nov-22	4:00 PM	58.9	57.0	55.8	54.4	54.1	53.0	52.2
21-Nov-22	4:10 PM	67.2	65.4	57.4	56.5	55.1	53.9	52.5
21-Nov-22	4:20 PM	70.8	66.6	57.2	57.3	55.9	54.7	53.3

Table 5a (continued): A-weighted 10-minute Noise Levels at LT-V5

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	4:30 PM	64.6	57.9	56.5	55.4	55.2	54.1	53.2
21-Nov-22	4:40 PM	71.1	68.4	57.3	57.2	54.6	53.6	52.7
21-Nov-22	4:50 PM	76.3	70.9	57.7	58.5	54.4	53.5	52.9
21-Nov-22	5:00 PM	76.2	70.0	60.7	59.0	54.9	54.1	53.1
21-Nov-22	5:10 PM	74.6	72.7	62.2	60.7	56.1	54.8	54.1
21-Nov-22	5:20 PM	73.3	66.7	57.8	57.4	55.8	55.0	54.5
21-Nov-22	5:30 PM	70.9	69.4	59.1	58.9	56.6	55.6	54.9
21-Nov-22	5:40 PM	69.4	64.5	57.2	56.9	56.1	55.0	54.3
21-Nov-22	5:50 PM	69.4	65.1	63.8	59.7	56.2	55.0	54.2
21-Nov-22	6:00 PM	73.3	70.5	64.7	62.4	60.2	59.3	58.5
21-Nov-22	6:10 PM	74.8	73.7	64.4	63.0	60.6	59.8	59.1
21-Nov-22	6:20 PM	74.6	71.6	62.9	61.7	59.9	55.7	54.2
21-Nov-22	6:30 PM	72.1	64.4	58.9	57.3	56.0	55.2	54.3
21-Nov-22	6:40 PM	61.8	57.9	56.2	55.6	55.5	54.7	53.8
21-Nov-22	6:50 PM	59.9	58.1	56.7	55.9	55.8	55.0	54.4
21-Nov-22	7:00 PM	66.3	60.7	57.7	56.6	56.0	55.1	54.5
21-Nov-22	7:10 PM	65.0	64.5	63.6	59.0	56.2	55.1	54.4
21-Nov-22	7:20 PM	70.7	63.1	62.0	61.5	61.4	60.7	60.1
21-Nov-22	7:30 PM	75.6	72.0	64.2	62.8	61.4	58.3	57.3
21-Nov-22	7:40 PM	77.4	70.4	60.1	60.2	58.1	57.2	56.0
21-Nov-22	7:50 PM	62.6	59.8	58.5	57.6	57.4	56.7	55.9
21-Nov-22	8:00 PM	79.2	76.9	61.7	63.6	58.6	57.3	55.7
21-Nov-22	8:10 PM	81.0	76.5	61.3	63.2	59.3	58.3	57.5
21-Nov-22	8:20 PM	88.0	79.4	63.5	66.9	62.4	60.0	58.0
21-Nov-22	8:30 PM	67.3	63.8	61.5	59.7	60.6	55.9	55.2
21-Nov-22	8:40 PM	64.7	62.0	58.2	56.9	56.2	55.4	54.6
21-Nov-22	8:50 PM	61.6	58.7	57.6	56.3	56.0	55.0	54.3
21-Nov-22	9:00 PM	68.2	61.6	56.9	55.8	55.1	54.4	53.7
21-Nov-22	9:10 PM	59.3	58.0	56.9	55.6	55.2	54.5	53.8
21-Nov-22	9:20 PM	68.6	64.1	57.8	56.8	55.8	55.0	54.2
21-Nov-22	9:30 PM	81.6	73.5	57.8	60.8	56.2	55.2	54.6
21-Nov-22	9:40 PM	60.2	58.9	57.2	56.0	55.6	54.7	54.0
21-Nov-22	9:50 PM	71.8	67.8	57.8	57.1	55.1	54.3	53.7
21-Nov-22	10:00 PM	74.1	71.2	61.4	59.6	55.6	54.6	53.5
21-Nov-22	10:10 PM	68.8	61.7	55.8	55.8	55.2	54.8	54.0
21-Nov-22	10:20 PM	71.1	68.3	55.9	56.8	54.8	54.2	53.5
21-Nov-22	10:30 PM	68.7	57.8	56.1	55.7	55.3	54.7	54.1
21-Nov-22	10:40 PM	87.2	81.0	60.3	67.1	57.7	55.7	55.0
21-Nov-22	10:50 PM	74.8	70.8	58.7	58.6	56.4	54.9	54.2

Table 5a (continued): A-weighted 10-minute Noise Levels at LT-V5

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
21-Nov-22	11:00 PM	77.0	72.6	62.7	61.0	56.7	54.4	53.4
21-Nov-22	11:10 PM	74.1	71.0	60.6	60.2	57.3	56.5	56.0
21-Nov-22	11:20 PM	81.2	78.3	58.4	63.0	57.1	56.3	55.7
21-Nov-22	11:30 PM	71.3	63.4	57.8	57.1	56.3	55.2	53.8
21-Nov-22	11:40 PM	62.1	60.5	58.0	56.1	55.2	54.1	53.1
21-Nov-22	11:50 PM	70.9	58.9	55.4	55.3	54.5	53.8	53.1
22-Nov-22	12:00 AM	78.7	72.3	56.4	59.0	54.9	53.9	53.0
22-Nov-22	12:10 AM	77.6	72.3	55.6	58.5	54.6	53.7	52.7
22-Nov-22	12:20 AM	56.5	55.7	54.9	54.1	53.9	53.2	52.1
22-Nov-22	12:30 AM	57.5	56.3	55.3	54.3	54.1	53.4	52.7
22-Nov-22	12:40 AM	59.0	56.8	54.6	53.8	53.6	52.8	51.5
22-Nov-22	12:50 AM	60.0	55.9	54.7	54.0	53.8	53.1	52.3
22-Nov-22	1:00 AM	79.9	73.0	55.0	59.9	53.7	53.1	52.4
22-Nov-22	1:10 AM	79.1	71.1	57.9	58.9	54.5	53.2	52.3
22-Nov-22	1:20 AM	59.5	55.8	54.5	53.6	53.5	52.7	51.8
22-Nov-22	1:30 AM	57.2	56.5	54.6	53.9	53.7	53.1	52.1
22-Nov-22	1:40 AM	57.7	56.2	55.0	54.0	53.9	53.1	52.1
22-Nov-22	1:50 AM	56.7	55.5	54.2	53.5	53.4	52.6	52.0
22-Nov-22	2:00 AM	77.5	70.6	56.4	58.8	53.6	52.7	51.9
22-Nov-22	2:10 AM	66.6	61.4	54.7	54.2	53.6	52.6	51.3
22-Nov-22	2:20 AM	72.6	70.6	60.5	59.8	55.8	54.5	53.7
22-Nov-22	2:30 AM	74.2	72.2	60.7	61.1	58.4	57.9	57.4
22-Nov-22	2:40 AM	79.1	73.7	60.3	61.9	58.6	58.1	57.7
22-Nov-22	2:50 AM	72.5	64.3	60.2	57.7	55.0	54.2	53.5
22-Nov-22	3:00 AM	68.6	62.1	56.5	55.3	54.0	53.3	52.6
22-Nov-22	3:10 AM	64.4	60.0	58.5	55.2	53.6	52.8	52.3
22-Nov-22	3:20 AM	61.7	60.3	58.9	56.0	53.8	52.9	52.0
22-Nov-22	3:30 AM	67.1	66.3	63.7	58.6	54.3	51.1	49.6
22-Nov-22	3:40 AM	56.8	54.5	52.5	51.2	50.9	49.5	48.3
22-Nov-22	3:50 AM	53.0	52.8	52.0	50.9	50.8	49.7	48.4
22-Nov-22	4:00 AM	53.9	53.3	52.2	51.3	51.2	50.2	49.0
22-Nov-22	4:10 AM	53.0	52.7	52.2	51.2	51.2	50.0	49.1
22-Nov-22	4:20 AM	54.3	53.1	52.5	51.6	51.4	50.7	49.7
22-Nov-22	4:30 AM	64.8	53.6	52.6	52.0	51.7	51.0	49.7
22-Nov-22	4:40 AM	54.8	54.3	53.4	52.4	52.4	51.2	50.2
22-Nov-22	4:50 AM	77.8	73.4	66.1	61.9	54.1	51.9	50.8
22-Nov-22	5:00 AM	76.1	73.2	64.8	61.2	53.4	52.0	51.0
22-Nov-22	5:10 AM	78.0	70.6	58.8	59.0	54.4	53.6	52.6
22-Nov-22	5:20 AM	76.6	70.4	56.7	58.5	54.1	53.1	52.4

Table 5a (continued): A-weighted 10-minute Noise Levels at LT-V5

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	5:30 AM	85.7	79.9	71.2	68.1	59.0	54.4	53.4
22-Nov-22	5:40 AM	78.2	75.5	65.2	63.3	60.2	56.3	55.6
22-Nov-22	5:50 AM	71.9	69.6	60.5	58.8	55.2	54.1	52.9
22-Nov-22	6:00 AM	80.5	76.1	59.6	62.4	55.7	54.1	53.5
22-Nov-22	6:10 AM	76.0	73.6	66.2	62.9	57.4	55.5	54.4
22-Nov-22	6:20 AM	77.7	74.5	64.9	62.2	56.4	55.1	54.1
22-Nov-22	6:30 AM	78.9	71.5	61.3	60.4	56.1	54.7	53.7
22-Nov-22	6:40 AM	83.9	71.8	63.4	62.1	55.5	53.6	52.8
22-Nov-22	6:50 AM	64.3	57.5	55.6	54.5	54.3	53.1	52.1
22-Nov-22	7:00 AM	82.0	76.1	57.1	61.7	54.5	53.2	52.3
22-Nov-22	7:10 AM	81.9	74.8	59.1	61.4	55.8	54.7	54.0
22-Nov-22	7:20 AM	68.0	61.5	57.2	55.9	55.2	53.8	52.7
22-Nov-22	7:30 AM	77.8	69.8	61.1	59.8	55.7	54.6	53.9
22-Nov-22	7:40 AM	82.0	72.4	56.9	60.3	54.7	53.7	52.6
22-Nov-22	7:50 AM	75.0	73.4	62.0	60.5	55.0	53.7	52.4
22-Nov-22	8:00 AM	76.0	74.1	63.1	61.4	54.5	53.5	52.5
22-Nov-22	8:10 AM	77.1	71.9	61.9	60.6	55.0	53.6	52.8
22-Nov-22	8:20 AM	79.8	76.0	65.0	63.4	56.8	55.4	54.3
22-Nov-22	8:30 AM	77.9	73.2	62.4	61.0	56.0	54.6	53.7
22-Nov-22	8:40 AM	72.9	71.3	62.2	59.7	54.8	53.1	51.5
22-Nov-22	8:50 AM	80.6	75.5	66.8	63.6	54.6	52.9	51.7
22-Nov-22	9:00 AM	77.3	71.1	61.5	59.4	54.2	53.0	52.3
22-Nov-22	9:10 AM	79.6	78.2	67.8	65.5	60.2	55.5	51.6
22-Nov-22	9:20 AM	75.7	72.3	61.3	61.3	60.6	55.5	55.1
22-Nov-22	9:30 AM	72.8	66.9	60.2	57.8	55.3	53.0	51.6
22-Nov-22	9:40 AM	85.1	74.5	63.0	62.8	54.1	52.1	50.9
22-Nov-22	9:50 AM	79.6	72.2	64.0	61.6	58.3	54.8	52.1
22-Nov-22	10:00 AM	84.9	75.6	68.3	66.3	62.4	61.6	61.1
22-Nov-22	10:10 AM	79.1	77.5	68.5	66.4	63.4	61.9	61.3
22-Nov-22	10:20 AM	84.1	78.0	67.1	67.3	64.3	63.2	61.0
22-Nov-22	10:30 AM	77.8	72.1	65.7	64.9	63.8	62.8	61.4
22-Nov-22	10:40 AM	63.8	63.0	62.6	61.6	61.2	60.5	59.9
22-Nov-22	10:50 AM	79.2	69.6	66.0	65.0	64.5	62.7	61.5
22-Nov-22	11:00 AM	78.2	67.1	65.8	65.4	65.2	64.4	63.6
22-Nov-22	11:10 AM	81.3	73.4	65.5	64.9	63.4	61.5	60.4
22-Nov-22	11:20 AM	74.5	71.4	65.2	62.9	61.5	60.1	59.3
22-Nov-22	11:30 AM	65.0	63.7	61.9	60.8	60.8	59.3	58.7
22-Nov-22	11:40 AM	71.0	67.8	62.9	62.1	61.8	60.2	59.3
22-Nov-22	11:50 AM	79.5	75.2	67.6	65.1	61.9	60.4	59.6

Table 5a (continued): A-weighted 10-minute Noise Levels at LT-V5

Date	10-minute period beginning	Lmax	L01	L10	Leq	L50	L90	Lmin
22-Nov-22	12:00 PM	71.1	67.3	64.2	63.1	62.9	61.6	59.6
22-Nov-22	12:10 PM	81.0	78.5	64.4	65.9	63.2	62.8	62.3
22-Nov-22	12:20 PM	73.4	70.8	64.7	63.6	62.5	61.8	61.3
22-Nov-22	12:30 PM	70.9	64.8	62.5	62.1	61.9	61.6	61.1
22-Nov-22	12:40 PM	70.6	68.4	64.3	63.2	62.7	61.8	61.1
22-Nov-22	12:50 PM	66.6	65.1	63.1	62.4	62.4	61.5	60.8
22-Nov-22	1:00 PM	66.4	64.2	63.0	61.8	61.5	60.5	59.6
22-Nov-22	1:10 PM	81.3	74.5	65.6	64.1	61.0	60.0	59.4
22-Nov-22	1:20 PM	77.9	75.6	62.6	63.4	60.3	59.7	59.2
22-Nov-22	1:30 PM	84.4	75.9	66.8	65.9	61.3	60.4	59.6
22-Nov-22	1:40 PM	78.0	75.2	65.8	64.9	62.7	61.6	61.0
22-Nov-22	1:50 PM	77.7	71.0	65.9	64.6	63.9	62.0	60.5
22-Nov-22	2:00 PM	78.7	75.3	64.9	64.7	62.8	61.5	60.9
22-Nov-22	2:10 PM	76.7	73.6	66.3	64.6	62.8	61.8	61.2
22-Nov-22	2:20 PM	80.5	77.1	69.9	66.8	63.0	62.4	61.9
22-Nov-22	2:30 PM	68.7	68.3	63.7	63.3	63.0	62.4	62.0
22-Nov-22	2:40 PM	65.7	64.0	63.1	62.7	62.7	62.2	61.8
22-Nov-22	2:50 PM	78.2	70.4	65.7	64.4	63.6	62.8	62.3
22-Nov-22	3:00 PM	64.8	64.3	63.8	63.3	63.2	62.8	62.3

Table 5b: un-weighted 10-minute Octave Band Leq Noise Levels at LT-V5

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	2:10 PM	63.3	60.2	57.7	54.4	50.1	47.2	38.3
21-Nov-22	2:20 PM	66.5	60.0	57.8	56.9	55.8	51.8	46.4
21-Nov-22	2:30 PM	62.8	64.5	59.6	57.8	56.8	51.4	48.4
21-Nov-22	2:40 PM	62.3	61.4	57.3	53.1	49.3	43.8	39.1
21-Nov-22	2:50 PM	64.4	61.3	58.1	54.5	50.9	45.5	39.8
21-Nov-22	3:00 PM	63.1	60.4	57.2	54.7	54.7	49.0	39.6
21-Nov-22	3:10 PM	62.8	60.2	55.8	55.3	54.7	49.9	45.6
21-Nov-22	3:20 PM	62.5	59.5	54.3	51.3	47.4	42.3	33.3
21-Nov-22	3:30 PM	64.0	63.0	56.2	55.4	53.3	48.3	43.4
21-Nov-22	3:40 PM	64.8	62.3	57.4	53.2	48.9	44.8	37.1
21-Nov-22	3:50 PM	66.5	62.4	58.0	59.4	55.1	47.7	35.5
21-Nov-22	4:00 PM	65.1	62.8	56.1	52.6	47.8	43.3	33.5
21-Nov-22	4:10 PM	63.8	62.0	56.4	53.5	52.7	44.5	38.2
21-Nov-22	4:20 PM	63.7	61.8	56.0	55.5	52.0	49.5	38.9
21-Nov-22	4:30 PM	63.8	61.7	56.9	53.1	50.2	44.8	38.3
21-Nov-22	4:40 PM	63.3	61.6	56.5	52.8	54.3	45.8	38.1

Table 5b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V5

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	4:50 PM	64.8	61.8	56.8	52.5	55.9	49.1	40.0
21-Nov-22	5:00 PM	64.0	62.5	57.6	53.1	55.5	52.1	42.7
21-Nov-22	5:10 PM	64.4	62.5	58.2	57.1	57.3	51.7	47.0
21-Nov-22	5:20 PM	64.4	62.1	57.6	54.1	53.6	47.0	40.4
21-Nov-22	5:30 PM	64.7	62.5	59.2	58.2	53.0	49.0	41.3
21-Nov-22	5:40 PM	63.8	61.2	57.6	54.4	52.0	47.9	40.7
21-Nov-22	5:50 PM	66.2	63.1	59.7	55.5	52.5	55.2	37.8
21-Nov-22	6:00 PM	68.3	63.6	62.0	58.1	56.7	57.3	45.4
21-Nov-22	6:10 PM	68.9	65.9	63.1	60.9	58.5	53.8	47.1
21-Nov-22	6:20 PM	67.3	65.6	63.6	59.3	56.6	52.4	45.7
21-Nov-22	6:30 PM	67.5	66.4	59.5	56.1	49.6	44.2	41.0
21-Nov-22	6:40 PM	66.8	65.3	58.8	54.7	47.2	39.7	32.5
21-Nov-22	6:50 PM	65.8	64.6	59.5	55.1	47.6	39.7	28.5
21-Nov-22	7:00 PM	67.4	64.9	59.9	55.7	48.1	41.9	38.9
21-Nov-22	7:10 PM	66.1	68.4	60.2	55.9	50.1	53.2	34.2
21-Nov-22	7:20 PM	69.8	74.1	62.8	58.9	54.0	51.8	40.4
21-Nov-22	7:30 PM	71.0	72.9	64.0	60.2	57.4	52.4	44.3
21-Nov-22	7:40 PM	66.4	65.5	62.0	59.3	55.0	46.7	37.7
21-Nov-22	7:50 PM	65.6	62.7	60.9	56.8	51.2	42.9	33.6
21-Nov-22	8:00 PM	68.4	63.9	62.4	63.8	59.0	50.0	37.0
21-Nov-22	8:10 PM	69.2	65.3	62.8	62.2	59.1	52.3	39.1
21-Nov-22	8:20 PM	70.7	69.8	64.4	64.4	64.7	53.7	40.3
21-Nov-22	8:30 PM	66.4	66.6	61.4	58.4	53.9	48.9	39.7
21-Nov-22	8:40 PM	64.4	62.8	59.6	55.8	50.5	44.7	35.9
21-Nov-22	8:50 PM	64.0	62.1	58.7	55.2	50.0	43.8	36.9
21-Nov-22	9:00 PM	63.9	62.1	57.6	54.6	50.0	44.0	37.6
21-Nov-22	9:10 PM	63.8	61.0	57.4	54.2	50.1	44.7	37.8
21-Nov-22	9:20 PM	64.9	61.5	58.3	55.4	51.1	46.4	40.8
21-Nov-22	9:30 PM	64.6	61.3	59.1	58.2	58.3	50.3	39.6
21-Nov-22	9:40 PM	64.1	61.4	57.4	54.2	50.6	45.5	38.7
21-Nov-22	9:50 PM	63.1	61.0	58.0	55.5	52.6	46.5	39.4
21-Nov-22	10:00 PM	64.1	62.2	58.5	56.6	55.8	50.1	46.4
21-Nov-22	10:10 PM	62.6	60.3	57.9	54.4	50.4	44.4	37.7
21-Nov-22	10:20 PM	62.7	60.5	56.8	55.8	52.3	44.8	36.5
21-Nov-22	10:30 PM	64.0	60.3	56.9	54.3	50.7	44.1	35.5
21-Nov-22	10:40 PM	65.5	62.6	59.1	65.9	64.5	55.4	43.5
21-Nov-22	10:50 PM	66.1	61.9	58.7	57.7	54.2	47.1	35.0
21-Nov-22	11:00 PM	66.3	63.0	59.0	57.6	57.2	52.7	46.6
21-Nov-22	11:10 PM	66.7	62.1	60.0	58.9	56.0	50.0	35.7

Table 5b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V5

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
21-Nov-22	11:20 PM	65.2	62.2	59.5	63.0	58.8	51.7	35.8
21-Nov-22	11:30 PM	64.1	62.2	58.8	55.9	51.5	45.5	33.7
21-Nov-22	11:40 PM	65.4	62.1	58.2	54.5	50.1	44.5	34.9
21-Nov-22	11:50 PM	63.5	60.5	57.1	54.2	50.2	42.4	32.7
22-Nov-22	12:00 AM	63.6	60.2	58.5	58.3	55.0	44.8	32.4
22-Nov-22	12:10 AM	63.2	60.2	57.9	57.9	54.1	45.2	31.8
22-Nov-22	12:20 AM	62.3	59.9	56.7	53.2	47.7	39.8	30.3
22-Nov-22	12:30 AM	62.6	60.2	57.0	53.4	48.0	39.8	29.9
22-Nov-22	12:40 AM	62.0	59.8	56.4	52.8	47.6	39.1	29.4
22-Nov-22	12:50 AM	61.8	59.9	56.4	52.9	48.0	40.1	29.2
22-Nov-22	1:00 AM	62.6	59.5	58.6	59.4	56.1	44.3	27.1
22-Nov-22	1:10 AM	65.6	62.9	58.8	59.4	52.6	43.9	26.6
22-Nov-22	1:20 AM	62.6	60.5	56.5	52.9	46.9	37.4	26.1
22-Nov-22	1:30 AM	63.4	60.2	56.8	53.2	46.9	37.8	26.2
22-Nov-22	1:40 AM	63.1	60.1	57.1	53.7	46.9	37.0	25.4
22-Nov-22	1:50 AM	62.7	60.2	56.9	52.6	46.2	36.7	25.5
22-Nov-22	2:00 AM	64.5	62.6	57.8	56.0	54.9	48.7	45.5
22-Nov-22	2:10 AM	62.7	59.9	56.8	52.7	46.8	44.8	31.1
22-Nov-22	2:20 AM	64.7	64.6	59.7	56.7	54.9	51.6	44.7
22-Nov-22	2:30 AM	65.0	65.8	61.0	57.6	56.5	52.4	45.9
22-Nov-22	2:40 AM	66.7	65.6	62.0	59.3	57.8	52.1	46.2
22-Nov-22	2:50 AM	66.4	62.3	57.7	54.8	52.1	51.2	37.5
22-Nov-22	3:00 AM	65.0	61.0	55.9	52.9	49.0	47.7	35.6
22-Nov-22	3:10 AM	63.3	62.7	56.6	52.6	49.4	45.7	35.1
22-Nov-22	3:20 AM	66.4	63.4	57.5	53.6	50.2	46.1	35.5
22-Nov-22	3:30 AM	67.4	67.7	59.1	54.5	52.4	51.4	43.6
22-Nov-22	3:40 AM	58.8	58.2	54.5	51.1	41.2	31.9	20.4
22-Nov-22	3:50 AM	58.6	58.1	54.3	50.8	41.4	32.5	20.6
22-Nov-22	4:00 AM	61.4	58.6	54.8	50.7	42.0	32.8	20.5
22-Nov-22	4:10 AM	59.0	58.4	54.7	50.6	42.4	33.7	25.3
22-Nov-22	4:20 AM	59.7	58.7	55.1	50.9	43.1	33.1	20.4
22-Nov-22	4:30 AM	60.7	59.0	55.1	50.7	44.2	38.5	27.1
22-Nov-22	4:40 AM	61.1	60.3	55.8	51.4	44.4	35.5	22.0
22-Nov-22	4:50 AM	64.2	62.8	58.5	59.0	57.7	54.0	49.0
22-Nov-22	5:00 AM	67.0	63.8	57.9	58.1	57.4	52.8	47.7
22-Nov-22	5:10 AM	64.7	62.7	59.0	57.2	54.1	49.7	42.1
22-Nov-22	5:20 AM	65.0	61.8	57.4	55.7	54.1	49.5	44.6
22-Nov-22	5:30 AM	67.0	64.5	64.3	65.1	64.5	59.3	56.4
22-Nov-22	5:40 AM	66.4	64.5	59.2	59.4	59.2	55.5	51.1

Table 5b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V5

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	5:50 AM	64.6	62.6	57.5	56.4	54.4	48.6	45.5
22-Nov-22	6:00 AM	65.2	62.4	60.1	61.2	59.5	48.4	33.2
22-Nov-22	6:10 AM	66.1	64.0	60.7	60.6	59.1	53.4	48.6
22-Nov-22	6:20 AM	66.1	63.6	59.8	59.4	58.0	53.9	48.8
22-Nov-22	6:30 AM	65.5	62.1	58.0	57.0	55.8	49.9	50.0
22-Nov-22	6:40 AM	66.1	64.5	60.6	60.2	57.6	51.6	49.1
22-Nov-22	6:50 AM	65.5	60.9	56.4	53.0	48.7	41.6	31.5
22-Nov-22	7:00 AM	64.1	62.6	59.2	61.9	57.3	48.2	28.4
22-Nov-22	7:10 AM	66.4	62.8	59.3	60.3	58.3	48.8	38.9
22-Nov-22	7:20 AM	64.1	61.9	57.4	54.5	51.0	41.4	29.0
22-Nov-22	7:30 AM	69.8	63.8	60.5	58.5	54.2	48.2	44.4
22-Nov-22	7:40 AM	64.8	63.5	60.4	56.4	54.7	51.9	50.3
22-Nov-22	7:50 AM	64.0	63.1	58.7	56.7	56.6	52.1	45.3
22-Nov-22	8:00 AM	68.1	62.8	59.7	58.9	58.1	50.5	46.2
22-Nov-22	8:10 AM	66.6	62.7	59.7	58.0	55.9	52.0	46.4
22-Nov-22	8:20 AM	67.0	64.2	60.6	61.2	59.4	54.1	49.3
22-Nov-22	8:30 AM	66.2	62.8	59.3	58.3	56.6	52.4	48.0
22-Nov-22	8:40 AM	65.5	61.7	59.3	56.4	55.4	51.5	43.8
22-Nov-22	8:50 AM	66.0	64.1	60.8	60.6	60.0	54.1	50.6
22-Nov-22	9:00 AM	63.4	61.4	58.6	57.6	55.1	49.3	45.2
22-Nov-22	9:10 AM	66.4	66.4	61.7	63.2	61.4	56.5	51.6
22-Nov-22	9:20 AM	65.5	63.0	57.5	58.6	57.5	52.0	46.7
22-Nov-22	9:30 AM	65.2	63.1	59.6	56.8	51.6	46.5	38.4
22-Nov-22	9:40 AM	65.6	64.6	61.1	60.5	58.3	54.5	49.4
22-Nov-22	9:50 AM	72.7	71.2	63.6	58.0	51.0	56.3	41.6
22-Nov-22	10:00 AM	74.4	73.9	66.2	63.8	60.6	58.3	51.4
22-Nov-22	10:10 AM	73.6	73.8	66.9	63.8	62.2	56.3	50.9
22-Nov-22	10:20 AM	70.0	73.1	68.0	63.2	64.4	56.6	50.0
22-Nov-22	10:30 AM	72.7	75.9	66.4	61.0	60.0	54.9	49.6
22-Nov-22	10:40 AM	71.3	74.0	63.4	58.1	56.0	50.0	41.2
22-Nov-22	10:50 AM	68.1	72.9	71.7	59.5	57.9	53.8	49.3
22-Nov-22	11:00 AM	66.4	72.6	73.4	59.7	57.1	51.3	41.0
22-Nov-22	11:10 AM	68.3	71.6	70.2	61.9	59.3	53.0	46.7
22-Nov-22	11:20 AM	69.1	71.3	65.7	59.7	58.0	52.7	45.5
22-Nov-22	11:30 AM	70.1	72.9	62.1	57.7	55.3	50.1	38.5
22-Nov-22	11:40 AM	70.9	73.9	63.0	58.6	56.8	52.2	45.1
22-Nov-22	11:50 AM	72.3	73.3	64.8	62.0	60.1	56.5	52.9
22-Nov-22	12:00 PM	68.9	71.8	65.6	63.4	55.7	52.1	45.2
22-Nov-22	12:10 PM	71.8	74.9	66.2	63.1	63.0	52.6	41.5

Table 5b (continued): un-weighted 10-minute Octave Band Leq Noise Levels at LT-V5

Date	10-minute period beginning	Average Octave Band Sound Level, Leq, dB						
		63	125	250	500	1000	2000	4000
22-Nov-22	12:20 PM	72.3	75.8	67.2	60.7	56.6	52.7	46.1
22-Nov-22	12:30 PM	72.5	75.7	67.0	57.4	54.4	49.3	40.2
22-Nov-22	12:40 PM	73.0	75.4	67.3	59.2	56.6	52.0	44.8
22-Nov-22	12:50 PM	73.9	75.5	67.6	58.3	54.2	48.9	40.7
22-Nov-22	1:00 PM	72.9	73.9	66.3	57.7	54.8	50.1	40.9
22-Nov-22	1:10 PM	70.3	72.3	64.3	61.1	59.4	54.4	49.8
22-Nov-22	1:20 PM	69.0	72.5	64.1	60.7	58.1	53.3	49.1
22-Nov-22	1:30 PM	72.8	73.0	64.9	62.7	61.0	57.6	52.7
22-Nov-22	1:40 PM	69.9	73.2	65.7	61.2	60.3	56.3	50.7
22-Nov-22	1:50 PM	70.4	73.5	66.1	60.3	59.8	56.3	49.9
22-Nov-22	2:00 PM	70.0	73.9	65.9	60.8	59.3	56.2	51.5
22-Nov-22	2:10 PM	71.7	74.6	66.9	60.7	59.2	55.3	50.1
22-Nov-22	2:20 PM	72.2	74.6	67.7	63.4	62.3	57.4	53.0
22-Nov-22	2:30 PM	74.1	74.6	66.8	60.6	54.8	52.8	48.4
22-Nov-22	2:40 PM	76.0	74.6	63.8	60.7	54.5	52.5	48.5
22-Nov-22	2:50 PM	76.6	76.5	68.5	59.3	55.3	51.7	47.4
22-Nov-22	3:00 PM	78.6	74.9	68.7	59.4	53.3	47.3	40.2

Appendix E

Soil Management Plan, Berths 191 through 194

SOIL MANAGEMENT PLAN
PORT OF LOS ANGELES
BERTHS 191 THROUGH 194
WILMINGTON, CALIFORNIA

Prepared For

CITY OF LOS ANGELES HARBOR DEPARTMENT
425 SOUTH PALOS VERDES STREET
SAN PEDRO, CALIFORNIA 90731

Prepared By

LEIGHTON CONSULTING, INC.
2600 MICHELSON DRIVE, SUITE 400
IRVINE, CALIFORNIA 92612

Project No. 13832.009

APP No. 170720-511 H

December 7, 2023

SOIL MANAGEMENT PLAN
PORT OF LOS ANGELES
BERTHS 191 THROUGH 194
WILMINGTON, CALIFORNIA

Prepared For:

City of Los Angeles Harbor Department

425 SOUTH PALOS VERDES STREET
SAN PEDRO, CALIFORNIA 90731

Prepared By:

LEIGHTON CONSULTING, INC.

Project No. 13832.009

December 7, 2023

Prepared by:





Michael Priestaf, MS, PG
Project Geologist

Mark Withrow, PE
Principal Engineer

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1

2.0 SITE BACKGROUND 3

2.1 Site Location and Description 3
2.2 Site History 3
2.3 Contaminants of Concern 5
2.3.1 Soil 5
2.3.2 Groundwater 6
2.3.3 Soil Vapor 6

3.0 PLANNED CONSTRUCTION ACTIVITIES 7

3.1 Recommended Areas for Special Handling 7

4.0 PROJECT RESPONSIBILITIES AND TRAINING REQUIREMENTS 10

4.1 Developer 10
4.2 General Contractor 10
4.3 Training and Other Regulatory Requirements 10
4.4 Harbor Department Notifications 12

5.0 HEALTH AND SAFETY PLAN 13

6.0 GENERAL MANAGEMENT REQUIREMENTS 14

6.1 Soil Management Plan Limitations 14
6.2 Site Control 14
6.3 Dust and Air Pollution Control 14
6.4 Stormwater Control 16
6.5 Soil Stockpiling and Staging 16
6.6 Soil Sampling and Analysis 17
6.7 Water Sampling and Analysis 20
6.8 Decontamination Procedures 21
6.8.1 General Decontamination Procedures 21
6.8.2 Decontamination of Heavy Equipment and Trucks 22
6.8.3 Decontamination Water and Wastewaters 22

7.0 WASTE MANAGEMENT REQUIREMENTS 24

7.1 Waste Minimization 24
7.2 Waste Handling 24
7.3 Waste Classification 25
7.4 Waste Disposal 26
7.4.1 Soil Waste 26

7.4.2 Liquid Waste 27
7.4.3 Solid Waste 28
7.5 Waste Documentation 28
8.0 OTHER POLLUTION PREVENTION AND CONTROL 29
8.1 Material and Equipment Staging Area 29
8.2 Loading Areas 29
8.3 Refueling Operations 30
8.4 Spill Prevention Measures 30
8.5 Onsite Accidental Releases and Mitigation Plans 31
9.0 BACKFILL MATERIAL REQUIREMENTS 33

List of Accompanying Figures and Appendices

Figure 1 – Site Location Map
Figure 2 – Site Plan

Appendix A – References
Appendix B – Baseline Environmental Assessment, Addendum, and Human Health Risk Assessment
Appendix C – SCAQMD Rule 1166, SCAQMD Rule 1466, and SCAQMD Rule 403
Appendix D – Port of Los Angeles Environmental Guidance for Industrial Fill Material December 2021
Appendix E – DTSC Advisory Clean Import Fill Material October 2001
Appendix F – Recommended Waste Disposal Facilities

1.0 INTRODUCTION

Leighton Consulting, Inc. (Leighton), on the behalf of the City of Los Angeles Harbor Department (Harbor Department) Environmental Management Division (EMD), has prepared this Soil Management Plan (SMP) for the Port of Los Angeles (POLA) Berths 191 through 194, referred to herein as "the Site", located in Wilmington, California (Figure 1).

Based on information provided by EMD, Leighton understands that the Site may be redeveloped into a cement-processing facility. The proposed redevelopment plan, which includes the construction of product intake hoppers and conveyors, mills, silos, workshop and office buildings, storage yards, stormwater infrastructure, and waterside improvements, is anticipated to include soil excavation, stockpiling, sampling, characterization, and off-site disposal, as well as handling of groundwater that may be encountered during construction activities.

The objectives of this SMP are:

- Identify known contamination at the Site.
- Identify key roles and responsibilities of the workers during future development activities at the Site.
- Identify project responsibilities and training requirements to protect worker health and safety, ensure proper management of waste streams, and support long-term stewardship of the Site.
- Reduce the potential for workers at the Site to be exposed to hazardous materials originating from the subsurface of the Site during planned and future intrusive activities.
- Provide procedures and protocols to be followed for the management of impacted soil and other wastes during intrusive activities at the Site.
- Identify proper handling and management practices to minimize waste generation and disposal during planned and future intrusive activities at the Site.
- Ensure waste generated at the Site is properly documented and disposed of in accordance with federal, state, and local regulations.
- Minimize the potential for a release of hazardous materials from beneath the Site to the environment (i.e., surface water, soils, sediments, and air).

This SMP shall be followed for any future development activities at the Site. Section 4.0 identifies the key roles, responsibilities, and training requirements during implementation of this SMP.

2.0 SITE BACKGROUND

2.1 Site Location and Description

The Site encompasses approximately 5.66 acres and is located east of Canal Street and south of Yacht Street in Wilmington, California (Figure 1). The Site partially occupies portions of two parcels identified by the Los Angeles County Assessor's Office as APN 7440-010-910 and APN 7440-013-909. At present, the Site is developed with a boatyard and associated equipment storage areas and Harbor Department-owned laydown areas. The vicinity is developed for industrial use and consists of fueling terminals, container storage yards, boat repair and restoration, and berths associated with container shipping activities.

2.2 Site History

Historically, the Site was associated with the Former Wilmington Liquid Bulk Terminals, Inc. (Earth Tech, 2002), a yacht club, docks for boats, and a marine gas and oil station (Locus Technologies, 2010).

In 2017, Leighton completed a baseline environmental assessment of the Site, whereas the site was screened for existing conditions. Leighton observed the advancement of 49 soil borings and installation of 19 soil vapor probes. In addition, 19 grab groundwater samples were collected. Total Petroleum Hydrocarbons (TPH) were detected in 14 soil samples at concentrations exceeding health risk-based regulatory screening levels for industrial/commercial receptors, and Title 22 metals, including copper and lead, were detected in soil samples from four borings at concentrations exceeding hazardous waste criteria. TPH as Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) as well as the chlorinated solvents tetrachloroethene (PCE) and trichloroethene (TCE) were detected in groundwater at concentrations exceeding health risk-based screening levels for industrial/commercial receptors (Leighton, 2018). In addition, PCE, TCE, and their degradation products cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride were detected in soil vapor at concentrations exceeding health-risk based screening levels for industrial/commercial receptors. Elevated concentrations of chlorinated solvents in soil gas could potentially be attributed to off-gassing from impacted groundwater.

In 2018, Enviro-Tox Services, Inc. (Enviro-Tox) prepared a human health risk assessment (HHRA) for the Site and concluded that an increased risk to human health, posed by potential exposure to impacted soil, groundwater, and soil vapor,

was present in the western boundary and northern portion of the Site. The HHRA concluded that volatile organic compounds (VOCs) detected at soil gas location LB1-4 exceeds the generally accepted human health risk for commercial industrial workers. Volatilization of VOCs detected in groundwater at sampling locations LB1-GW, LB6-GW, LB37-GW, LB39-GW, LB40-GW, LB41-GW, LB48-GW, and LB49-GW could pose a vapor intrusion potential and cancer risks for future indoor workers if exposed. To mitigate such potential exposure, the HHRA recommended that some form of vapor mitigation measures (such as an impermeable membrane and passive venting system) be implemented at and around the soil gas and groundwater sampling locations mentioned above if a structure with worker occupancy is to be constructed in these areas, which are generally in the northern half of the Site (Appendix B, Figure 2). For the rest of the Site, the HHRA concluded that there is no significant health risk associated with vapor intrusion into future onsite buildings as normally constructed (i.e., without special mitigation measures or engineering controls).

The HHRA concluded that DRO detected in soil at the Site could exceed human health screening levels established by the United States Environmental Protection Agency and/or California Department of Toxic Substances Control. Soil sampling locations that exhibited DRO concentrations that exceed human health screening levels include LB17, LB28, LB33, and LB35 (Figure 2), and are generally located along the western boundary of the Site. LB35 is currently outside of the proposed project limits. As such, these areas shall remain covered by at least four feet of soil, paving, or buildings, to minimize potential human health impacts to onsite workers. If redevelopment activities require soil excavation at these locations, excavated soil from these locations must be properly managed as described in this SMP.

In 2023, Leighton completed an addendum to the baseline environmental assessment of the Site in which the Site boundary was expanded to the northeast (Appendix B). The purpose of the expanded assessment was to screen the existing conditions beneath the expanded project boundary. Leighton observed the advancement of 10 soil borings and the installation of four soil vapor probes in the expanded northeastern portion of the Site. Grab groundwater samples were also collected from three of the 10 soil borings. DRO was detected in one soil sample at a concentration exceeding health risk-based regulatory screening levels for industrial/commercial receptors, lead and arsenic were detected in one sample at concentrations exceeding health-risk based regulatory screening levels for industrial/commercial receptors, and lead was detected in one sample at a

concentration exceeding hazardous waste criteria. In addition, Semi-Volatile Organic Compounds (SVOCs), specifically benzo(a)pyrene, dibenzo(a,h)anthracene, and naphthalene, were detected in two soil samples at concentrations exceeding health risk-based regulatory screening levels for industrial/commercial receptors. Finally, PCE was detected in one soil vapor sample at a concentration exceeding health risk-based regulatory screening levels for industrial/commercial receptors with an applied conservative attenuation factor (AF) of 0.03. Based on these results, Leighton recommended that a SMP be prepared for the Site and implemented during potential future redevelopment activities to minimize worker and public exposure to hazardous materials. Figure 2 depicts the approximate locations of soil samples identified by Leighton as exceeding health risk-based regulatory screening levels and hazardous waste criteria. If these areas remain undisturbed during future Site development, they should be covered with pavement to mitigate any future risk of exposure. If these soils are disturbed during future Site development, they should be excavated and managed in accordance with the procedures outlined in this SMP.

The baseline environmental investigation report and addendum and the HHRA are included in Appendix B. These documents show all of the historical sampling locations completed for the Site.

2.3 Contaminants of Concern

Previous environmental investigations at the Site have identified contaminants in environmental media at the Site. These Contaminants of Concern (COCs) depend on the specific environmental media (e.g., soil, groundwater, and soil vapor) as follows:

2.3.1 Soil

Known soil contaminants at the Site include:

- TPH as DRO.
- Title 22 Metals, specifically arsenic, copper, and lead.
- SVOCs, specifically benzo(a)pyrene, dibenzo(a,h)anthracene, and naphthalene.
- Polychlorinated biphenyls (PCBs), specifically Aroclor 1254 and Aroclor 1260.

Although VOCs have not previously been identified as COCs in soil at the Site, analysis for VOCs is required for waste profiling purposes. Soil excavated within the Site boundary shall be sampled for VOCs in addition to the COCs specified above, in accordance with procedures described in Section 6.6 of this SMP, prior to waste classification as summarized in Section 7.3 of this SMP.

2.3.2 Groundwater

Known groundwater contaminants at the Site include:

- TPH as DRO and GRO.
- VOCs.

2.3.3 Soil Vapor

Known soil vapor contaminants at the Site include:

- VOCs, specifically cis-1,2-DCE, PCE, TCE, and vinyl chloride.

3.0 PLANNED CONSTRUCTION ACTIVITIES

Based on information provided by the Harbor Department, Leighton understands that the Site will be redeveloped into a cement-processing facility. The proposed redevelopment plan, which includes the construction of product intake hoppers and conveyors, mills, silos, workshop and office buildings, storage yards, stormwater infrastructure, and waterside improvements, is anticipated to include soil excavation, stockpiling, sampling, characterization, and off-site disposal, as well as handling of groundwater that may be encountered during construction activities.

3.1 Recommended Areas for Special Handling

Although all soils as the site should be managed in accordance with the SMP, below is a list of areas that if disturbed during future development require special handling due to previous environmental site characterizations and known contaminants that were encountered:

- Soil in the vicinity of boring LB5 located at northing 1,736,738.07, easting 6,483,379.90 and shown on Figure 2. The soil is known to be contaminated with lead in exceedance of hazardous waste criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB17 located at northing 1,736,731.77, easting 6,483,040.33 and shown on Figure 2. The soil is known to be contaminated with lead in exceedance of hazardous waste criteria and DRO in exceedance of health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB28 located at northing 1,736,400.27, easting 6,483,110.62 and shown on Figure 2. The soil is known to be contaminated with DRO in exceedance of health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB31 located at northing 1,736,298.63, easting 6,483,126.75 and shown on Figure 2. The soil is known to be contaminated with lead in exceedance of hazardous waste criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB33 located at northing 1,736,175.43, easting 6,483,118.28 and shown on Figure 2. The soil is known to be contaminated with lead in exceedance of hazardous waste criteria and DRO in exceedance of health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB52 located at northing 1,736,990.15, easting 6,483,698.72 and shown on Figure 2. The soil is known to be contaminated with lead in exceedance of hazardous waste criteria and SVOCs in exceedance of health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB54 located at northing 1,737,014.12, easting 6,483,637.05 and shown on Figure 2. The soil is known to be contaminated with DRO and SVOCs in exceedance of health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

- Soil in the vicinity of boring LB58 located at northing 1,737,015.40, easting 6,483,550.94 and shown on Figure 2. The soil is known to be contaminated with arsenic lead in exceedance of hazardous waste criteria and health risk-based screening criteria and must be segregated, sampled, and disposed of in accordance with the procedures described in this SMP. The resulting excavation should be backfilled with clean import material as described in Section 9.0 of this SMP.

If the above areas are not disturbed during construction, then special handling is not required. However, these areas should be covered with pavement to mitigate any future risk of exposure.

4.0 PROJECT RESPONSIBILITIES AND TRAINING REQUIREMENTS

4.1 Developer

The developer will be responsible for selecting the redevelopment general contractor (GC) and ensuring they are properly trained, capable of implementing the SMP and monitoring the GC's implementation to ensure compliance with the SMP requirements.

4.2 General Contractor

The GC and/or their authorized representative shall implement the SMP and be responsible for ensuring proper handling of the following:

- Stockpiling of excavated soil. Stockpiling shall be conducted in a manner to permit representative sample collection in accordance with this SMP. Stockpile requirements are further discussed in Sections 6.5 and 6.6.
- Waste segregation and characterization.
- Documentation and labeling of waste drums/containers, including pre-transport requirements (packing, marking, labeling, storing, and placarding of hazardous wastes before shipping).
- Tracking and maintaining waste inventory.
- Site-specific Health and Safety Plan (HASP) preparation and implementation.
- Procurement of waste profiles and manifests, signatures, qualified transporter, and disposal records (e.g., weight tickets, bill(s) of lading, and waste manifests).

Personnel at the Site shall also be required to comply with the requirements in this SMP in addition to any design specifications provided by the Harbor Department prior to construction.

4.3 Training and Other Regulatory Requirements

Field personnel implementing any soil disturbance activities at the Site must complete the training requirements of Occupational Safety and Health Administration (OSHA) hazardous communication 29 Code of Federal Regulations (CFR) 1910.1200. This training will be updated continuously, as environmental

concerns are addressed at tailgate safety meetings, or as needed. In addition, construction personnel must complete a Hazardous Waste Operations and Emergency Response (HAZWOPER) 24-hour or 40-hour training course, as applicable to their responsibilities, and an annual 8-hour refresher course, according to OSHA standard 29 CFR Part 1910.120 and 8 CCR § 5192.

Personnel visiting the Site shall, at a minimum, follow the health and safety requirements as described in a Site-specific HASP (Section 5.0), as well as the instructions of the designated Site Health and Safety Officer (SHSO) when work is in progress. Equipment operators will be instructed regarding moving equipment in a manner that minimizes job hazards and any impacts to the environment.

Contractors testing and handling different types of waste must have appropriate qualifications, licenses, registrations, and required permits including, but not limited to, California Professional Engineering/Geologist licenses, California contractor and/or hazardous waste remediation contractor license (for excavation and handling of hazardous waste), California Department of Transportation (DOT) registration (for the transportation of hazardous waste), and South Coast Air Quality Management District (SCAQMD) Rule 1166 and 1466 permits (Appendix C), as necessary, to complete the proposed redevelopment work.

Depending on the results of analytical testing, soil excavated from the ground within the Site boundary may be reused on-site if it meets the requirements outline in the Harbor Department's *December 2021 Environmental Guidance for Industrial Fill Material* (Appendix D) or disposed of as waste at an appropriately licensed disposal/treatment facility. Water removed from the ground within the Site boundary must be disposed of as waste at an appropriately licensed treatment/disposal facility or through an appropriate National Pollutant Discharge Elimination System (NPDES) permit for discharge into the stormdrain. Therefore, the procedures and protocols described in this SMP for sampling and chemical analysis must be implemented for assessment of on-site reuse potential and waste characterization for off-site disposal.

All work must be conducted in accordance with the requirements identified in the Mitigation Monitoring and Reporting Program (MMRP) and Lease Measure (LM) prepared in the Environmental Impact Report.

4.4 Harbor Department Notifications

If any unexpected free product or other conditions not mentioned in this document are encountered during construction, the Contractor shall notify EMD (Ms. Rita Brenner at rbrenner@portla.org) within 24 hours of discovery.

5.0 HEALTH AND SAFETY PLAN

A HASP must be prepared for the Site by the Contractor and be reviewed by field staff prior to beginning work. The HASP will outline the minimum health and safety requirements to safely conduct work at the Site, based on known contamination and site conditions. A HASP provides guidance for the handling of known and unknown hazards that may be encountered at the Site as well as guidance to ensure a safe work environment for Contractor and subcontractor personnel working at the Site and in the vicinity. The HASP will incorporate the requirements specified by Cal-OSHA Hazardous Waste Operations Standards (Title 29 CFR, Section 1910.120) and California Code of Regulations (Title 8 CCR, Section 5192). The HASP outlines the anticipated physical and chemical hazards that may be encountered at the Site during construction. The HASP must be approved by a Certified Industrial Hygienist.

In addition, the HASP will address the appropriate level of Personal Protective Equipment (PPE) for onsite workers during construction activities at the Site. Use of Level D PPE, including steel-toed boots, hard hats, safety goggles, hearing protection, and work gloves, is anticipated. The HASP will include a description of conditions, events, or encounters that may affect the required level of PPE.

The Contractor will hold tailgate safety meetings to discuss potential hazards at the beginning of each workday, when new personnel are introduced to the Site, and when new conditions or hazards arise to warrant such meetings. These meetings will identify potential workplace hazards and problems so that appropriate control measures can be implemented. Copies of tailgate safety meeting notes and a list of attendees will be kept onsite by the Contractor until the completion of the project for documentation purposes.

6.0 GENERAL MANAGEMENT REQUIREMENTS

Chemically impacted soil (CIS) will likely be encountered beneath the Site during intrusive activities. This section presents the requirements for the sampling, handling, and management of soils and water removed from beneath the Site.

6.1 Soil Management Plan Limitations

The requirements and procedures defined in this SMP are applicable only within the Site boundaries. The extent of the Site is shown on Figures 1 and 2. Areas beyond the Site boundary are not included within the purview of this SMP.

6.2 Site Control

Access to soil disturbance work areas will be controlled to prevent exposure of unauthorized persons to CIS. Access to soil disturbance work areas will be controlled using temporary fencing, delineators, cones, caution tape, or other measures to clearly designate the area and/or prevent access by the public or other unauthorized personnel.

6.3 Dust and Air Pollution Control

To reduce the generation and potential migration of contaminated dust, the Contractor will implement dust control measures in accordance with SCAQMD Rule 1466 during the excavation, loading, stockpiling, transport, grading, and compaction of all soil within the boundary of the Site. The dust control measures to be implemented include but are not limited to the following:

- Wet suppression of exposed soil prior to excavation or other earthwork activities, during excavation or other earthwork activities, and prior to loading into bins or trucks for transportation and off-site disposal. Water will be applied as needed to dampen the surface without generating runoff.
- Modifying earthwork procedures to minimize dust generation e.g., emptying excavator or loader buckets more slowly and/or from minimal heights.
- Reduction of vehicle speeds in areas with exposed soil.
- Mandatory covering of soil bins and truck beds or trailers using deployable tarps or lids prior to leaving the Site.
- Immediate cleanup and removal of any spilled soil.

- Loose soil will be removed in the designated decontamination area prior to loads departing the Site.
- Proper covering of exposed soil excavations or stockpiles at the end of each workday or while not involved in active work activities. Additional requirements regarding the management of soil stockpiles are described in Section 6.5.
- Use of approved track-out control devices at vehicle access points to the work area.
- Prevention of track-out more than 25 feet beyond the property boundary.
- Daily removal of track-out using a vacuum and high efficiency particulate air filter.
- Monitoring of airborne particulate matter with diameters of 10 micrometers or less (PM10) along the work area perimeter using two or more stationary aerosol monitors. Implementation of additional dust control measures and/or cessation of earthwork if perimeter PM10 concentrations, as determined by the difference between the upwind and downwind samples collected by the aerosol monitors, exceed 25 micrograms per cubic meter ($\mu g/m^3$).
- Cessation of earthwork if measured wind speeds exceed 15 miles per hour (mph) over a 15-minute period or if instantaneous wind speeds exceed 25 mph.

Air monitoring is required per SCAQMD Rules 403, 1166, and 1466 during any grading and dust generating activities at the Site. Air monitoring protocols are dependent and specific to each SCAQMD Rule and will be determined by conditions encountered during construction activities, and/or as determined by the HASP. If odors are evident, all work will stop, and appropriate monitoring will be conducted to determine whether the level of PPE needs to be upgraded and to determine steps needed to comply with any permits. The HASP will identify action levels of potential contaminants that may be encountered for upgrades and downgrades of PPE. If the air monitoring readings from the excavation soil are more than 50 parts per million by volume (ppmv) as detected by a photo-ionization detector (PID), then it is considered VOC-impacted, and the Contractor is required to notify SCAQMD in accordance with a Rule 1166. Copies of Rules 1166, 1466, and 403 are provided in Appendix C.

6.4 Stormwater Control

Stormwater pollution controls will be implemented by the Contractor during earthwork activities within the Site boundary to minimize stormwater runoff, which may entrain CIS. The Contractor will be responsible for preparing a project Storm Water Pollution Prevention Plan (SWPPP) prior to the start of work. The SWPPP must be prepared by a California certified Qualified SWPPP Developer (QSD) and SWPPP monitoring must be conducted by a California certified Qualified SWPPP Practitioner (QSP). The SWPPP will specify stormwater Best Management Practices (BMPs) and controls to be implemented, which may include but are not limited to staging soil stockpiles away from storm drain inlets, covering and protecting in-place nearby storm drains, covering soil stockpiles and excavations prior to forecasted rain events, installation of temporary berms, silt fences, and straw bales around soil stockpiles and open excavations, and compliance sampling.

6.5 Soil Stockpiling and Staging

Solid and liquid waste will require appropriate handling to protect worker exposure and reduce potential impacts to the environment. All solid and liquid wastes should be sampled and tested as specified in this SMP and/or following specific waste profiling requirements set forth by the disposal/treatment facilities and local, state, and federal regulatory requirements. Appropriate waste disposal methods and facilities will be determined through completion of the chemical analyses and waste profiling process.

Soil excavated within the subject area will be either temporarily stockpiled or placed in an appropriate container, such as a waste roll-off bin or United States Department of Transportation (DOT)/United Nations (UN)-approved 55-gallon drum, in a waste staging area adjacent to the excavation (if possible) or within a controlled area of the Site as described in Section 6.2. The following procedures and controls will be implemented regarding the stockpiling and staging of soil:

- Soil to be stockpiled or containerized will be wetted prior to excavation, transportation, and stockpiling or containerization to minimize dust generation during these activities. Additional dust control requirements are described in Section 6.3.
- Soil stockpiles will **not** be staged in or near storm drain inlets or channels or areas of high stormwater flow.

- Soil stockpiles will be protected from stormwater run-on using a temporary perimeter sediment barrier such as berms, dikes, silt fences, or sand/gravel bags.
- Soil stockpiles will be placed on a relatively impermeable material such as tarp or heavy plastic sheeting.
- At the end of each workday, prior to a forecasted storm or wind event, or when not involved in active work activities, soil stockpiles will be covered with a relatively impermeable material, such as tarp or plastic sheeting, and waste containers will be covered with a secured lid to minimize dust emissions and sediment runoff from stormwater. When deployed on a soil stockpile, the impermeable material will be secured in place with sandbags or other weights.
- Soil stockpiles and waste containers will be removed from the Site and disposed of in a timely manner following chemical profiling. Stockpiled or containerized soil that is determined to be hazardous waste will be stored in accordance with hazardous waste regulations and removed from the Site within 90 days of accumulation.

In addition to the guidelines provided above, stormwater BMPs will be incorporated into soil management procedures and as part of the project SWPPP.

6.6 Soil Sampling and Analysis

To determine the appropriate number of stockpile samples to be collected, the stockpile quantity will need to be estimated and the sampling frequency depicted below will be used to calculate the total number of soil samples to be collected from a specific stockpile. Sampling frequencies will be based on the guidance provided in the POLA Environmental Guidance for Industrial Fill Material (Appendix D) and the following:

- If the soil stockpile volume is estimated to be less than or equal to 1,000 cubic yards (CY), the total number of samples to be collected will be one (1) per 250 CY.
- If the soil stockpile volume is estimated to be 1,000 to 5,000 CY, the total number of samples to be collected will be four (4) samples for the first 1,000 CY plus one (1) for each additional 500 CY.

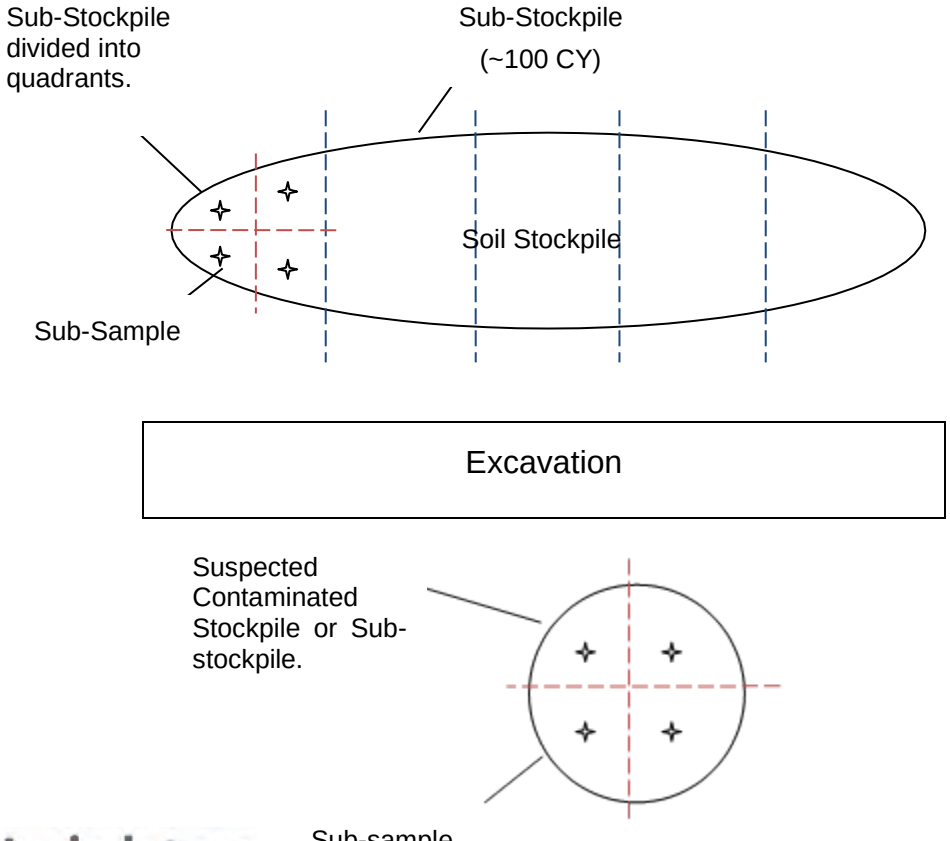
- If the soil stockpile volume is estimated to be greater than 5,000 CY, the total number of samples to be collected will be 12 for the first 5,000 CY plus one (1) for each additional 1,000 CY.

Once the number of samples to be collected has been determined, sampling may be conducted. To ensure collection of adequately representative samples, each sample shall be a composite of four sub-samples representing different areas within the stockpile. The stockpile, depending on its size, may be divided into sub-stockpiles for planned sampling. The sub-stockpile (or stockpile if less than the minimum quantity of 250 CY) soil sample will be collected as follows:

1. Divide the sub-stockpile into quadrants (four sections of equal size),
2. Collect a discrete sub-sample from each quadrant at a different depth, and
3. Submit the sub-samples to the laboratory for a composite sample analysis per sub-stockpile.

The following graphic illustrates the stockpiling, sub-dividing, and sampling technique to be used.

Soil Stockpile Subdividing and Sampling



For metals and other non-VOC analytes, the testing laboratory will composite sub-samples from each sub-stockpile in the laboratory prior to conducting the prescribed analyses. For VOCs, only the sub-sample (not the composite sample) with the highest field VOC concentration collected by a PID from each sub-stockpile shall be analyzed by the laboratory using the following protocol:

- Collect a VOC headspace reading from each sub-sample of the same sub-stockpile using a PID in the field.
- Obtain Terracore® samples (USEPA Method 5035) as described below from the sub-sample that registers the highest PID reading in the field.
- Submit the Terracore® samples to the laboratory for a discrete sample analysis.

The stockpile soil sub-samples shall be collected manually using standard drilling and soil sampling equipment typically consisting of a slide hammer hand sampler and stainless-steel sleeves, or a trowel/shovel and laboratory-supplied 8-ounce glass jars. Each sub-sample should consist of two sleeves/jars. One of the sample sleeves/jars with the stockpile samples shall be screened in the field for VOCs, while the other sample sleeve(s) and its entire content shall be sealed with Teflon® sheets (after collection of the Terracore® sample) and plastic end caps.

All soil sub-samples shall be labeled with the project name, sample identification number, as well as the date and time of collection.

Composite soil samples will be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-accredited analytical laboratory for the following constituents by the analytical and sample preparation methods specified:

- Title 22 Metals by USEPA Methods 6010B/7471A.
- VOCs (for discrete Terracore® samples from the sub-sample with the highest PID reading) by USEPA Method 5035/8260B.
- TPH as DRO, GRO and Oil Range Organics (ORO) by USEPA Method 8015M.
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082.
- SVOCs by USEPA Method 8270C SIM.

- Soluble Threshold Limit Concentration (STLC), as necessary, if the total concentration of each analyte meets or exceeds its respective ten times STLC value.
- Toxicity Characteristic Leaching Potential (TCLP), as necessary, if the total concentration of each analyte meets or exceeds its respective 20 times TCLP value.
- Any other analyses as required by the receiving landfill.

Sample preparation and analysis shall be completed within the required method holding time.

The soil samples shall be logged on a chain-of-custody form and stored on ice in a thermally insulated cooler at a temperature of 4 degrees Celsius (°C) ± 2°C immediately following collection of samples, and during transport to the laboratory.

The Waste Extraction Test (WET) and associated leachate analysis must be performed if the total bulk concentration of an analyte meets or exceeds ten times its respective STLC but does not meet or exceed its respective Total Threshold Limit Concentration (TTLC). The TCLP and associated leachate analysis must be performed if the total bulk concentration of an analyte meets or exceeds 20 times its respective TCLP value. All sample analyses must be performed within the required holding times.

Additional analyses may be required if excavated soil is further segregated due to odors, discoloration, or other evidence of non-characteristic contamination. EMD will be notified if for any reason workers suspect evidence of contamination other than those identified above.

In-situ sampling prior to excavation can be conducted for direct loading. This approach may be necessary if sufficient area is not available to stage stockpiles or containers. However, in-situ sampling does not provide the same level of confidence compared to sampling a stockpile where contamination can be observed. As a result, the number of samples needed for in-situ sampling is usually more than from a stockpile or container.

6.7 Water Sampling and Analysis

Earthwork activities within the Site boundary may result in the generation of wastewater. As described in Section 6.8, equipment that has contacted soil

originating from beneath the Site may require decontamination, which may result in the generation of wastewater and fluids. In addition, dewatering of water seepage from excavations or trenches may be required for certain construction activities. Sampling and analysis of wastewaters, regardless of the origin, will be required prior to discharge and/or off-site disposal.

Wastewater samples will be labeled with the project name, the sampler's name, a unique sample identification name and/or number, the requested analyses, and the date and time of sample collection. For each sample collected, an entry shall be made on a Chain-of-Custody form documenting the custody of the samples from collection through transport and analysis. Immediately following collection, all water samples will be stored along with the Chain-of-Custody form in a thermally insulated ice-cooled chest at a temperature of 4°C for transport to the analytical laboratory.

Each waste stream type (e.g., decontamination wastewater, decontamination fluids, dewatered wastewater, etc.) will be sampled separately in appropriately preserved laboratory-supplied containers and analyzed, at a minimum, for the following constituents by the analytical methods specified:

- Title 22 Metals by USEPA Methods 6010B/7470A.
- VOCs by USEPA Method 8260B.
- TPH as DRO, GRO, and ORO by USEPA Method 8015M:

Trip blanks provided by the laboratory shall also be analyzed when samples are submitted to the laboratory for VOC analysis. Sample preparation and analysis shall be completed within the required method holding time.

6.8 Decontamination Procedures

The following decontamination procedures will be followed:

6.8.1 General Decontamination Procedures

Prior to leaving the site, for general decontamination of tools, vehicles, and other equipment, dry or wet methods shall be used as follows:

- Loose soil will be removed from surfaces using dry decontamination methods, including but not limited to sweeping, brushing, scraping, or vacuuming.

- Viscous or other soil that cannot be readily dislodged from surfaces using dry decontamination methods will be removed using wet decontamination methods, including but not limited to scrubbing, pressure washing, or steam cleaning.

Decontamination will be conducted on plastic sheeting or within secondary containment to prevent potential dispersal of CIS and decontamination wastewater. CIS removed during general decontamination shall be collected and containerized or stockpiled for disposal as described in Section 6.5. Wastewater shall be accumulated in either DOT/UN-approved 55-gallon drums or temporary storage tanks (e.g., Baker tanks) and sampled for discharge and/or disposal as described in Section 6.7.

6.8.2 Decontamination of Heavy Equipment and Trucks

To prevent cross-contamination of waste material, decontamination procedures will be implemented.

Prior to leaving the site, all vehicles including heavy equipment and trucks entering areas of possible contamination will be decontaminated. Decontamination of trucks will first include wheel shakers to remove gross soil particles, followed by brushing off the tires/wheels. If brushing does not prove effective, the Contractor will use a pressure washer which will be made available near the decontamination area to provide wash fluids to thoroughly clean the tires. If wash fluids are used at the Site, care will be taken to clean vehicles such that the wash fluids remain within a visqueen lined decontamination area. Where possible, personal vehicles will not be driven or parked in areas of potential contamination to minimize the generation of decontamination fluids.

6.8.3 Decontamination Water and Wastewaters

Decontamination water and any wastewater that may be accumulated during the excavation/construction activities will be containerized in DOT/UN-approved 55-gallon drums or temporary storage tanks (e.g., Baker tanks) and sampled and discharged and/or disposed of in accordance with Sections 6.7 and 7.4.2. Stormwater BMPs will be implemented to ensure all stormwater will be captured and temporarily stored onsite in a secure manner, without inflow or outflow.

Removal of infiltrated/seeped groundwater from the excavations through pumping may be required for certain construction activities. The water generated from the dewatering activities shall be collected and containerized in the same manner as decontamination water or discharged in accordance with the requirements set forth in a NPDES or other applicable permits based on the work conducted.

7.0 WASTE MANAGEMENT REQUIREMENTS

It is anticipated that excavation and grading activities will generate waste streams that may consist of CIS, decontamination water, stormwater runoff, excavation dewatering, and general trash. In addition, any materials contaminated by spills or accidental releases during construction would be considered as a waste material. The waste will be characterized prior to disposal by evaluating its generation process (or sources), physical and chemical properties, and concentrations against applicable federal, state, and local waste classification criteria.

7.1 Waste Minimization

Workers at the Site shall make every effort to minimize debris, soil, dust, and water generated during construction activities. Waste minimization refers to the reduction in quantities generated, and types of waste that must be disposed of offsite. Methodologies that shall be implemented to minimize waste are:

- Conducting work activities involving waste close to the origin of the waste and in designated areas only.
- Minimizing transfer, transportation, and handling of waste to minimize the potential for spillage.
- Lining waste containers, truck beds, and equipment with plastic sheeting or other barriers to minimize the amount of decontamination required.
- Performing excavation and other intrusive activities in a manner such that waste materials may be easily segregated.

7.2 Waste Handling

Solid and liquid wastes require appropriate handling to protect workers, the public, and the environment from exposures and releases. As described in Section 4.0, workers will be required to complete specific training prior to participating in operations involving potential exposure to hazardous materials. In addition, all solid and liquid wastes will be sampled, analyzed, characterized, and disposed of as specified in this SMP and in accordance with federal, state, and local regulations and the requirements of both the Harbor Department and the disposal/treatment facilities. Appropriate waste disposal methods and facilities will be identified during the waste profiling process.

7.3 Waste Classification

Analytical results of waste samples will be compared to applicable federal, state, and local waste characterization criteria, including but not limited to hazardous characteristics (corrosivity, reactivity, ignitability, and toxicity), Resource Conservation and Recovery Act (RCRA) TCLP and California TTLC and STLC values, landfill waste discharge requirements issued by the Regional Water Quality Control Board or other local governing agency, to classify the waste and determine disposal requirements. Waste soil being assessed for on-site reuse potential must meet all testing requirements as stated in the POLA industrial fill requirements, which are included in Appendix D. The necessary documentation must be submitted to the Harbor Department's Environmental Management Division to obtain approval for soil reuse and prior to bringing any proposed fill source soils to the Site:

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In addition, soil producing a surface measurement of VOCs greater than 50 ppmv, as measured by a properly calibrated PID, will be classified as VOC-impacted, and the Contractor will be required to notify SCAQMD in accordance with Rule 1166.

Based on classification standards, wastes may be classified as one or more of the following categories:

- **Non-hazardous:** wastes that are not listed, do not exhibit hazardous characteristics, and contain concentrations of regulated chemical constituents below federal (RCRA) and state (non-RCRA) hazardous waste limits.
- **California hazardous (non-RCRA hazardous) waste:** wastes that are listed, exhibit hazardous characteristics, and/or contain concentrations of regulated chemical constituents above hazardous waste limits (TTLCs and/or STLCs) according to California (non-RCRA) hazardous waste criteria, but that are not federal (RCRA) hazardous wastes.
- **Federal hazardous (RCRA hazardous) waste:** wastes that are listed, exhibit hazardous characteristics, and/or contain concentrations of regulated chemical constituents above federal (RCRA) hazardous waste limits (TCLP values).

Liquid wastes, such as wastewater generated from equipment decontamination or seepage dewatered from excavations, will be sampled as described in Section 6.7 and analyzed according to requirements specified by either the off-site treatment facility or the approved NPDES permit. Liquid wastes designated for on-site discharge must meet the requirements of the approved NPDES permit while liquid wastes designated for off-site disposal will be classified as non-hazardous, California (non-RCRA) hazardous, or federal (RCRA) hazardous waste as determined by its characteristics and chemical concentrations.

7.4 Waste Disposal

Care should be exercised during the loading, removal, transportation, reuse, and disposal of waste generated at the Site in accordance with federal, state, and local regulations and requirements. These include but are not limited to CCR Titles 22, 23, and 26 et. seq.; California Health and Safety Code §25100 et. seq; and other regulations governing the waste disposal/treatment facility. All solid and liquid waste transported for offsite disposal/treatment must be accompanied by a non-hazardous or uniform hazardous waste manifest signed by an authorized representative. Disposal/treatment facilities must be established by the generator prior to receiving waste originating from the Site. Although not required, attached as Appendix F is a list of recommended disposal facilities used by the Harbor Department.

7.4.1 Soil Waste

Soil waste must be either reused on-site or disposed of at an approved disposal facility based on its waste classification. Following sampling and the receipt of laboratory analytical results, waste soil will be classified into the following categories:

- **Non-hazardous and suitable for on-site reuse** in accordance with POLA industrial fill requirements
- **Non-hazardous and unsuitable for on-site reuse**
- **California hazardous (non-RCRA hazardous)**
- **Federal hazardous (RCRA hazardous)**

In accordance with Harbor Department reuse requirements, neither Federal hazardous (RCRA hazardous) nor California hazardous (non-RCRA

hazardous) soil may be reused on-site. In addition, soil to be reused on-site must meet POLA industrial fill requirements (Appendix D).

Recommended disposal facilities for each waste category are included in Appendix F and below:

- **Non-hazardous**: Local landfills or non-hazardous waste treatment facilities. The temporary waste storage time shall not exceed 90 days from the start of waste generation.
- **California hazardous (non-RCRA hazardous)**: Waste Management Kettleman Hills Hazardous Waste Facility in Kettleman City, California. The temporary waste storage time shall not exceed 90 days from the start of waste generation.
- **Federal hazardous (RCRA hazardous):** US Ecology in Beatty, Nevada. The temporary waste storage time shall not exceed 90 days from the start of waste generation.

7.4.2 Liquid Waste

Liquid waste may either be discharged on-site in accordance with an approved NPDES permit or disposed of at an approved disposal/treatment facility. Recommended disposal facilities for each waste category are included in Appendix F and below:

- **Non-hazardous**: World Oil Recycling in Compton, California. The temporary waste storage time shall not exceed 90 days from the start of waste generation.
- **California hazardous (non-RCRA hazardous)**: Waste Management Kettleman Hills Hazardous Waste Facility in Kettleman City, California (*for in-state disposal as California hazardous (non-RCRA hazardous) waste)*; La Paz County Landfill in Parker, Arizona (*for out-of-state disposal as non-hazardous*. The temporary waste storage time shall not exceed 90 days from the start of waste generation.
- **Federal hazardous (RCRA hazardous)**: US Ecology in Beatty, Nevada. The temporary waste storage time shall not exceed 90 days from the start of waste generation.

Liquid waste determined to be hazardous under federal or state regulations may under no circumstances be discharged into the ground, public sewers, storm drains, or surface water bodies without regulatory approval.

Disposal of liquid waste into a nearby storm drain must be conducted in accordance with an approved NPDES permit. The Clean Water Act prohibits anybody from discharging "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit. The permit will contain limits on what you can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health. Under no circumstances should the liquid waste be discharged into the ground, public sewers, storm drains, or surface water bodies without appropriate regulatory permits.

7.4.3 Solid Waste

Solid waste other than soil, such as used PPE, construction debris, and general trash will be disposed of in accordance with all applicable local, state, and federal regulations. Appropriate dumpsters or other containers will be used for common debris and waste. Any contaminated sorbent material, oily rags, or used oil filters shall be segregated from other solid waste, properly stored and labeled, and disposed of offsite in accordance with applicable laws and regulations. Solid waste that is not chemically impacted may be disposed of as municipal waste in accordance with applicable laws and regulations.

7.5 Waste Documentation

Original copies of laboratory analytical reports associated with waste characterization and chemical profiling; work logs documenting field activities involving waste sampling, handling, management, transportation, and disposal; and waste disposal records, including signed waste manifests, bills of lading, and weight tickets, shall be retained by the Site tenant. The tenant shall be the generator of all wastes and obtain their own EPA generator identification number, as needed.

8.0 OTHER POLLUTION PREVENTION AND CONTROL

This section describes the safety measures to be implemented during excavation, sampling, and construction activities. These include preventative measures to be used within the staging areas to ensure no accidental release of hazardous materials or long-term effects of contamination affect previously non-impacted soil and the environment, including surface and groundwater surrounding the excavation areas. The Contractor's Site Manager or designee will conduct visual inspection of the worksite to ensure compliance with this SMP and keep written records of inspection.

Any unanticipated releases which occur during construction shall be controlled and properly characterized and disposed of associated wastes as soon as feasible. Any release which impacts or has the potential to impact the waters of the State (i.e., channels, harbor, storm drains, etc.) shall be immediately reported to the Harbor Department in accordance with applicable regulations to coordinate additional notification of appropriate regulatory agencies, if required (See Section 4.0 for key roles and responsibilities).

8.1 Material and Equipment Staging Area

If material and/or equipment staging onsite is necessary, the area will be clearly demarcated and diesel fuel, gasoline, oil, grease, and/or other petroleum or chemical products that will be used during excavation/construction will be properly labelled and stored in this area. The storage area will be bermed around the perimeter with a 110% containment capacity. Maintenance of equipment will take place, if necessary, in a designated maintenance area or offsite. Preventative measures will be employed to minimize the potential of a spill. Any waste petroleum and or chemical products will be stored in properly labeled, corrosion resistant containers and removed from the Site as soon as practical, in compliance with all applicable regulations.

8.2 Loading Areas

Onsite trucks will be loaded with soil in the specified loading area for transport to the designated stockpile area if access restrictions prevent stockpiling adjacent to excavations. Trucks and trailers will be loaded with soil or debris using wheel loaders within this specified loading area for transporting to the disposal or treatment facility.

8.3 Refueling Operations

All trucks/vehicles will be refueled at an offsite fueling station. Refueling of heavy field equipment will occur only in the designated refueling area when necessary. The following safety measures will occur while refueling heavy field equipment:

- The engine will be stopped.
- Never completely fill the tank; allow some space for expansion.
- Avoid spillage by holding onto or staying with the nozzle until refueling is complete. In case of spills, clean up immediately, refer to Section 8.4.
- No smoking during refueling operations.
- Refuel in the open air.
- Keep a working fire extinguisher nearby.

A spill kit with absorbent must be kept near the designated fueling area in case of accidental discharge of fuel. In case of accidental discharge of fuel, utilize the spill kit and absorbent to remove as much free-flowing fuel as possible. Used absorbent shall be removed and stored in drums at the hazardous waste storage area. Listed wastes or hazardous wastes will be properly labeled, sealed, manifested, and hauled by an appropriate transporter to a disposal facility approved for receiving such hazardous waste.

8.4 Spill Prevention Measures

Chemicals such as gasoline, spray paint, and hydraulic oil may be hazardous unless handled properly in accordance with instructions outlined in the Safety Data Sheets (SDS) or Globally Harmonized System of Classification and Labelling of Chemicals Safety Data Sheets. SDS will be reviewed prior to handling any chemicals, including cleanup of spills. All chemicals will be properly handled, and appropriate protective equipment and clothing be required. The following measures shall be implemented to ensure safe handling of these chemicals:

- Where hazards exist due to chemical storage, special provisions must be made for handling or working around them. Handling and use of poisons, acids, caustics, and hazardous chemicals will be done by appropriately trained supervisory personnel.
- Review the SDS prior to using any material.

- Mixing chemicals will be prohibited unless chemical properties are known, and the Site Manager/supervisor is confident that no hazard exists.
- Fire-fighting equipment must be compatible with any chemicals or gases present.
- Appropriate protective equipment and sanitary facilities must be provided and used where contact with corrosive and toxic materials is possible or likely.
- To the extent possible, disposal of surplus or excess material will be avoided. If reuse is not possible, disposal of surplus or excess materials and containers must be handled in accordance with applicable laws and regulations.
- Containers, which have been used for toxic substances or poison, should never be used to store any other material.
- When handling volatile organic compounds or toxic chemicals, ensure adequate ventilation and that appropriate PPE is worn.
- Where there is any question regarding the safe use of a material, the Site Manager is to be notified. Mishandling of chemicals, oil, and fuel is dangerous and can result in injury or spillage, causing contaminated soil generation.

If a spill should occur the following steps will be taken:

1. Stop the leak or spill.
2. Notify the Site Manager.
3. Contain spilled material with sorbent material.
4. Clean up the spilled and contaminated material.
5. Containerize the sorbent material into a container (metal drum for oily rags). Move the container to visqueen lined containment area at the Site.

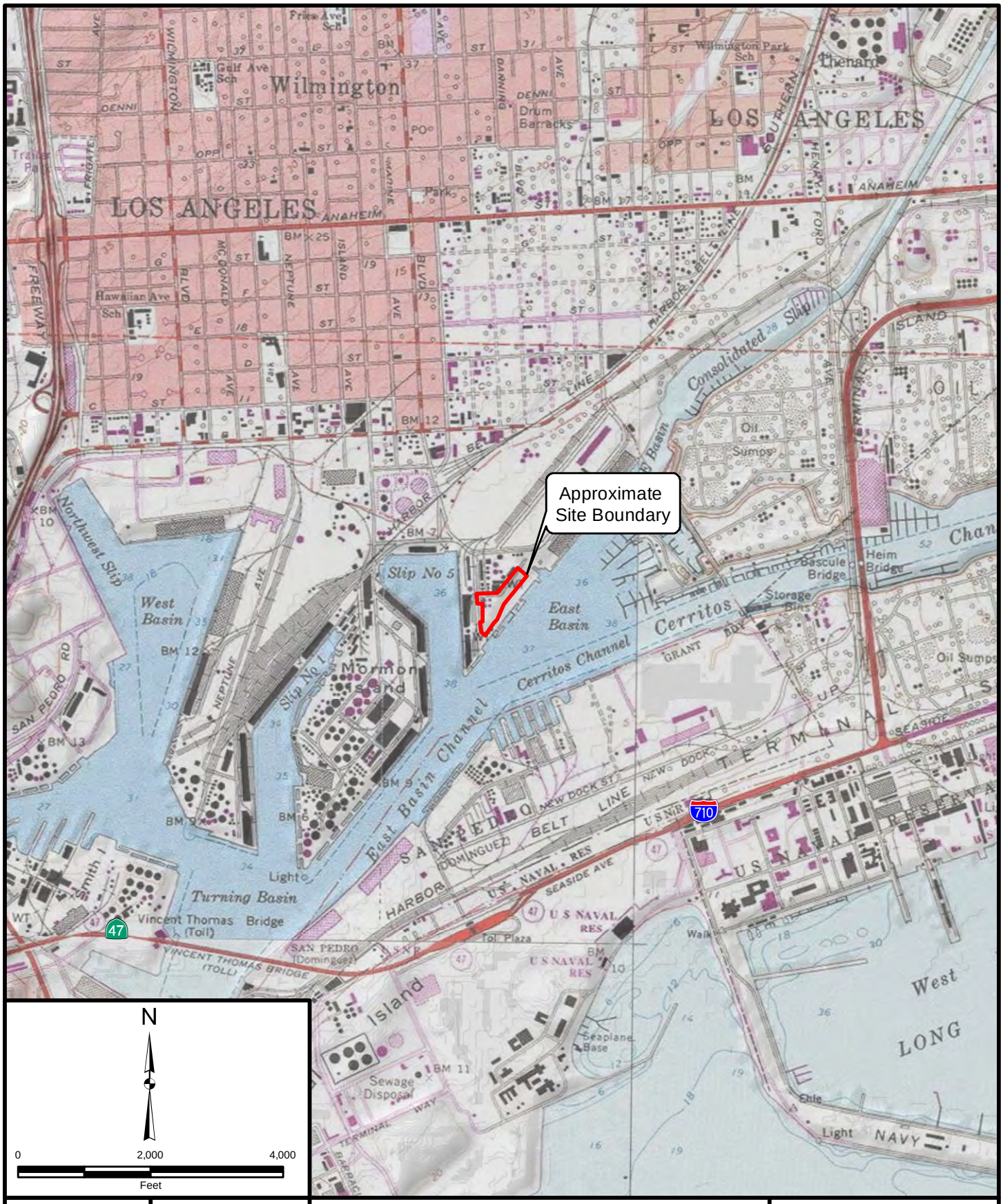
8.5 Onsite Accidental Releases and Mitigation Plans

By following this SMP and implementing preventative measures, the potential of a hazardous release or spill is greatly reduced. However, onsite accidental releases can still occur and may include debris falling from trucks during transport to the storage area or fuel spills during refueling of excavation equipment, or oil spills during equipment repair. To further minimize this potential, all trucks transporting excavated soil from the Site will be covered with a tarp from the point of origin to

the point of unloading. It is recommended that the site Safety Officer or supervisor conduct periodic audits to make sure the proper procedures and protocols documented in the SMP are followed.

9.0 BACKFILL MATERIAL REQUIREMENTS

Excavation, trenching, and other intrusive activities within the Site boundary will require backfilling. Backfill materials shall meet current Harbor Department and DTSC requirements for imported fill material, as outlined in the "Environmental Guidance for Industrial Fill Material" (POLA, 2021) and "DTSC Fact Sheet: Information Advisory Clean Import Fill Material" (DTSC, 2001), included as Appendix D and Appendix E, respectively. The Contractor will ensure that imported backfill material is free of contaminants, oversized material, significant organic material, and construction debris. Soil that does not meet established compaction requirements defined in the design specifications will be excavated and replaced with properly compactable fill. The results of compaction testing, and the observations of overseeing field technicians will be recorded as required in the design specifications.



Project: 13832.009	Eng/Geol: MDW
Scale: 1 " = 2,000 '	Date: September 2023

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SITE LOCATION MAP

Berths 191-194
ORCEM Site
Port of Los Angeles, California

FIGURE 1

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LEGEND

- Approximate location of boring with environmental media exceeding regulatory screening criteria
- Approximate location of boring with California hazardous waste exceedance
- Approximate location of boring with environmental media exceeding regulatory screening criteria and California hazardous waste exceedance
- Approximate Site Boundary

Project: 13832.009	Eng/Geol: MW
Scale: 1 " = 100 '	Date: September 2023

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SITE PLAN

Berths 191-194
ORCEM Site
Port of Los Angeles, California

FIGURE 2

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APPENDIX A

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APPENDIX A

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APPENDIX B

Baseline Environmental Site Assessment, Addendum, and Human Health Risk Assessment

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BASELINE ENVIRONMENTAL SITE CHARACTERIZATION REPORT ADDENDUM

PORT OF LOS ANGELES

BERTHS 191 THROUGH 194

WILMINGTON, CALIFORNIA

Prepared For

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APP# 170720-511 H

Project No. 12736.024

February 28, 2023

This document was prepared under the technical direction of the undersigned. We appreciate the opportunity to assist the City of Los Angeles Harbor Department on this project. If you have questions regarding this report addendum please call us at your convenience at ***866-LEIGHTON***, directly at the phone extension and/or e-mail address listed below.

Respectfully submitted,

LEIGHTON CONSULTING, INC.





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MDW/lr

Distribution: (1 PDF) Addressee

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1
1.1 Objective 1
1.2 Scope of Work 1

2.0 BACKGROUND 2
2.1 Site Description 2
2.2 Previous Investigations 2

3.0 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS 3

4.0 INVESTIGATIVE METHODOLOGY 5
4.1 Pre-field Activities 5
4.1.1 Health and Safety Plan 5
4.1.2 Utility Clearance 5
4.1.3 Permits 5
4.2 Field Activities 5
4.2.1 Soil Investigation 5
4.2.2 Groundwater Investigation 6
4.2.3 Soil Vapor Survey 7
4.3 Laboratory Analysis 8
4.3.1 Groundwater Laboratory Analyses 9
4.3.2 Soil Gas Laboratory Analyses 10

5.0 INVESTIGATIVE RESULTS 11
5.1 Analytical Results for Soil Samples 11
5.2 Analytical Results for Groundwater Samples 13
5.3 Analytical Results for Soil Gas Samples 14

6.0 CONCLUSIONS 15
6.1 Soil 15
6.2 Groundwater 16
6.3 Soil Gas 16

7.0 RECOMMENDATIONS 18

8.0 LIMITATIONS 19

9.0 REFERENCES 20

ATTACHMENTS:

Figure 1 – Site Location Map
Figure 2 – Site Plan

Table 1 – TPH in Soil
Table 2 – Metals in Soil
Table 3 – Soil Waste Characterization
Table 4 – VOCs in Soil
Table 5 – PAHs in Soil
Table 6 – PCBs in Soil
Table 7 – VOCs and Methane in Soil Vapor
Table 8 – TPH in Groundwater
Table 9 – Metals in Groundwater
Table 10 – VOCs in Groundwater
Table 11 – PAHs in Groundwater

Appendix A – Baseline Environmental Site Characterization Report
Appendix B – 2018 Human Health Risk Assessment
Appendix C – Boring Logs
Appendix D – Boring Permit
Appendix E – Laboratory Reports and Chain-of-Custody Documents

1.0 INTRODUCTION

Leighton Consulting, Inc. (Leighton Consulting) is pleased to present the City of Los Angeles Harbor Department (Harbor Department), Environmental Management Division (EMD) this report addendum summarizing the results of a baseline environmental site characterization of soil, soil gas, and groundwater at the Port of Los Angeles (POLA) Berths 191 through 194 located in Wilmington, California (Site, Figure 1). Our understanding of this project is based on the information provided to us by EMD and review of conceptual drawing "Ecocem Port of LA Site Layout." We understand the Site may undergo future development as a cement-processing facility. The proposed development plan includes product intake hoppers and conveyors to mills, siloes, workshop and office buildings, storage yards, stormwater infrastructure, electrical substation, and waterside improvements.

1.1 Objective

The objective of this baseline environmental site characterization is to determine what, if any, environmental impacts are present in the shallow soil, soil gas, and groundwater from activities on or near the Site prior to leasing the Site to a new tenant. In addition, this report addendum will provide data in areas of the Site that was not previously characterized.

1.2 Scope of Work

The scope of work included the following:

- Advancement of 10 exploratory soil borings to total depths between 4 feet and 10 feet below ground surface (bgs);
- Installation of soil gas probes in 4 of the 10 soil borings.
- Collection of soil, soil gas, and groundwater samples for chemical analysis; and
- Preparation of this report summarizing our findings and conclusions, including tables, illustrations and appendices.

2.0 BACKGROUND

2.1 Site Description

The Site encompasses roughly 5.66 acres and is located east of Canal Street and south of Yacht Street in Wilmington, California. Historically, the Site was associated with the Former Wilmington Liquid Bulk Terminals, Inc. (Earth Tech, 2002), a yacht club, docks for boats and a marine gas and oil station (Locus Technologies, 2010). The surrounding vicinity is industrial in nature, consisting of fueling terminals, container storage yards, and various berths associated with cargo/container shipping activities.

2.2 Previous Investigations

In 2017, Leighton Consulting completed a baseline site characterization of the Site. Leighton Consulting observed the installation of 49 soil borings and 19 soil vapor probes. In addition, 19 grab groundwater samples were collected. Total petroleum hydrocarbons (TPH) were detected in soil at concentrations exceeding health risk-based regulatory screening levels in 14 soil samples, and metals including copper and lead exceeded hazardous waste thresholds in soil from four boring locations. TPH and chlorinated volatile organic compounds (VOCs) were detected in grab groundwater samples. Tetrachloroethene and trichloroethene exceeded risk-based screening criteria. In addition, VOCs were detected in soil vapor at concentrations exceeded health risk-based screening criteria for commercial receptors (Leighton Consulting, 2018). Elevated soil vapor concentrations may be a result of off-gassing of contaminated groundwater. The baseline environmental site characterization report for this investigation is included in Appendix A.

A human health risk assessment (HHRA) was prepared for the Site by Enviro-Tox Services, Inc. (Enviro-Tox Services, 2018). The HHRA concluded that there was potential elevated risk due to exposure to contaminated soil and via a vapor intrusion pathway including contaminated groundwater. The HHRA recommended vapor mitigation and soil removals be implemented if redevelopment activities disturb certain areas. The HHRA is included in Appendix B.

3.0 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

The Site is located within the Los Angeles Coastal Plain (California Department of Water Resources [CDWR], 1961) of the Peninsular Ranges geomorphic province of southern California (Norris and Webb, 1990), approximately 17 miles south of downtown Los Angeles at the northern end of the Los Angeles Harbor. The Los Angeles Coastal Plain is a deep structural trough that has been filled primarily with unconsolidated Miocene through Recent age sediments or alluvium that are underlain by earlier Cenozoic bedrock. The Los Angeles Coastal Plain is bounded on the north by the Santa Monica Mountains; on the northeast by the low-lying Elysian, Repetto, Merced, and Puente Hills; on the east and southeast by the Santa Ana Mountains and San Joaquin Hills; on the south by the Palos Verdes Hills and the Pacific Ocean; and on the west by the Pacific Ocean (CDWR, 1961).

The Los Angeles Coastal Plain has been spatially divided by the CDWR into four groundwater basins (West Coast Basin, Central Basin, Santa Monica Basin, and Hollywood Basin) based on the hydrogeologic characteristics of the underlying strata and the locations of bounding geologic structures such as non-water-bearing rock and/or faults that impede groundwater movement. The Site is located within the West Coast Basin, west of the Central Basin and south of the Santa Monica and Hollywood groundwater Basins. The West Coast Basin is bordered on the east by the Newport-Inglewood Fault; on the west by Santa Monica Bay; on the north by the Ballona Gap (north of the Los Angeles International Airport), and on the south by the Palos Verdes Hills.

Based on lateral distribution and varying hydrogeologic characteristics, five major aquifers have been identified in the geologic formations underlying the West Coast Basin (CDWR, 1961). The aquifers consist of (from oldest to youngest) the Silverado and Lynwood Aquifers of the San Pedro Formation; the Gage Aquifer of the Lakewood Formation; and the Gaspur and semiperched aquifers of the recent Holocene age Alluvium. In general, the older/deeper Silverado and Lynwood aquifers are currently designated as drinking water sources and the younger shallow aquifers (Gage, Gaspur, and semiperched) are not currently used for drinking water purposes due to low yield and/or generally poor quality. Note that the in the Regional Water Quality Control Board's (RWQCB) August 28, 1998, Municipal and Domestic Water Supply Policy Staff Report, the portion of the West Basin including the Site has been de-designated and its underlying aquifers are no longer considered to be of beneficial use for drinking water.

Soils encountered during the investigation consisted primarily of gravel and silty sand in the shallow soil (less than 2.5 feet bgs) and sand in the deeper soil (greater than 2.5 feet

bgs). Stained soil was noted in one of the ten borings (LB51). Photoionization detector (PID) readings for the collected soil cuttings were all 0.0 parts per million by volume (ppmv), and are noted on the boring logs in Appendix C.

Groundwater was encountered between 4 and 5 feet bgs at the Site. The direction of groundwater flow is anticipated to be south-southeast towards the harbor and is expected to be tidally influenced.

4.0 INVESTIGATIVE METHODOLOGY

The investigative methodology developed for this project includes, and is limited to, the activities summarized below.

4.1 Pre-field Activities

4.1.1 Health and Safety Plan

A Site-Specific Health and Safety Plan (HSP) was prepared for work performed at the Site. All onsite Leighton Consulting personnel signed the HSP acknowledging acceptance. The document was kept onsite at all times during the field activities. The HSP was prepared in compliance with Title 8 Section 5192 of the California Code of Regulations (CCR), and the Occupational Safety and Health Administration (OSHA) Chapter 29 of the Code of Federal Regulations (29 CFR) 1910.120.

4.1.2 Utility Clearance

DigAlert of Southern California was contacted at least 72-hours prior to commencement of fieldwork to mark the location of public utilities that may enter the Site from nearby streets. The locations of the proposed borings were clearly marked with a stake and flag or white paint prior to contacting DigAlert. In addition, borings were cleared using hand auger equipment in the upper 5 feet of soil.

4.1.3 Permits

Prior to commencement of field activities, Leighton Consulting obtained a well permit from the County of Los Angeles Public Health, Department of Environmental Health (DEH). The permit was required for the advancement of select borings into groundwater. A copy of this permit is included in Appendix D.

4.2 Field Activities

4.2.1 Soil Investigation

On December 6, 2022, Leighton Consulting oversaw the advancement of 10 soil borings at the Site (LB50 through LB59). Boring locations are depicted on Figure 2. The borings were advanced using hand auger and

truck-mounted direct-push drilling equipment operated by Millennium Environmental, Inc. (Millennium) of Anaheim, California, a State of California licensed drilling contractor. During boring advancement, a PID was used to evaluate the soil cuttings for the presence or absence of volatile organic hydrocarbon vapors and monitor the worker breathing zone for health and safety purposes. Soil encountered during drilling was classified and logged in accordance with the Unified Soil Classification System (USCS). Detailed boring logs are included in Appendix C.

Soil samples were collected for chemical analysis from borings LB50 through LB59 at depths of 0.5 feet, 2.5 feet, 5 feet bgs, or until boring refusal or groundwater was encountered.

Soil samples were retained in 8-ounce laboratory-supplied glass jars or acetate sleeves capped with Teflon sheets and plastic end caps, and placed in an ice-cooled chest for storage and delivery to Jones Environmental Inc. (Jones) in Santa Fe Springs, California for chemical analysis. Jones is a State of California Environmental Laboratory Accreditation Program-certified (ELAP) laboratory. Each soil sample was field screened using a PID to evaluate the soil sample for the presence of volatile organic hydrocarbon vapors.

Down-hole drilling and sampling equipment was decontaminated between boreholes by washing in a solution of non-phosphate detergent and water, rinsing with potable water, final rinsing with distilled water, and allowing to air-dry.

Upon completion of soil sampling, groundwater sampling (described below), and soil gas survey (described below), the soil borings were backfilled with hydrated bentonite chips and the surface was returned to its original finish.

4.2.2 Groundwater Investigation

On December 6, 2022, grab groundwater samples were collected from three borings (LB50, LB51, and LB55). Boring locations are depicted on Figure 2. Groundwater was encountered during this investigation at depths ranging between 4 feet and 5 feet bgs. Each grab groundwater sample was collected by utilizing a Hydropunch® sampling device. The Hydropunch® sampling tool consisted of an approximately 2-inch diameter hollow steel rod equipped with an inner 4-foot long, 0.010-inch screened, steel rod. The

sampler was fitted with an expendable drive point at the bottom. The Hydropunch® sampling tool was advanced to the desired depth and the outer hollow steel rod was withdrawn 4-feet to expose the screen. Disposable tubing was then lowered through the hollow steel rods in the water column and extracted through the tubing with a peristaltic pump to bring the groundwater samples to the surface. The groundwater samples were retained in laboratory supplied containers, clearly marked with sample identification, placed in an ice-cooled chest for temporary storage, and transported to Jones for chemical analysis. Chain-of-custody protocol was followed throughout all phases of the sample handling process.

4.2.3 Soil Vapor Survey

A soil vapor survey was performed at the Site in accordance with the *Advisory – Active Soil Gas Investigations, Revised July 2015*, jointly developed by California Environmental Protection Agency – Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board – Los Angeles and San Francisco Region's (LARWQCB and SFRWQCB).

On December 6, 2022, Leighton Consulting oversaw the installation of soil gas probes in the four soil boring locations (LB56 through LB59) as shown on Figure 2. Soil gas probes were installed at a depth of 3 feet bgs, based on the observed groundwater depth of 4 feet bgs. The soil gas probes consisted of inert ¼-inch nylaflow tubing fitted with a porous polyethylene implant at the terminus, which was set within one foot of sand, one foot of dry bentonite above, followed by hydrated bentonite. The surface end of the probe was fitted with a gas-tight luerlock to prevent infiltration of water or air. The soil gas probes were allowed to equilibrate for at least 72 hours prior to sampling.

Soil gas sample collection and chemical analysis was performed on December 13, 2022, by Jones Environmental, Inc. (Jones) of Santa Fe Springs, California. Samples were collected in Summa® canisters and analyzed at Jones fixed/stationary laboratory.

A shut-in test was conducted along the sampling train setup at each sampling depth and location, prior to purging each probe. If a leak was detected, the above-ground sampling train connections were checked and adjusted until no leaks are detected.

At each sampling depth and location, an electric vacuum pump (set to draw 0.200 liters per minute of soil gas at a maximum vacuum of 100-inches of water) was attached to the probe to purge the probe prior to sample collection. To remove stagnant air from the sampling system so that representative samples could be collected, a standard of three purge volumes was used.

Subsequent to purging, soil gas samples were obtained by drawing the sample through the luerlock connection, which connects the sampling probe to the sample container, 1-liter summa canisters under vacuum.

A tracer gas mixture of pentane, hexane, n-propanol, and isopropanol was applied onto a cloth in the area of the soil gas probes at each point of connection in which ambient air could enter the sampling system. These connection points included the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. The tracer gas was not detected in the soil gas samples collected indicating that no ambient air compromised the soil gas analytical test data.

In addition, a methane soil vapor survey was conducted on December 6 and 13, 2022, to assess the presence of methane at the Site and determine the level of appropriate mitigation, if any, in accordance with City of Los Angeles Department of Building and Safety Information Bulletin P/BC 2020-101. Methane measurements were taken utilizing a RKI Eagle 4 Gas Meter and pressure was measured utilizing a magnahelic gauge.

Soil gas sampling points were abandoned by pulling the nylaflow tubing from the ground and the surface restored to its original condition.

4.3 Laboratory Analysis

Soil Laboratory Analyses

Soil samples collected from the Site at intervals of 0.5, 2.5, and 5.0 feet bgs were analyzed for total petroleum hydrocarbons (TPH) in the gasoline range (GRO), diesel range (DRO), and oil range (ORO) by Environmental Protection Agency (EPA) Method 8015M and 8620B and California Code of Regulations, and Title 22, Article 11 metals (CAM 17 metals) by EPA Methods 6010B/7000 series.

Select soil samples, based on the results of the above analyses, field screening methods (PID, visual, or olfactory), or boring location relative to known environmental concerns, were analyzed for the following:

- VOCs (22 total) by EPA Method 8260B, using EPA Method 5035 sample preservation protocols;
- Polynuclear aromatic hydrocarbons (PAHs) (10 total) by EPA Method 8270SIM; and
- Polychlorinated biphenyls (PCBs) (10 total) by EPA Method 8082;

Soil samples with detected concentrations of GRO above the reporting limit, DRO exceeding 500 milligrams per kilogram (mg/kg), ORO exceeding 1,000 mg/kg, or detected PID concentrations above 5 parts per million (ppm) were analyzed for the following:

- VOCs by EPA Method 8260B, using EPA Method 5035 sample preservation protocols;
- PAHs by EPA Method 8270SIM; and
- PCBs by EPA Method 8082.

Soil samples with arsenic, chromium, copper, and lead exceeding waste characterization criteria as defined in California Code of Regulations, Title 22, Chapter 11, Article 3, were analyzed using the soluble threshold limit concentration (STLC) waste extraction test (WET) using EPA Method 6010B and the toxicity characteristic leaching procedure (TCLP) test using EPA Method 1311.

4.3.1 Groundwater Laboratory Analyses

Groundwater samples collected from the Site were analyzed for the following constituents:

- GRO, DRO, and ORO by EPA Methods 8620B and 8015M;
- VOCs by EPA Method 8260B;
- Title 22 metals by EPA Method 6010B/7000 series;
- PAHs by EPA Method 8270SIM.

4.3.2 Soil Gas Laboratory Analyses

Soil vapor samples were analyzed for the following constituents:

- GRO and VOCs by EPA Method 8260B;
- Methane by RKI Eagle 4 Gas Meter

Soil vapor samples that were collected in Summa® canisters were submitted to the laboratory on a normal turnaround time basis (seven business days) and in accordance with standard QA/QC protocol.

Copies of the chain of custody forms and complete analytical reports are included in Appendix E.

5.0 INVESTIGATIVE RESULTS

5.1 Analytical Results for Soil Samples

The soil sample analytical results were compared to the following screening criteria:

- EPA Industrial Regional Screening Levels (RSLs) and DTSC Office of Human and Ecological Risk (HERO) Note Number 3 (DTSC-SL) values in an industrial setting for, metals (except arsenic), PAHs, PCBs, and VOCs;
- Environmental Screening Levels (ESLs) for direct exposure of TPH developed by the San Francisco Bay Regional Water Quality Control Board and updated in January 2019;
- The DTSC Southern California Background concentration of 12 milligrams per kilogram (mg/kg) for arsenic; and
- California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Characteristics of Hazardous Waste.

The analytical results for soil samples are summarized in Tables 1 through 6 and as follows:

- **GRO** was detected in 3 of the 22 soil samples analyzed at concentrations ranging from 0.35 milligrams per kilogram (mg/kg) in boring LB58 at 0.5 feet bgs to 3.11 mg/kg in boring LB54 at 0.5 feet bgs. These concentrations of GRO do not exceed the Industrial ESL of 2,000 mg/kg.
- **DRO** was detected in 13 of the 22 soil samples that were analyzed at concentrations ranging from 27.1 mg/kg in boring LB53 at 2.5 feet bgs to 1,710 mg/kg in boring LB54 at 0.5 feet bgs. One sample, LB54-0.5, exceeded the Industrial ESL of 1,200 mg/kg.
- **ORO** was detected in 13 of the 22 soil samples analyzed at concentrations ranging from 479 mg/kg in boring LB53 at 2.5 feet bgs to 14,600 mg/kg in boring LB54 at 0.5 feet bgs. These concentrations of ORO do not exceed the Industrial ESL of 180,000 mg/kg.
- **Title 22 Metals** were detected in all of the soil samples analyzed with the exception of beryllium, selenium, silver, and thallium. Two metals were

detected at concentrations exceeding their respective industrial screening levels during this investigation.

- **Arsenic** was detected 3 of the 22 soil samples analyzed at concentrations ranging from 9.2 mg/kg in boring LB51 at 0.5 feet bgs to 938 mg/kg in boring LB58 at 2.5 feet bgs. One sample, LB58-2.5, exceeded the screening criteria of 12 mg/kg.
- **Lead** is detected in all of the soil samples analyzed at concentrations ranging from 1.0 mg/kg in boring LB51 at 2.5 feet bgs to 514 mg/kg in boring LB58 at 2.5 feet bgs. One sample, LB58-2.5, exceeded the Industrial DTSC-SL of 500 mg/kg.

Soil samples containing total arsenic, chromium, copper, and/or lead at concentrations above 10 times the STLC and 20 times the TCLP were analyzed using the STLC and TCLP waste extraction tests. The results of these analyses are summarized in Table 3 and below:

- **Arsenic STLC** was analyzed in one soil sample at a concentration less than 0.01 milligram per liter (mg/L) in boring LB58 at 2.5 feet bgs. This is below the STCL threshold value of 5 mg/L.
- **Arsenic TCLP** was analyzed in one soil sample at a concentration less than 0.10 mg/L in LB58 at 2.5 feet bgs. This is below the TCLP threshold value of 5 mg/L.
- **Chromium STLC** was analyzed in one soil sample at a concentration of 0.02 mg/L in boring LB58 at 2.5 feet bgs. This is below the STLC threshold value of 5 mg/L.
- **Copper STLC** was analyzed in two soil samples at concentrations of 0.98 mg/L in boring LB58 at 2.5 feet bgs and 5.30 mg/L in boring LB52 at 5 feet bgs. These are below the STLC threshold value of 25 mg/L.
- **Lead STLC** was analyzed in five soil samples with at concentrations ranging from 1.44 mg/L in boring LB57 at 0.5 feet bgs to 6.68 mg/L in boring LB52 at 5 feet bgs. One sample, LB52 at 5 feet bgs, exceeded the lead STLC threshold of 5 mg/L.
- **Lead TCLP** was analyzed in two soil samples at concentrations of 4.81 mg/L in LB52 at 5 feet bgs and less than 0.01 mg/L in LB58 at 2.5 feet bgs. The detected TCLP concentrations was below the TCLP threshold value 5 mg/L.

- **VOCs** – Twelve VOCs were detected in the 22 soil samples and the detected concentrations were all below screening levels.
- **PAHs** – Fifteen PAHs were detected in the 10 soil samples and the maximum detected concentrations are summarized as follows:

PAH	Concentration	RSL/DTSC-SL	Boring
Acenaphthene	380 µg/kg	23,000,000 µg/kg	LB55-0.5
Acenaphthylene	500 µg/kg	Not established	LB52-0.5
Anthracene	1,200 µg/kg	130,000,000 µg/kg	LB52-0.5
Benzo(a)anthracene	1,500 µg/kg	12,000 µg/kg	LB52-0.5
Benzo(a)pyrene	**1,800 µg/kg**	**1,300 µg/kg**	**LB52-0.5**
Benzo(b)fluoranthene	3,500 µg/kg	13,000 µg/kg	LB52-0.5
Benzo(g,h,i)perylene	1,200 µg/kg	Not established	LB52-0.5
Benzo(k)fluoranthene	990 µg/kg	130,000 µg/kg	LB52-0.5
Chrysene	3,000 µg/kg	1,200,000 µg/kg	LB52-0.5
Dibenz(a,h)anthracene	**320 µg/kg**	**310 µg/kg**	**LB52-0.5**
Fluoranthene	3,500 µg/kg	18,000,000 µg/kg	LB55-0.5
Indeno(1,2,3-cd)pyrene	1,200 µg/kg	13,000 µg/kg	LB52-0.5
Naphthalene	**9,300 µg/kg**	**6,500 µg/kg**	**LB54-0.5**
Phenanthrene	4,500 µg/kg	Not established	LB55-0.5
Pyrene	6,300 µg/kg	13,000,000 µg/kg	LB52-0.5

Note: Bold concentrations exceed screening criteria.

- **PCBs** – were not detected above laboratory reporting limits in the 10 soil samples analyzed.

5.2 Analytical Results for Groundwater Samples

Results of the chemical analyses of the groundwater samples were compared to the ESLs developed by the San Francisco Bay Regional Water Quality Control Board and updated in January 2019. Aquatic habit screening levels for saltwater were chosen for screening purposes since the Site is adjacent to the harbor.

The analytical results for groundwater samples are summarized in Tables 8 through 11 and as follows:

- **GRO** was not detected above the laboratory reporting limit of 0.10 mg/L.
- **DRO** was not detected above the laboratory reporting limit of 1.0 mg/L.
- **ORO** was not detected above the laboratory reporting limit of 1.0 mg/L.
- **Title 22 Metals -** barium, molybdenum, vanadium, and zinc were detected in the groundwater samples analyzed and none of the detected concentrations exceeded associated ESL screening levels.
- **VOCs** – Four VOCs were detected in the groundwater samples analyzed and none of the detected concentrations exceeded associated ESL screening levels.
- **PAHs** – Seven PAHs were detected in the groundwater samples analyzed and none of the detected concentrations exceeded associated ESL screening levels.

5.3 Analytical Results for Soil Gas Samples

Results of the chemical analyses of the soil gas samples were compared to the adjusted DTSC-SLs and EPA RSLs for indoor air in an industrial setting assuming a future slab attenuation factor of 0.0005 (DTSC, 2011) and 0.03 (DTSC, 2020). The results of the laboratory analysis for the soil gas samples are summarized in Table 7.

VOCs were detected in three of the four soil gas samples analyzed. Four VOCs were detected with maximum concentrations as follows:

VOC	Concentration	DTSC-SL	Boring	Probe Depth
PCE	**0.104 µg/L**	**0.067 µg/L**	**LB59**	**3 feet bgs**
Trichlorofluoromethane	0.044 µg/L	177 µg/L	LB59	3 feet bgs
1,2,4-Trimethylbenzene	0.010 µg/L	8.67 µg/L	LB56	3 feet bgs
m,p-Xylene	0.027 µg/L	14.7 µg/L	LB59	3 feet bgs

Note: Bold concentration exceeds the DTSC-SL using an attenuation factor of 0.03 (DTSC, 2020). This concentration does not exceed the DTSC-SL using an attenuation factor of 0.0005 (DTSC, 2011).

Methane was detected in all four of the soil gas samples analyzed at concentrations of ranging from 460 ppmv in LB56 at 3 feet bgs to 500 ppmv in LB59 at 3 feet bgs. Pressure readings were not detected above 0 inches of water.

6.0 CONCLUSIONS

The purpose of this investigation was to establish an environmental baseline for future tenants and to screen for the potential presence of hazardous substances in soil, soil gas, and groundwater at Berths 191 through 194 in Wilmington, California that could present a health risk to future commercial/industrial occupants of the Site. This investigation was intended to provide data in areas of the Site that was not previously characterized in 2017. To accomplish the objectives set forth in this investigation, 10 borings were advanced at the Site with the installation of four soil gas probes and collection of three grab groundwater samples.

6.1 Soil

DRO was detected above the Industrial ESL of 1,200 mg/kg in 1 of the 22 soil samples analyzed during this investigation from boring LB54 at 0.5 feet bgs (1,710 mg/kg). While there is no discernable trend in DRO impacted soil, DRO was found primarily within the surficial soil throughout the Site. This is consistent with the findings of the 2017 investigation.

Arsenic was detected above the Southern California Background concentration of 12 mg/kg in 1 of the 22 soil samples analyze during this investigation from boring LB58 at 2.5 feet bgs (938 mg/kg). Soil from this boring exceeded total threshold limit concentrations of 500 mg/kg but did not exceed TCLP thresholds. Therefore, soil in this area may be classified as non-resource conservation and recovery act (non-RCRA) hazardous waste (California hazardous) if removed from the Site.

Lead was detected above the Industrial DTSC-SL concentration of 500 mg/kg in 1 of the 22 soil samples analyze during this investigation from boring LB58 at 2.5 feet bgs (514 mg/kg). Soil from this boring did not exceed the STLC or TCLP thresholds. Therefore, soil in this area may be classified as non-hazardous waste if removed from the Site.

Lead was detected above the STLC threshold of 5.0 mg/L in boring LB52 at 5 feet bgs but did not exceed the TCLP threshold. Therefore, soil in this area may be classified as non-resource conservation and recovery act (non-RCRA) hazardous waste (California hazardous) if removed from the Site.

Three PAHs, benzo(a)pyrene, dibenz(a,h)anthracene, and naphthalene, had soil concentrations exceeding Industrial DTSC-SLs of 1,300 µg/kg, 310 µg/kg, and 6,500 µg/kg, respectively. These exceedances occurred in borings LB52 at 0.5 feet bgs and LB54 at 0.5 feet bgs.

GRO, ORO, VOCs, PCBs, and metals other than arsenic and lead were not detected in the soil samples analyzed during this investigation at concentrations exceeding their respective industrial screening levels.

6.2 Groundwater

TPH was not detected in any of the groundwater samples analyzed during this investigation.

Barium, molybdenum, vanadium, and zinc were detected in the groundwater samples analyzed; however, detected concentrations did not exceed the ESL screening criteria. Since the groundwater beneath the Site is non-beneficial for municipal use and direct contact with groundwater beneath the Site is unlikely, these concentrations of metals in groundwater should not pose a risk to future commercial/industrial occupants of the Site.

Four VOCs, cis-1,2-dichloroethene, MTBE, PCE, and TCE, were detected in the groundwater samples analyzed; however, detected concentrations did not exceed the ESL screening criteria. Based on results of the 2017 investigation, the primary VOC contaminants of concern in groundwater were PCE and TCE. During this investigation, PCE and TCE concentrations were at least two orders of magnitude lower than detections from 2017.

Seven PAHs were detected in one groundwater sample from boring LB51.; however, detected concentrations did not exceed the ESL screening criteria.

6.3 Soil Gas

One VOC, PCE, was detected in soil gas at a concentration above the DTSC-SL of 0.067 µg/L using an attenuation factor of 0.03. This exceedance occurred in vapor probe LB59 at 3 feet bgs at a concentration of 0.104 µg/L. This concentration did not exceed the DTSCL-SL of 4.0 µg/L using an attenuation factor of 0.0005. Based on results of the 2017 investigation, the primary VOC contaminants of concern in soil gas were PCE, TCE, and vinyl chloride. During this investigation, TCE and vinyl chloride were not detected above laboratory reporting limits, and PCE was detected two orders of magnitude lower than the maximum PCE concentration from the 2017 investigation. Based on the results of this investigation, it appears that the location of the proposed workshop and office building has a low risk for vapor intrusion and is suitable for commercial/industrial

receptors. In addition, the methane testing results for this area were below 1,000 ppmv and vapor pressures were below two inches of water; therefore, the Site would be classified as Site Design Level I in accordance with the Los Angeles Municipal Code Ordinance No. 175790.

7.0 RECOMMENDATIONS

Based on the results of this investigation and the previous 2017 sampling, the Site soil contains contaminants of concern that exceed health-risked based screening criteria for commercial/industrial receptors and hazardous waste thresholds. We recommend a waste management plan be prepared for the Site and implemented during future redevelopment activities to minimize onsite worker and public exposure to hazardous materials. The waste management plan should identify known areas of concern and develop protocols to manage unforeseen conditions if encountered.

In general, observations should be made during any future Site redevelopment for areas of possible contamination such as, but not limited to, the presence of underground facilities, buried debris, waste drums, tanks, stained soil or odorous soils. Should such materials be encountered, further investigation and analysis may be necessary at that time.

8.0 LIMITATIONS

This investigation was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The observations and conclusions presented in this report are professional opinions based on the scope of activities, work schedule, and information obtained through the activities described herein, and are limited to the portion of the Site investigated. Opinions presented herein apply to property conditions existing at the time of our study and cannot necessarily be taken to apply to property conditions outside of the area investigated or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the portion of the Site investigated, and the amount, type, distribution, and integrity of the information collected at the time of the investigation, and the methods utilized to collect and evaluate the data. Although Leighton Consulting has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of the information provided by others.

9.0 REFERENCES

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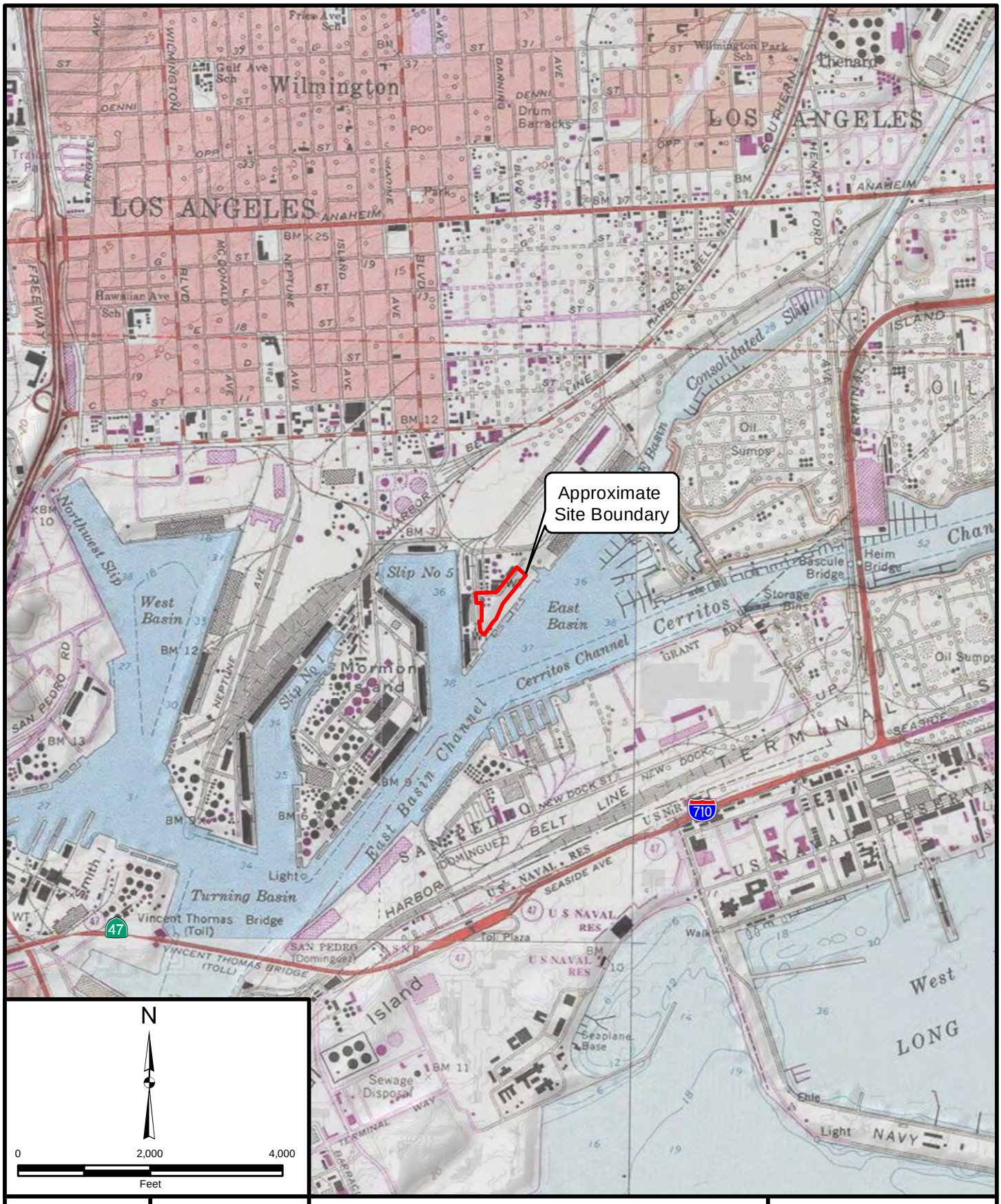
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FIGURES



Project: 12736.024	Eng/Geol: MW
Scale: 1 " = 2,000 '	Date: February 2023

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SITE LOCATION MAP

Berth 191-194
ORCEM Site
Port of Los Angeles, California

FIGURE 1

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Project: 12736.024	Eng/Geol: MW
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SITE PLAN

Berth 191-194
ORCEM Site
Port of Los Angeles, California

FIGURE 2

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TABLES

TABLE 1
TPH IN SOIL
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	--	500	18,000
RWQCB ESL Commercial/Industrial Soil			mg/kg	2,000	1,200	180,000
LB50-0.5	0.5	12/6/2022	mg/kg	--	**117**	**2,470**
LB50-2.5	2.5	12/6/2022	mg/kg	<0.20	**90.4**	**2,930**
LB50-5	5	12/6/2022	mg/kg	<0.20	**93.9**	**3,020**
LB51-0.5	0.5	12/6/2022	mg/kg	<0.20	**39.0**	**513**
LB51-2.5	2.5	12/6/2022	mg/kg	--	<10.0	<10.0
LB52-0.5	0.5	12/6/2022	mg/kg	<0.20	**551**	**5,960**
LB52-2.5	2.5	12/6/2022	mg/kg	<0.20	**223**	**9,790**
LB52-5	5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB53-0.5	0.5	12/6/2022	mg/kg	**0.52**	**690**	**8,660**
LB53-2.5	2.5	12/6/2022	mg/kg	<0.20	**27.1**	**479**
LB54-0.5	0.5	12/6/2022	mg/kg	**3.11**	**1,710**	**14,600**
LB54-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB55-0.5	0.5	12/6/2022	mg/kg	<0.20	**281**	**8,940**
LB55-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB56-0.5	0.5	12/6/2022	mg/kg	<0.20	**32.7**	**1,050**
LB56-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB57-0.5	0.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB57-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB58-0.5	0.5	12/6/2022	mg/kg	**0.35**	**176**	**4,380**
LB58-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0
LB59-0.5	0.5	12/6/2022	mg/kg	<0.20	**204**	**5,760**
LB59-2.5	2.5	12/6/2022	mg/kg	<0.20	<10.0	<10.0

Notes:
TPH = total petroleum hydrocarbons
bgs = below ground surface
mg/kg = milligrams per kilogram
ESL = RWQCB Environmental Screening Level (February 2019)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)
<0.20 = Not detected above the reporting detection limit.
-- = Not analyzed or not applicable
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons
Bold concentrations were detected above laboratory reporting limit
Highlighted values exceed Industrial RSL

TABLE 2
METALS IN SOIL
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	470	3.00	220,000	2,300	100	--	350	47,000	800	46	390	11,000	5,800	5,800	12	5,800	350,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	--	0.36	--	230	79	--	--	--	500	4.4	--	11,000	--	--	--	--	--
STLC x 10			mg/kg	150	50	1,000	7.5	10	50	800	250	50	2.0	3,500	200	10	50	70	240	2,500
TCLP x 20			mg/kg	--	100	2,000	--	20	100	--	--	100	4.0	--	--	20	100	--	--	--
Arsenic Background (DTSC, 2008)			mg/kg	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LB50-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**83.8**	<0.5	**1.2**	**14.1**	**5.4**	**17.3**	**20.2**	**0.069**	<0.5	**14.9**	<5.0	<0.5	<5.0	**25.5**	**56.1**
LB50-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**90.8**	<0.5	**1.1**	**12.6**	**4.5**	**17.6**	**25.4**	**0.104**	<0.5	**13.3**	<5.0	<0.5	<5.0	**21.7**	**59.2**
LB50-5	5	12/6/2022	mg/kg	<5.0	<5.0	**59.2**	<0.5	**1.0**	**9.0**	**3.7**	**14.5**	**22.9**	**0.099**	**0.5**	**11.1**	<5.0	<0.5	<5.0	**19.2**	**55.3**
LB51-0.5	0.5	12/6/2022	mg/kg	<5.0	**9.2**	**95.9**	<0.5	**1.9**	**21.6**	**6.0**	**148**	**41.3**	**0.141**	**1.0**	**14.8**	<5.0	<0.5	<5.0	**31.0**	**153**
LB51-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**22.5**	<0.5	**0.8**	**7.4**	**3.1**	**3.0**	**1.0**	**0.041**	<0.5	**3.8**	<5.0	<0.5	<5.0	**19.4**	**17.7**
LB52-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**61.2**	<0.5	**1.4**	**11.7**	**5.0**	**89.4**	**34.0**	**0.126**	<0.5	**15.1**	<5.0	<0.5	<5.0	**25.4**	**106**
LB52-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**41.7**	<0.5	**0.8**	**5.8**	**3.6**	**14.8**	**5.6**	**0.040**	<0.5	**13.8**	<5.0	<0.5	<5.0	**22.0**	**28.8**
LB52-5	5	12/6/2022	mg/kg	**9.4**	**9.3**	**164**	<0.5	**3.3**	**21.3**	**8.8**	**377**	**171**	**0.138**	<0.5	**13.0**	<5.0	<0.5	<5.0	**37.2**	**173**
LB53-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**76.3**	<0.5	**1.5**	**13.2**	**5.5**	**52.5**	**30.9**	**0.096**	<0.5	**16.3**	<5.0	<0.5	<5.0	**30.7**	**145**
LB53-2.5	2.5	12/6/2022	mg/kg	**12.4**	<5.0	**74.3**	<0.5	**1.5**	**15.8**	**4.7**	**44.1**	**97.6**	**0.330**	<0.5	**7.9**	<5.0	<0.5	<5.0	**24.4**	**81.8**
LB54-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**78.3**	<0.5	**1.3**	**12.6**	**5.6**	**25.3**	**25.0**	**0.472**	<0.5	**16.2**	<5.0	<0.5	<5.0	**27.5**	**63.4**
LB54-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**30.6**	<0.5	**0.7**	**6.9**	**2.8**	**85.9**	**6.6**	**0.032**	<0.5	**3.4**	<5.0	<0.5	<5.0	**16.1**	**23.9**
LB55-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**83.3**	<0.5	**2.0**	**17.1**	**6.6**	**35.8**	**58.0**	**0.101**	<0.5	**15.4**	<5.0	<0.5	<5.0	**32.2**	**152**
LB55-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**35.1**	<0.5	**0.9**	**8.3**	**3.8**	**4.7**	**2.1**	**0.070**	<0.5	**4.6**	<5.0	<0.5	<5.0	**17.8**	**20.2**
LB56-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**51.8**	<0.5	**1.2**	**10.4**	**4.5**	**16.6**	**38.6**	**0.206**	<0.5	**8.9**	<5.0	<0.5	<5.0	**23.9**	**66.2**
LB56-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**31.8**	<0.5	**0.8**	**7.2**	**3.4**	**3.9**	**1.2**	**0.023**	<0.5	**4.6**	<5.0	<0.5	<5.0	**15.2**	**24.6**
LB57-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**80.8**	<0.5	**1.4**	**12.3**	**5.2**	**30.3**	**96.7**	**0.481**	<0.5	**10.4**	<5.0	<0.5	<5.0	**26.5**	**93.3**
LB57-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**33.9**	<0.5	**0.9**	**7.8**	**3.4**	**6.8**	**5.7**	**0.090**	<0.5	**4.4**	<5.0	<0.5	<5.0	**18.6**	**27.7**
LB58-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**51.2**	<0.5	**1.1**	**10.3**	**4.9**	**10.4**	**12.5**	**0.053**	<0.5	**10.8**	<5.0	<0.5	<5.0	**23.2**	**166**
LB58-2.5	2.5	12/6/2022	mg/kg	**6.7**	**938**	**65.0**	<0.5	**6.7**	**85.2**	**3.7**	**2010**	**514**	**0.059**	<0.5	**14.7**	<5.0	<0.5	<5.0	**20.3**	**1070**
LB59-0.5	0.5	12/6/2022	mg/kg	<5.0	<5.0	**49.7**	<0.5	**1.0**	**8.7**	**4.1**	**26.5**	**14.1**	**0.032**	<0.5	**11.8**	<5.0	<0.5	<5.0	**22.7**	**74.0**
LB59-2.5	2.5	12/6/2022	mg/kg	<5.0	<5.0	**29.4**	<0.5	**1.1**	**8.8**	**3.0**	**9.3**	**18.2**	**0.055**	<0.5	**6.8**	<5.0	<0.5	<5.0	**20.9**	**62.6**

Notes:
mg/kg = milligrams per kilogram
bgs = below ground surface
ND<2.0 = Not detected above laboratory reporting limit as shown
-- = Not analyzed or not applicable
RSL = EPA Region 9 Industrial Regional Screening Level (November 2022)
Arsenic Background = DTSC Determination of a Southern California Regional Background Arsenic Concentration in Soil (DTSC, 2008)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)
Bold concentrations were detected above laboratory reporting limit
Highlighted concentrations exceeds selected screening criteria

TABLE 3
SOIL WASTE CHARACTERIZATION
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Arsenic (STLC/TCLP)	Chromium (STLC)	Copper (STLC)	Lead (STLC/TCLP)
STLC limit			mg/L	5	5	25	5.0
TCLP limit			mg/L	5	5	--	5.0
LB52-5	5	12/6/2022	mg/L	--	--	**5.30**	**6.68 / 4.81**
LB53-2.5	2.5	12/6/2022	mg/L	--	--	--	ND<0.01 / --
LB55-0.5	0.5	12/6/2022	mg/L	--	--	--	**2.02** / **--**
LB57-0.5	0.5	12/6/2022	mg/L	--	--	--	**1.44** / **--**
LB58-2.5	2.5	12/6/2022	mg/L	ND<0.10/ND<0.10	**0.02**	**0.98**	**3.47** / ND<0.01

mg/L = milligrams per liter
bgs = below ground surface
ND<2.0 = Not detected above laboratory reporting limit as shown
-- = Not analyzed or not applicable
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
Highlighted concentrations exceeds selected screening criteria

TABLE 4
VOCs in SOIL
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Naphthalene	n-Propylbenzene	o-Xylene	Tetrachloroethene	Toluene	Trichloroethene	Other VOCs
USEPA RSL Industrial Soil			µg/kg	1,800,000	1,500,000	--	25,000	9,900,000	2,400,000	8,600	24,000,000	2,800,000	100,000	47,000,000	6,000	varies
HERO HHRA Note 3 Industrial Soil Screening Criteria			µg/kg	--	--	--	--	--	--	6,500	--	--	2,700	5,300,000	--	varies
LB50-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB50-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB50-5	5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB51-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB51-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB52-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB52-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB52-5	5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB53-0.5	0.5	12/6/2022	µg/kg	**10.2**	**6.8**	ND<1.0	ND<1.0	ND<1.0	ND<2.0	**32.8**	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB53-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB54-0.5	0.5	12/6/2022	µg/kg	**69.7**	ND<1.0	**8.8**	**6.0**	**5.5**	**5.2**	**339**	**6.7**	**4.4**	ND<1.0	ND<1.0	**1.0**	ND
LB54-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB55-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	**28.4**	ND<1.0	ND<1.0	**10.9**	ND<1.0	ND<1.0	ND
LB55-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB56-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB56-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB57-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB57-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB58-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	**40.5**	ND<1.0	**289**	ND<5.0	ND<1.0	**59.6**	ND<1.0	**1.1**	ND<1.0	ND
LB58-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND
LB59-0.5	0.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	**10.9**	ND<1.0	**81.3**	ND<5.0	ND<1.0	**17.5**	ND<1.0	ND<1.0	ND<1.0	ND
LB59-2.5	2.5	12/6/2022	µg/kg	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<2.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND

Notes:
VOCs = volatile organic compounds
bgs = below ground surface
µg/kg = micrograms per kilogram
ND<0.88 = Not detected above the laboratory reporting limit
-- = Not analyzed or not applicable
RSL = EPA Region 9 Industrial Regional Screening Level (November 2022)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)

TABLE 5
PAHs IN SOIL
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
USEPA RSL Industrial Soil			µg/kg	45,000,000	--	230,000,000	21,000	2,100	21,000	--	210,000	2,100,000	2,100	30,000,000	30,000	21,000	8,600	--	23,000,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			µg/kg	23,000,000	--	130,000,000	12,000	1,300	13,000	--	130,000	1,300,000	310	18,000,000	17,000	13,000	6,500	--	13,000,000
LB50-0.5	0.5	12/6/2022	µg/kg	ND<50	ND<50	ND<50	**77**	ND<50	ND<100	**93**	ND<50	**57**	ND<50	**60**	ND<100	ND<50	ND<50	ND<50	ND<100
LB50-5	5	12/6/2022	µg/kg	ND<50	**70**	**120**	**150**	ND<50	**140**	**160**	ND<50	**120**	ND<50	**200**	ND<100	**60**	ND<50	**140**	**220**
LB52-0.5	0.5	12/6/2022	µg/kg	ND<50	**500**	**1,200**	**1,500**	**1,800**	**3,500**	**1,200**	**990**	**3,000**	**320**	**1,600**	ND<100	**1,200**	ND<50	**290**	**6,300**
LB52-2.5	2.5	12/6/2022	µg/kg	ND<50	ND<50	ND<50	**50**	ND<50	ND<100	**83**	ND<50	ND<50	ND<50	ND<50	ND<100	ND<50	ND<50	ND<50	ND<100
LB53-0.5	0.5	12/6/2022	µg/kg	ND<50	**170**	**430**	**690**	**640**	**1,200**	**570**	**480**	**1,200**	ND<50	**1,100**	ND<100	**490**	ND<50	**460**	**1,600**
LB54-0.5	0.5	12/6/2022	µg/kg	ND<50	**400**	**370**	**570**	ND<50	ND<100	**310**	ND<50	**1,100**	ND<50	**1,800**	ND<100	ND<50	**9,300**	**1,600**	**1,700**
LB55-0.5	0.5	12/6/2022	µg/kg	**380**	**120**	**980**	**580**	ND<50	ND<100	**170**	ND<50	**670**	ND<50	**3,500**	ND<100	**90**	ND<50	**4,500**	**3,100**
LB56-0.5	0.5	12/6/2022	µg/kg	ND<10	ND<5.0	ND<5.0	**7.0**	ND<10	ND<10	**11**	ND<10	**12**	ND<5.0	**8.3**	ND<10	ND<5.0	ND<5.0	**7.0**	ND<10
LB58-0.5	0.5	12/6/2022	µg/kg	ND<50	ND<50	ND<50	**110**	ND<50	ND<100	**100**	ND<50	**93**	ND<50	ND<50	ND<100	ND<50	ND<50	**77**	**110**
LB59-0.5	0.5	12/6/2022	µg/kg	ND<50	ND<50	ND<50	**73**	ND<50	ND<100	**140**	ND<50	**160**	ND<50	**57**	ND<100	ND<50	ND<50	**60**	ND<100

Notes:
PAHs = Polynuclear aromatic hydrocarbons
bgs = below ground surface
ug/kg = micrograms per kilogram
ND<50 = Not detected above the laboratory reporting limit
-- = Not analyzed or not applicable
RSL = EPA Region 9 Industrial Regional Screening Level (November 2022)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)

TABLE 6
PCBs IN SOIL
Berth 191-194
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268
USEPA RSL Industrial Soil			mg/kg	27	0.83	0.72	0.95	0.94	0.97	0.99	--	--
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	17	0.53	0.49	0.58	0.58	0.59	0.60	--	--
LB50-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB50-5	5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB52-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB52-2.5	2.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB53-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB54-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB55-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB56-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB58-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
LB59-0.5	0.5	12/6/2022	mg/kg	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050

Notes:
PCBs = Polychlorinated Biphenyls
bgs = below ground surface
mg/kg = milligrams per kilogram
ND<4.6 = Not detected above the reporting limit.
D1 = Sample required dilution due to possible matrix interference
RSL = EPA Region 9 Industrial Regional Screening Level (November 2022)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)

TABLE 7

VOCs AND METHANE IN SOIL VAPOR

Berth 191 - 194

Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Tetrachloroethene	Trichloroethene	Trichlorofluoromethane (Freon 11)	1,2,4-Trimethylbenzene	m,p-Xylene	Other VOCs	Methane (ppmv)
USEPA RSL Industrial Air (AF = 0.0005)				94	6.0	--	520	880	varies	--
USEPA RSL Industrial Air (AF = 0.03)				1.57	0.1	--	8.67	14.7	varies	--
DTSC HERO Note 3 industrial (AF = 0.0005)				4.0	--	10,600	--	--	varies	--
DTSC HERO Note 3 industrial (AF = 0.03)				0.067	--	177	--	--	varies	--
LB56-3	12/13/2022	3.0	µg/L	**0.013**	<0.008	<0.016	**0.010**	**0.017**	ND	**460**
LB57-3	12/13/2022	3.0	µg/L	<0.008	<0.008	<0.016	<0.008	<0.008	ND	**490**
LB58-3	12/13/2022	3.0	µg/L	**0.050**	<0.008	<0.016	<0.008	<0.008	ND	**490**
LB59-3	12/13/2022	3.0	µg/L	**0.104**	<0.008	**0.044**	<0.008	**0.027**	ND	**500**

Notes:

Screening levels are adjusted using a 0.0005 attenuation factor for future commerical/industrial use are from Table 2 of the 2011 Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance) In addition, an 0.03 attenuation factor was evaluted based on Draft DTSC Guidance (DTSC, 2020).

µg/L = micrograms per liter

ppmv= parts per million by volume

bgs = below ground surface

HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (May 2022)

RSL = EPA Region 9 Industrial Regional Screening Level (November 2022)

Methane values were collected with an RKI Eagle field instrument

-- = Not available

ND = non-detect

TABLE 8
TPH IN GROUNDWATER
Berth 191-194
Wilmington, California

Sample ID	Date	Units	GRO	DRO	ORO
ESLs Saltwater Tox.		mg/L	3.7	0.64	0.64
LB50-GW	12/06/22	mg/L	ND<0.10	ND<1.0	ND<1.0
LB51-GW	12/06/22	mg/L	ND<0.10	ND<1.0	ND<1.0
LB55-GW	12/06/22	mg/L	ND<0.10	ND<1.0	ND<1.0

Notes:
TPH = total petroleum hydrocarbons
mg/L = milligrams per liter
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2019) for saltwater aquatic habits
ND<0.05 = Not detected above laboratory reporting limit
-- = not applicable

TABLE 9
METALS IN GROUNDWATER
Berth 191-194
Wilmington, California

Sample ID	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
ESLs Saltwater Tox.		mg/L	0.5	0.036	--	--	0.0093	--	--	0.0031	0.0081	0.000025	--	0.0082	0.071	0.00019	0.21	--	0.081
LB50-GW	12/06/22	mg/L	ND<0.100	ND<0.100	**0.050**	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.00010	**0.022**	ND<0.010	ND<0.100	ND<0.100	ND<0.100	ND<0.010	**0.032**
LB51-GW	12/06/22	mg/L	ND<0.100	ND<0.100	**0.082**	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.00010	**0.018**	ND<0.010	ND<0.100	ND<0.100	ND<0.100	**0.012**	**0.024**
LB55-GW	12/06/22	mg/L	Nd<0.100	ND<0.100	**0.052**	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.00010	**0.031**	ND<0.010	ND<0.100	ND<0.100	ND<0.100	ND<0.010	**0.020**

Notes:
mg/L = milligrams per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2019) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable

TABLE 10
VOCs IN GROUNDWATER
Berth 191-194
Wilmington, California

Sample ID	Date	Units	1,1-Dichloroethene	1,2-Dichloroethane	cis-1,2-Dichloroethene	Dibromochloromethane	MTBE	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
ESLs Saltwater Tox.		µg/L	22,000	11,000	22,000	3,200	8,000	230	22,000	200	--
LB50-GW	12/06/22	µg/L	ND<0.5	ND<0.5	**3.3**	ND<0.5	**5.0**	**0.7**	ND<0.5	**2.9**	ND<0.5
LB51-GW	12/06/22	µg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**6.7**	ND<0.5	ND<0.5	ND<0.5	ND<0.5
LB55-GW	12/06/22	µg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Notes:
VOCs = volatile organic compounds
MTBE = methyl tertiary butyl ether
µg/L = micrograms per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2019) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit

TABLE 11
PAHs IN GROUNDWATER
Berth 191-194
Wilmington, California

Sample ID	Date	Units	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
ESLs Saltwater Tox.		µg/L	30	15	15	15	15	15	15	15	15	15	15	8.0	15	15	15	4.6	15
LB50-GW	12/06/22	µg/L	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00
LB51-GW	12/06/22	µg/L	ND<1.00	ND<1.00	ND<1.00	ND<1.00	**1.98**	**1.22**	**3.78**	ND<1.00	**1.02**	**3.02**	ND<1.00	**1.22**	ND<1.00	ND<1.00	ND<1.00	ND<1.00	**1.56**
LB55-GW	12/06/22	µg/L	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00

Notes:
PAHs = polynuclear aromatic hydrocarbons
µg/L = micrograms per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2019) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable

APPENDIX A

Baseline Environmental Site Characterization Report

Leighton

BASELINE ENVIRONMENTAL SITE CHARACTERIZATION REPORT PORT OF LOS ANGELES BERTHS 191 THROUGH 193 WILMINGTON, CALIFORNIA

Prepared For:

City of Los Angeles Harbor Department

425 South Palo Verdes Street
San Pedro, California 90731

APP: 170720-511
Leighton Project No. 11618.005

April 13, 2018

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

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April 13, 2018

APP: 170720-511

City of Los Angeles Harbor Department
Environmental Management Division
425 South Palo Verdes Street
San Pedro, California 90731

Subject: **Baseline Environmental Site Characterization Report**
Port of Los Angeles Berths 191 through 193,
Wilmington, California

INTRODUCTION

Leighton Consulting, Inc. (Leighton) is pleased to present the City of Los Angeles Harbor Department, Environmental Management Division (EMD) this report summarizing the results of a baseline environmental site characterization of soil, soil gas, and groundwater at the Port of Los Angeles (POLA) Berths 191 through 193 located in Wilmington, California (Site, Figure 1).

BACKGROUND

The Site encompasses roughly 6.8 acres and is located east of Canal Street and south of Yacht Street in Wilmington, California. Historically, the Site was associated with the Former Wilmington Liquid Bulk Terminals, Inc. (Earth Tech, 2002), a yacht club, docks for boats and a marine gas and oil station (Locus Technologies, 2010). The surrounding vicinity is industrial in nature, consisting of fueling terminals, container storage yards, and various berths associated with cargo/container shipping activities. References are included in Appendix A.

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OBJECTIVE

The objective of this screening level environmental site characterization of soil, soil gas, and groundwater is to establish environmental baseline conditions for the future tenant and to determine what, if any, environmental impacts were present in the shallow soil, soil gas, and groundwater from activities on or near the Site which could present a health risk to future commercial/industrial occupants of the Site.

SCOPE OF WORK

The scope of work included the following:

- Advancement of 49 exploratory soil borings to total depths between 5 and 9 feet below ground surface (bgs);
- Installation of soil gas probes in 19 of the 49 soil borings.
- Collection of soil, soil gas, and groundwater samples for chemical analysis; and
- Preparation of this report summarizing our findings and conclusions, including tables, illustrations and appendices.

INVESTIGATIVE METHODOLOGY

The investigative methodology developed for this project includes, and is limited to, the activities summarized below.

Pre-field Activities

Health and Safety Plan

A Site Specific Health and Safety Plan (HSP) was prepared for work performed at the Site. All onsite Leighton personnel signed the HSP acknowledging acceptance. The document was kept onsite at all times during the field activities. The HSP was prepared in compliance with Title 8 Section 5192 of the California Code of Regulations (CCR), and the Occupational Safety and Health Administration (OSHA) Chapter 29 of the Code of Federal Regulations (29 CFR) 1910.120.

Underground Services Alert and Private Subsurface Utility Survey

Underground Service Alert (USA; also referred to as DigAlert) was contacted at least 48-hours prior to commencement of fieldwork to mark the location of public utilities that may enter the Site from nearby streets. The locations of the proposed borings were clearly marked with a stake and flag or white paint prior to contacting USA.

Additionally, prior to each round of sampling all of the proposed borings were checked for subsurface utilities by conducting a geophysical utility survey of the project area to evaluate for the presence of detectable buried magnetic, metallic, and electrically conductive features such as metal pipelines, buried tanks, debris, electrical lines, and other subsurface features in the area of the proposed borings. Boring locations that conflicted with identified underground utilities were relocated.

Permits

Prior to commencement of field activities, Leighton obtained a well permit from the County of Los Angeles Public Health, Department of Environmental Health (DEH). The permit was required for the advancement of select borings into groundwater. A copy of this permit is included in Appendix B.

Field Activities

Soil Investigation

On October 11 through 13 and December 13, 2017, Leighton oversaw the advancement of 49 soil borings at the Site (LB1 through LB49). Boring locations are depicted on Figure 2. The borings were advanced using truck-mounted direct-push drilling equipment operated by Millennium Environmental, Inc. (Millennium) of Anaheim, California, a State of California licensed drilling contractor. During boring advancement, a photoionization detector (PID) was used to evaluate the soil cuttings for the presence or absence of volatile organic hydrocarbon vapors and monitor the worker breathing zone for health and safety purposes. Soil encountered during drilling was classified and logged in accordance with the Unified Soil Classification System (USCS). Detailed boring logs are included in Appendix C.

Soil samples were collected for chemical analysis from borings LB1 through LB35 and LB45 through LB47, at depths of 0.5 feet, 2.5 feet, 5 feet bgs, or until boring refusal or groundwater was encountered. Soil samples were not collected from borings LB36

through LB44, LB48, and LB49, since these locations were selected for soil gas and groundwater assessment only.

Soil samples were retained in 8-ounce laboratory-supplied glass jars or acetate sleeves capped with Teflon sheets and plastic end caps, and placed in an ice-cooled chest for storage and delivery to Advanced Technology Laboratories, Inc. (ATL) in Signal Hill, California for chemical analysis. ATL is a State of California Environmental Laboratory Accreditation Program-certified (ELAP) laboratory.

Down-hole drilling and sampling equipment was decontaminated between boreholes by washing in a solution of non-phosphate detergent and water, rinsing with potable water, final rinsing with distilled water, and allowing to air-dry.

Upon completion of soil sampling and soil gas survey (described below), the soil borings were backfilled with hydrated bentonite chips and the surface was returned to its original finish.

Groundwater Investigation

On October 11 through 13 and December 13, 2017, grab groundwater samples were collected from 19 of the 49 borings (LB1, LB6, LB13, LB23, LB25, LB27, LB31, LB34, LB36 through LB44, LB48, and LB49). Boring locations are depicted on Figure 2. Groundwater was encountered during this investigation at depths ranging between 5.5 feet and 6 feet bgs. Each grab groundwater sample was collected by utilizing a Hydropunch® sampling device. The Hydropunch® sampling tool consisted of an approximately 2-inch diameter hollow steel rod equipped with an inner 4-foot long, 0.010-inch screened, steel rod. The sampler was fitted with an expendable drive point at the bottom. The Hydropunch® sampling tool was advanced to the desired depth and the outer hollow steel rod was withdrawn 4-feet to expose the screen. Disposable tubing was then lowered through the hollow steel rods in the water column and extracted through the tubing with a peristaltic pump to bring the groundwater samples to the surface. The groundwater samples were retained in laboratory supplied containers, clearly marked with sample identification, placed in an ice-cooled chest for temporary storage, and transported to ATL for chemical analysis. Chain-of-custody protocol was followed throughout all phases of the sample handling process.

Soil Gas Survey

A soil gas survey was performed at the Site in accordance with the *Advisory – Active Soil Gas Investigations, Revised July 2015*, jointly developed by California Environmental Protection Agency – Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board – Los Angeles and San Francisco Region's (LARWQCB and SFRWQCB).

On October 11 through 13 and December 13, 2017, Leighton oversaw the installation of soil gas probes in the 19 of the 49 soil boring locations (LB1, LB6, LB13, LB23, LB25, LB27, LB31, LB34, LB36 through LB44, LB48, and LB49) as shown on Figure 2. Soil gas probes were installed at a depth of 4 feet bgs, based on the observed groundwater depth of 5 feet bgs. The soil gas probes consisted of inert ¼-inch nylaflow tubing fitted with a porous polyethylene implant at the terminus, which was set within one foot of sand, one foot of dry bentonite above, followed by hydrated bentonite. The surface end of the probe was fitted with a gas-tight luerlock to prevent infiltration of water or air. The soil gas probes were allowed to equilibrate for at least 72 hours prior to sampling.

Soil gas sample collection and chemical analysis was performed on October 17 and December 18, 2017, by an onsite mobile laboratory operated by Jones Environmental, Inc. (Jones) of Santa Fe Springs, California.

A shut-in test was conducted along the sampling train setup at each sampling depth and location, prior to purging each probe. If a leak was detected, the above-ground sampling train connections were checked and adjusted until no leaks are detected.

At each sampling depth and location, an electric vacuum pump (set to draw 0.200 liters per minute of soil gas at a maximum vacuum of 100-inches of water) was attached to the probe to purge the probe prior to sample collection with the exception of LB34. LB34 was manually evacuated using a glass syringe. To remove stagnant air from the sampling system so that representative samples could be collected, a standard of three purge volumes was used.

Subsequent to purging, soil gas samples were obtained by drawing the sample through the luerlock connection, which connects the sampling probe to the sample container. Soil gas samples were immediately injected into the onsite mobile laboratory gas chromatograph/purge and trap system after collection.

A tracer gas mixture of pentane, hexane, and heptane was applied onto a cloth in the area of the soil gas probes at each point of connection in which ambient air could enter the sampling system. These connection points included the top of the sampling probe

where the tubing meets the probe connection and the surface bentonite seals. The tracer gas was not detected in the soil gas samples collected indicating that no ambient air compromised the soil gas analytical test data.

Two duplicate soil gas samples were obtained and analyzed for the two-day soil gas survey.

Soil Laboratory Analyses

Soil samples were analyzed for total petroleum hydrocarbons (TPH) in the gasoline range (GRO), diesel range (DRO), and oil range (ORO) by Environmental Protection Agency (EPA) Method 8015M and California Code of Regulations, and Title 22, Article 11 metals (CAM 17 metals) by EPA Methods 6010B/7471A.

Soil samples with detected concentrations of GRO above the reporting limit, DRO exceeding 500 milligrams per kilogram (mg/kg), ORO exceeding 1,000 mg/kg, or detected PID concentrations above 5 parts per million (ppm) were analyzed for the following:

- Volatile organic compounds (VOCs) by EPA Method 8260B, using EPA Method 5035 sample preservation protocols; and

- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270SIM.

Soil samples with detected concentrations of total TPH above 1,000 mg/kg or collected from locations adjacent to pole-mounted transformers were analyzed for polychlorinated biphenyls (PCBs) by EPA Method 8082.

One randomly selected soil sample with elevated concentrations of total TPH (LB17-0.5) was analyzed for dioxin/furans by EPA Method 8290.

Soil samples with lead, copper, and mercury exceeding waste characterization criteria as defined in California Code of Regulations, Title 22, Chapter 11, Article 3, were analyzed for soluble lead, copper, and mercury using the soluble threshold limit concentration (STLC) waste extraction test (WET) using EPA Method 6010B and the toxicity characteristic leaching procedure (TCLP) test using EPA Method 1311.

Groundwater Laboratory Analyses

Groundwater samples were analyzed for GRO, DRO, and ORO by EPA Method 8015B, CAM 17 metals by EPA Method 6010B/7471A, VOCs by EPA Method 8260B, and PAHs by EPA Method 8270SIM.

Soil Gas Laboratory Analyses

Soil gas samples, including duplicates, were analyzed for the tracer gas and VOCs by EPA Method 8260B.

Copies of the chain of custody forms and complete analytical reports are included in Appendix D.

INVESTIGATIVE RESULTS

Geologic and Hydrogeologic Conditions

The Site is located within the Los Angeles Coastal Plain (California Department of Water Resources [CDWR], 1961) of the Peninsular Ranges geomorphic province of southern California (Norris and Webb, 1990), approximately 17 miles south of downtown Los Angeles at the northern end of the Los Angeles Harbor. The Los Angeles Coastal Plain is a deep structural trough that has been filled primarily with unconsolidated Miocene through Recent age sediments or alluvium that are underlain by earlier Cenozoic bedrock. The Los Angeles Coastal Plain is bounded on the north by the Santa Monica Mountains; on the northeast by the low-lying Elysian, Repetto, Merced, and Puente Hills; on the east and southeast by the Santa Ana Mountains and San Joaquin Hills; on the south by the Palos Verdes Hills and the Pacific Ocean; and on the west by the Pacific Ocean (CDWR, 1961).

The Los Angeles Coastal Plain has been spatially divided by the CDWR into four groundwater basins (West Coast Basin, Central Basin, Santa Monica Basin, and Hollywood Basin) based on the hydrogeologic characteristics of the underlying strata and the locations of bounding geologic structures such as non-water-bearing rock and/or faults that impede groundwater movement. The Site is located within the West Coast Basin, west of the Central Basin and south of the Santa Monica and Hollywood groundwater Basins. The West Coast Basin is bordered on the east by the Newport-Inglewood Fault; on the west by Santa Monica Bay; on the north by the Ballona Gap

(north of the Los Angeles International Airport), and on the south by the Palos Verdes Hills.

Based on lateral distribution and varying hydrogeologic characteristics, five major aquifers have been identified in the geologic formations underlying the West Coast Basin (CDWR, 1961). The aquifers consist of (from oldest to youngest) the Silverado and Lynwood Aquifers of the San Pedro Formation; the Gage Aquifer of the Lakewood Formation; and the Gaspur and semiperched aquifers of the recent Holocene age Alluvium. In general, the older/deeper Silverado and Lynwood aquifers are currently designated as drinking water sources and the younger shallow aquifers (Gage, Gaspur, and semiperched) are not currently used for drinking water purposes due to low yield and/or generally poor quality. Note that the in the Regional Water Quality Control Board's (RWQCB) August 28, 1998, Municipal and Domestic Water Supply Policy Staff Report, the portion of the West Basin including the Site has been de-designated and its underlying aquifers are no longer considered to be of beneficial use for drinking water.

Soils encountered during the investigation consisted primarily of gravel and silt in the shallow soil (less than 2.5 feet bgs) and silt and sand in the deeper soil (greater than 2.5 feet bgs). Stained or odorous soil was noted in a few borings (LB4, LB14, LB45, and LB46). Detections observed on the PID ranged from 0 to 1.5 parts per million by volume (ppmv), and are shown on the boring logs in Appendix C. The maximum PID reading of 1.5 ppmv was observed in boring LB4 at a depth of 3.5 feet bgs.

Groundwater was encountered between 5.5 and 6 feet bgs at the Site. The direction of groundwater flow is anticipated to be south-southeast towards the harbor and is expected to be tidally influenced.

Analytical Results for Soil Samples

The soil sample analytical results were compared to the following screening criteria:

- EPA Region 9 Industrial Regional Screening Levels (RSLs) and DTSC Office of Human and Ecological Risk (HERO) Note Number 3 values in an industrial setting for TPH, metals (except arsenic), PAHs, PCBs, and VOCs;
- The DTSC Southern California Background concentration of 12 milligrams per kilogram (mg/kg) for arsenic; and

- DTSC HERO Note Number 2 screening level of 22 picograms per gram (pg/g) for dioxins/furans; and
- California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Characteristics of Hazardous Waste.

The analytical results for soil samples are summarized in Tables 1 through 7 and as follows:

- **GRO** was only detected in the soil sample collected from boring LB28 at 5 feet bgs (LB28-5.0) at a concentration of 400 mg/kg. This concentration does not exceed the Industrial RSL of 420 mg/kg.
- **DRO** was detected in all of the soil samples analyzed at concentrations ranging from 1.2 mg/kg in boring LB6 at 5.0 feet bgs to 11,000 mg/kg in boring LB28 at 5.0 feet bgs. Fourteen soil samples had DRO concentrations exceeding the Industrial RSL of 440 mg/kg (Figure 3). There is no discernable trend in DRO impacted soil.
- **ORO** was detected in all of the soil samples analyzed at concentrations ranging from 1.5 mg/kg in boring LB10 at 5.0 feet bgs to 17,000 mg/kg in boring LB35 at 5.0 feet bgs. The detected concentrations of ORO did not exceed the Industrial RSL of 33,000 mg/kg.
- **Title 22 Metals** were detected in all of the soil samples analyzed with the exception of beryllium, selenium, and thallium. Metals in soil at concentrations exceeding their respective industrial screening levels were not detected during this investigation.

  Soil samples containing total copper, lead, and/or mercury at concentrations above 10 times the STLC and 20 times the TCLP were analyzed using the STLC and TCLP waste extraction tests. The results of these analyses are shown on Figure 4 and summarized below:

  - **Copper STLC** was analyzed in three soil samples with resulting concentrations ranging from 2.6 milligram per liter (mg/L) in boring LB2 at 0.5 feet bgs to 25 mg/L in boring LB11 at 0.5 feet bgs. One sample, LB11 at 0.5 feet bgs, equaled the copper STLC threshold of 25 mg/L.
  - **Copper TCLP** was analyzed in soil sample LB11 at 0.5 with a resulting concentration 0.77 mg/L. There is no corresponding TCLP limit for copper.

- **Lead STLC** was analyzed in eleven soil samples with resulting concentrations ranging from 1.0 mg/L in boring LB28 at 2.5 feet bgs to 13 mg/L in boring LB31 at 0.5 feet bgs. Four samples, LB5 at 2.5 feet bgs, LB17 at 0.5 feet bgs, LB31 at 0.5 feet bgs, and LB33 at 2.5 feet bgs, exceeded the lead STLC threshold of 5 mg/L.

- **Lead TCLP** was analyzed in seven soil samples with resulting concentrations ranging from non-detect (five soil samples) to 0.33 mg/L in LB31 at 0.5 feet bgs. The detected TCLP concentrations were below the TCLP threshold value 5 mg/L. It should be noted that TCLP analysis of soil samples LB5 at 2.5 feet bgs and LB17 at 0.5 feet bgs were not completed because the quantity of soil sample remaining was not enough to meet the required aliquot for the test method.

- **Mercury STLC** was analyzed in soil sample LB11 at 0.5. The mercury STLC result did not exceed the laboratory detection limit of 0.00023 mg/L.

- **Mercury TCLP** was analyzed in soil sample LB11 at 0.5. The mercury TCLP result did not exceed the laboratory detection limit of 0.00005 mg/L.

- **VOCs** – Carbon disulfide and tetrachloroethene (PCE) were the only VOCs detected in the 29 soil samples analyzed during this investigation. Carbon disulfide was detected in four of the 29 soil samples at concentrations ranging from 5.3 microgram per kilogram (µg/kg) in sample LB2 at 0.5 feet bgs to 13 µg/kg in sample LB10 at 2.5 feet bgs. The detected concentrations are below the carbon disulfide Industrial RSL of 3,500,000 µg/kg. PCE was detected in one of the 29 soil samples (LB4 at 0.5 feet bgs) at a concentration of 27 µg/kg, which is below the Industrial HERO Note 3 screening value of 2,700 µg/kg.

- **PAHs** – 2-Methylnaphthalene, benzo(b)fluoranthene, fluoranthene, and pyrene were the only PAHs detected in the 28 soil samples analyzed. 2-Methylnaphthalene was detected in one of the 28 soil samples (LB28 at 5.0 feet bgs) at a concentration of 7,800 µg/kg. Benzo(b)fluoranthene, fluoranthene, and pyrene were detected in one of the 28 soil samples (LB2 at 2.5 feet bgs) at concentrations of 10 µg/kg, 12 µg/kg, and 11 µg/kg, respectively. The four detected PAHs were below their respective Industrial RSLs.

- **PCBs –** Aroclor 1254 and Aroclor 1260 were the only PCBs detected in eight of the 18 soil samples analyzed. Aroclor 1254 was detected in two soil samples at concentrations of 0.870 mg/kg and 0.110 mg/kg in soil samples LB11 at 0.5 feet bgs and LB16 at 2.5 feet bgs, respectively. Aroclor 1260 was detected in six soil samples

at concentrations ranging from 0.019 mg/kg in sample LB10 at 0.5 feet bgs to 0.180 mg/kg in sample LB47 at 0.5 feet bgs. The detected concentrations of Aroclor 1254 and Aroclor 1260 did not exceed their Industrial RSLs of 0.970 mg/kg and 0.990 mg/kg, respectively.

- **Dioxins and Furans** – LB17 at 0.5 feet bgs was analyzed for dioxin and furans. The results of the analysis were used to calculate a Total Toxic Equivalency (TTE). The TTE for LB17 at 0.5 feet bgs was 5.27 pg/g, which is below the DTSC HERO Note 2 screening level of 22 pg/g.

Analytical Results for Groundwater Samples

Results of the chemical analyses of the groundwater samples were compared to the Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board and updated in February 2016. Aquatic habit screening levels for saltwater were chosen for screening purposes since the Site is adjacent to the harbor and groundwater beneath the Site is of non-beneficial use.

The analytical results for groundwater samples are summarized in Tables 8 through 11 and as follows:

- **GRO** was detected in three of the eight groundwater samples analyzed during this investigation at concentrations ranging from 0.08 mg/L in sample LB25-GW to 9.9 mg/L in sample LB1-GW. The concentration of GRO detected in sample LB1-GW exceeded the ESL screening criteria concentration of 3.7 mg/L (Figure 5).

- **DRO** was detected in the eight groundwater samples analyzed during this investigation at concentrations ranging from 0.15 mg/L in sample LB34-GW to 0.93 mg/L in sample LB1-GW. The concentration of DRO detected in sample LB1-GW exceeded the ESL screening criteria concentration of 0.64 mg/L (Figure 5).

- **ORO** was detected in all eight groundwater samples analyzed during this investigation at concentrations ranging from 0.10 mg/L in sample LB34-GW to 0.43 mg/L in sample LB1-GW. None of the eight samples exceeded the ORO ESL screening criteria concentration of 0.64 mg/L (Figure 5).

- **Title 22 Metals** were detected in all of the groundwater samples analyzed during this investigation with the exception of beryllium, cadmium, lead, mercury, selenium, silver, and thallium. The maximum concentrations detected were as follows:

Metal	Concentration	ESL	Boring
Antimony	0.013 mg/L	0.5 mg/L	LB25
Arsenic	0.013 mg/L	0.036 mg/L	LB27
Barium	0.31 mg/L	--	LB27
Chromium	0.022 mg/L	--	LB27
Cobalt	0.0086 mg/L	--	LB27
Copper	**0.016 mg/L**	0.0031 mg/L	LB27
Molybdenum	0.021 mg/L	--	LB25
Nickel	**0.016 mg/L**	0.0082 mg/L	LB27
Vanadium	0.034 mg/L	--	LB27
Zinc	**0.090 mg/L**	0.081 mg/L	LB27

Note: Bold concentrations exceed ESL screening criteria.

Copper was detected in three of the eight groundwater samples analyzed at concentrations of 0.011 mg/L in LB1-GW, 0.0090 mg/L in LB6-GW, and 0.016mg/L in LB27-GW (Figure 6). These concentrations exceeded the ESL screening criteria of 0.0031 mg/L for copper in groundwater.

Nickel was detected in five of the eight groundwater samples analyzed at concentrations ranging from 0.0060 mg/L in LB13-GW to 0.016 mg/L in LB27-GW (Figure 6). Three of these concentrations, 0.011 mg/L in LB1-GW, 0.0083 mg/L in LB25-GW, and 0.016 mg/L in LB27-GW exceeded the ESL screening criteria of 0.0082 mg/L for nickel in groundwater.

Zinc was detected in one of the eight groundwater samples analyzed (LB27-GW) at a concentration of 0.090 mg/L (Figure 6). This concentration exceeded the ESL screening criteria of 0.081 mg/L for zinc in groundwater.

- **VOCs** were detected in 16 of the 19 groundwater samples analyzed during this investigation. Thirteen VOC chemicals were detected with maximum concentrations as follows:

VOC	Concentration	ESL	Boring
1,1-Dichloroethene	13 µg/L	22,000 µg/L	LB41
1,2-Dichloroethane	1.1 µg/L	11,000 µg/L	LB43

VOC	Concentration	ESL	Boring
Benzene	0.81 µg/L	350 µg/L	LB6
Bromodichloromethane	0.70 µg/L	3,200 µg/L	LB38
Bromoform	4.2 µg/L	3,200 µg/L	LB38
Carbon Disulfide	3.5 µg/L	--	LB40
cis-1,2-Dichloroethene	8,500 µg/L	22,000 µg/L	LB41
Dibromochloromethane	2.7 µg/L	3,200 µg/L	LB38
MTBE	19 µg/L	8,000 µg/L	LB6
PCE	**19,000 µg/L**	230 µg/L	LB1
trans-1,2-Dichloroethene	290 µg/L	22,000 µg/L	LB41
Trichloroethene (TCE)	**7,900 µg/L**	200 µg/L	LB1
Vinyl Chloride	57 µg/L	--	LB41 and LB49

Note: Bold concentrations exceed ESL screening criteria.

PCE was detected in 11 of the 19 groundwater samples analyzed at concentrations ranging from 0.52 µg/L in LB49 to 19,000 µg/L in LB1. Three groundwater samples with PCE concentrations of 19,000 µg/L in LB1, 440 µg/L in LB37, and 380 µg/L in LB39 exceeded the ESL screening criteria of 230 µg/L for PCE in groundwater (Figure 7).

TCE was detected in 11 of the 19 groundwater samples analyzed at concentrations ranging from 0.78 µg/L in LB23 to 7,900 µg/L in LB1. Three groundwater samples with TCE concentrations of 7,900 µg/L in LB1, 870 µg/L in LB37, and 890 µg/L in LB39 exceeded the ESL screening criteria of 200 µg/L for TCE in groundwater (Figure 7).

- **PAHs** were not detected above the laboratory reporting limits in the groundwater samples analyzed during this investigation.

Analytical Results for Soil Gas Samples

Results of the chemical analyses of the soil gas samples were compared to the adjusted DTSC HERO Notes 3 and 5 and EPA Region 9 RSLs for indoor air in an industrial setting assuming a future slab attenuation factor of 0.0005 (DTSC, 2011). The results of the laboratory analysis for the soil gas samples are summarized in Table 12.

VOCs were detected in 14 of the 17 soil gas samples analyzed (including duplicate samples). Twenty-eight VOC chemicals were detected with maximum concentrations as follows:

VOC	Concentration	HERO Note 3 & 5	Boring	Probe Depth
Benzene	0.024 µg/L	0.84 µg/L	LB1	4 feet bgs
Bromobenzene	0.009 µg/L	520 µg/L	LB43	4 feet bgs
n-Butylbenzene	0.013 µg/L	--	LB43	4 feet bgs
sec-Butylbenzene	0.014 µg/L	--	LB43	4 feet bgs
tert-Butylbenzene	0.013 µg/L	--	LB43	4 feet bgs
Chloroform	0.167 µg/L	1.06 µg/L	LB1	4 feet bgs
2-Chlortoluene	0.009 µg/L	--	LB43	4 feet bgs
4-Chlortoluene	0.010 µg/L	--	LB43	4 feet bgs
Dichlorodifluoromethane	0.011 µg/L	880 µg/L	LB38 and LB43	3 and 4 feet bgs
1,1-Dichloroethene	0.056 µg/L	620 µg/L	LB39	4 feet bgs
cis-1,2-Dichloroethene	**70.1 µg/L**	70 µg/L	LB39	4 feet bgs
trans-1,2-Dichloroethene	3.56 µg/L	700 µg/L	LB1	4 feet bgs
Ethylbenzene	0.030 µg/L	9.8 µg/L	LB27	4 feet bgs
Isopropylbenzene	0.12 µg/L	3,600 µg/L	LB43	4 feet bgs
4-Isopropyltoluene	0.771 µg/L	--	LB36	4 feet bgs
n-Propylbenzene	0.014 µg/L	8,800 µg/L	LB43	4 feet bgs
Styrene	0.009 µg/L	7,800 µg/L	LB36	4 feet bgs

VOC	Concentration	HERO Note 3 & 5	Boring	Probe Depth
1,1,2,2-Tetrachloroethane	0.011 µg/L	0.42 µg/L	LB36	4 feet bgs
PCE	**148 µg/L**	4.0 µg/L	LB1	4 feet bgs
Toluene	0.081 µg/L	2,600 µg/L	LB36	4 feet bgs
1,1,2-Trichloroethane	0.304 µg/L	1.54 µg/L	LB36	4 feet bgs
TCE	**23.2 µg/L**	16 µg/L	LB1	4 feet bgs
Trichlorofluoromethane	3.71 µg/L	10,800 µg/L	LB38	4 feet bgs
1,2,4-Trimethylbenzene	0.234 µg/L	520 µg/L	LB36	4 feet bgs
1,3,5-Trimethylbenzene	0.013 µg/L	520 µg/L	LB43	4 feet bgs
Vinyl Chloride	**3.20 µg/L**	0.32 µg/L	LB6	4 feet bgs
m,p-Xylene	0.136 µg/L	880 µg/L	LB27	4 feet bgs
o-Xylene	0.038 µg/L	880 µg/L	LB27	4 feet bgs

Note: Bold concentrations exceed respectively screening levels.

Cis-1,2-dichloroethene was detected in eight of the 17 soil gas samples analyzed at concentrations ranging from 0.011 µg/L in LB27 at 4 feet bgs to 70.1 µg/L in LB39 at 4 feet bgs. The soil gas concentration of 70.1 µg/L from boring LB39 at 4 feet bgs exceeded the adjusted Industrial HERO Note 3 value of 70 µg/L for cis-1,2-dichloroethene (Figure 8).

PCE was detected in 12 of the 17 soil gas samples analyzed at concentrations ranging from 0.011 µg/L in LB43 at 4 feet bgs to 148 µg/L in LB1 at 4 feet bgs. The soil gas concentrations of 148 µg/L in LB1 at 4 feet bgs and 8.75 µg/L in LB39 at 4 feet bgs exceeded the adjusted Industrial HERO Note 3 value of 4 µg/L for PCE (Figure 8).

TCE was detected in 10 of the 17 soil gas samples analyzed at concentrations ranging from 0.014 µg/L in LB42 at 4 feet bgs to 23.2 µg/L in LB1 at 4 feet bgs. The soil gas concentrations of 23.2 µg/L in LB1 at 4 feet bgs and 18.4 µg/L in LB39 at 4 feet bgs exceeded the adjusted Industrial HERO Note 5 value of 16 µg/L for TCE (Figure 8).

Vinyl chloride was detected in three of the 17 soil gas samples analyzed at concentrations of 3.2 µg/L in LB6 at 4 feet bgs, 0.014 µg/L in LB39 at 4 feet bgs, and 0.021 µg/L in LB49 at 4 feet bgs. The soil gas concentration of 3.2 µg/L from boring LB6 at 4 feet bgs exceeded the adjusted Industrial HERO Note 3 value of 0.32 µg/L for vinyl chloride (Figure 8).

It should be noted that the soil gas probes installed in borings LB34, LB41, LB44, and LB48 were unable to be sampled due to groundwater intrusion.

CONCLUSIONS

The purpose of this site assessment was to establish an environmental baseline for future tenant and to screen for the potential presence of hazardous substances in soil, soil gas, and groundwater at POLA Berths 191 through 193 in Wilmington, California that could present a health risk to future commercial/industrial occupants of the Site.

Soil

DRO was detected above the Industrial RSL in 14 of the 104 soil samples analyzed during this investigation. While there is no discernable trend in DRO impacted soil, DRO was found primarily within the surficial soil in the northern portion of the Site and in deeper soil (5 feet bgs) in the southern portion of the Site.

Copper and lead exceeded the STLC limits in of 5.0 mg/L in soil samples collected from borings LB5, LB11, LB17, LB31, and LB33. Soil in the vicinity of these borings may be classified as non-RCRA hazardous waste (California hazardous) if removed from the Site. The copper and lead-impacted soil appears to be limited to the upper 3 feet bgs.

GRO, ORO, VOCs, PAHs, PCBs, and dioxin/furans were not detected in the soil samples analyzed during this investigation at concentrations exceeding their respective industrial screening levels.

Groundwater

TPH was detected in a majority of the groundwater samples analyzed during this investigation. One groundwater sample, LB1, had a concentration of GRO and DRO exceeding the ESL screening criteria. Based on the site-wide TPH impacts to groundwater, it is likely that the Site is located within a regional plume of TPH-impacted groundwater.

Elevated levels of copper, nickel, and zinc were detected in groundwater samples collected from borings LB1, LB6, LB25, and LB27 at concentrations exceeding the ESL screening criteria. Since the groundwater beneath the Site is non-beneficial for municipal use and direct contact with groundwater beneath the Site is unlikely, these elevated concentrations of metals in groundwater should not pose a risk to future commercial/industrial occupants of the Site.

Two VOCs, PCE and TCE, were detected in groundwater at concentrations above their respective ESL screening criteria from three borings (LB1, LB37, and LB39). The elevated concentrations of VOCs in groundwater were limited to the northern portion of the Site. The primary VOC contaminants of concern in groundwater are PCE and TCE; however, other chlorinated VOCs such as cis- and trans-1,2-dichloroethene, 1,2-dichloroethane, 1,1-dichloroethee, and vinyl chloride were detected along with fuel constituents such as benzene and MTBE. Iso-concentration maps of PCE and TCE are included as Figures 9 and 10.

PAHs were not detected in the groundwater samples analyzed during this investigation.

Soil Gas

Four VOCs, cis-1,2-dichloroethene, PCE, TCE, and vinyl chloride, were detected in soil gas at concentrations above their respective adjusted industrial screening levels in three borings (LB1, LB6, and LB39). Elevated concentrations of the same VOCs were detected in groundwater samples collected at these three locations and it is likely that the impacted soil gas is a result of off-gassing of the contaminated groundwater.

RECOMMENDATIONS

Leighton recommends the completion of a human health risk assessment (HHRA). The HHRA should discuss health risks associated with commercial land use at the Site and determine if removals are necessary based on the contaminants present at the Site.

Soil in the vicinity of borings LB5, LB11, LB17, LB31, and LB33 has concentrations of copper and lead exceeding the STLC limits. If soil removals are to take place at the Site during redevelopment activities, additional soil waste characterization is warranted in the area of these borings and there is a potential for soil in these areas to be classified as non-RCRA hazardous waste (California hazardous). The copper and lead-impacted soil appears to be limited to the upper 3 feet bgs.

In general, observations should be made during any future Site redevelopment for areas of possible contamination such as, but not limited to, the presence of underground facilities, buried debris, waste drums, tanks, stained soil or odorous soils. Should such materials be encountered, further investigation and analysis may be necessary at that time.

LIMITATIONS

This investigation was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The observations and conclusions presented in this report are professional opinions based on the scope of activities, work schedule, and information obtained through the activities described herein, and are limited to the portion of the Site investigated. Opinions presented herein apply to property conditions existing at the time of our study and cannot necessarily be taken to apply to property conditions outside of the area investigated or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the portion of the Site investigated, and the amount, type, distribution, and integrity of the information collected at the time of the investigation, and the methods utilized to collect and evaluate the data. Although Leighton has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of the information provided by others.

We appreciate the opportunity to assist EMD on this project. If you have questions regarding our proposal or information that would update our scope of work, please call us at your convenience at ***866-LEIGHTON***, directly at the phone extension and/or e-mail address listed below.

Respectfully submitted,

LEIGHTON CONSULTING, INC.



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BFM/KCH

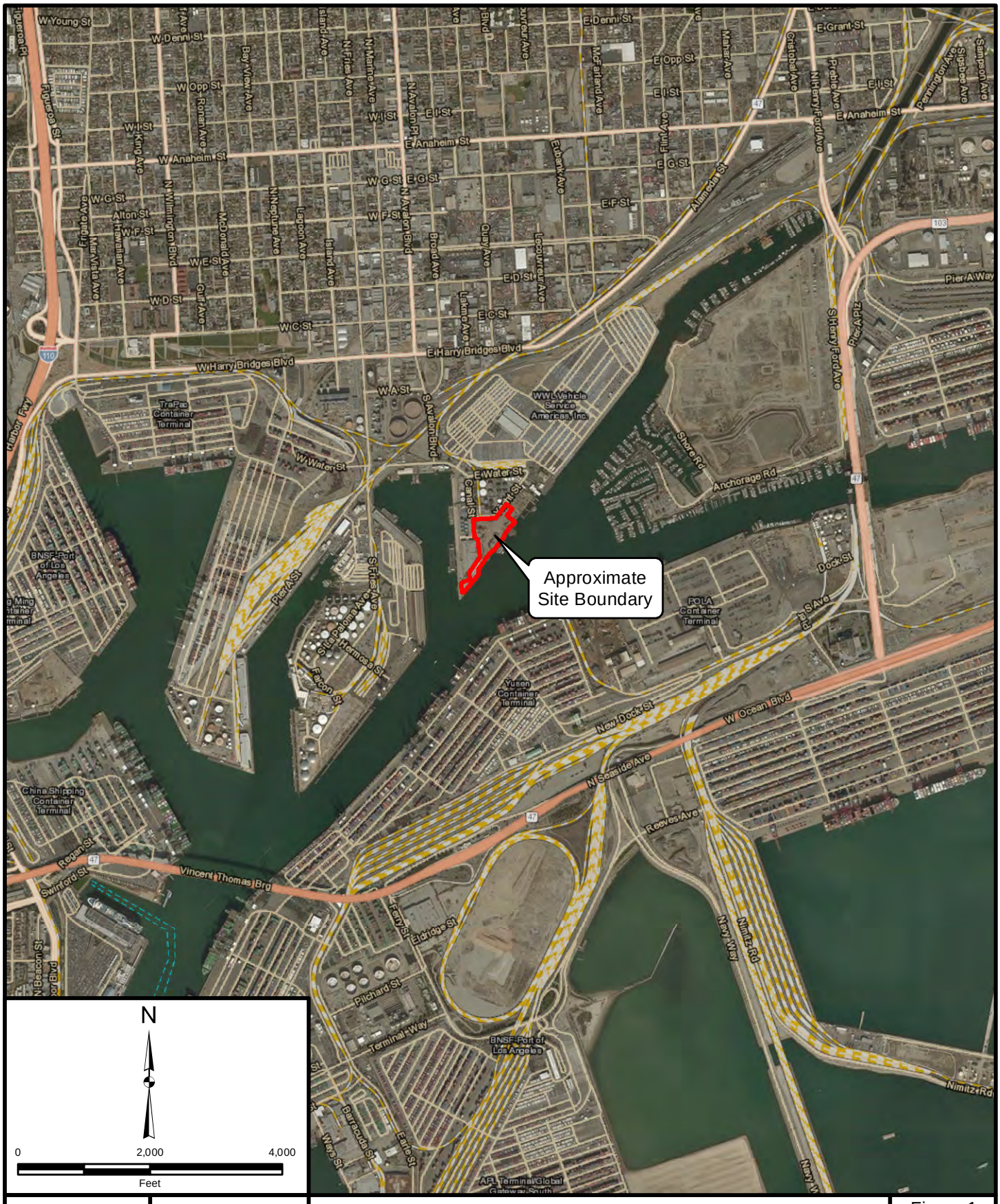
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ATTACHMENTS:

Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – TPH in Soil
Figure 4 – California Hazardous Waste in Soil
Figure 5 – TPH in Groundwater
Figure 6 – Metals in Groundwater
Figure 7 – VOCs in Groundwater
Figure 8 – VOCs in Soil Gas
Figure 9 – PCE in Groundwater
Figure 10 – TCE in Groundwater

Table 1 – TPH in Soil
Table 2 – Metals in Soil
Table 3 – Soil Waste Characterization
Table 4 – VOCs in Soil
Table 5 – PAHs in Soil
Table 6 – PCBs in Soil
Table 7 – Dioxins and Furans in Soil
Table 8 – TPH in Groundwater
Table 9 – Metals in Groundwater
Table 10 – VOCs in Groundwater
Table 11 – PAHs in Groundwater
Table 12 – VOCs in Soil Gas

Appendix A – References
Appendix B – Boring Permit
Appendix C – Boring Logs
Appendix D – Laboratory Reports and Chain-of-Custody Documents



Project: 11618.005	Eng/Geol: BFM
Scale: 1 " = 2,000 '	Date: February 2018

Base Map: ESRI ArcGIS Online 2017
Thematic Information: Leighton
Author: Leighton Geomatics (mmurphy)

SITE LOCATION MAP

Berth 191-193
Wilmington, California

Figure 1

Leighton

Map Saved as P:\Drafting\11618\005\Maps\11618-005_F01_SLM_2017-11-30.mxd on 11/30/2017 10:47:45 AM

LEGEND

- Approximate Boring Location
- Approximate Site Boundary



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

SITE PLAN

Berth 191-193
Wilmington, California

Figure 2

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- mg/kg milligram per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline Range TPH
- DRO Diesel Range TPH
- ORO Oil Range TPH

Only GRO, DRO, or ORO concentrations exceeding Industrial RSLs are shown on the map.



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

TPH IN SOIL

Berth 191-193
Wilmington, California

Figure 3

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- mg/L milligram per liter
- STLC Soluble Threshold Limit Concentration
- TCLP Toxicity Characteristic Leaching Procedure

Only metal concentrations exceeding STLC or TCLP values are shown on the map.



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

CALIFORNIA HAZARDOUS WASTE IN SOIL

Berth 191-193
Wilmington, California

Figure 4

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- mg/L — milligrams per liter
- TPH — Total Petroleum Hydrocarbons
- GRO — Gasoline Range TPH
- DRO — Diesel Range TPH
- ORO — Oil Range TPH

Only GRO, DRO, or ORO concentrations exceeding Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board) are shown on the map.



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: April 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

TPH IN GROUNDWATER

Berth 191-193
Wilmington, California

Figure 5

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LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- mg/L milligram per liter

Only metal concentrations exceeding Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board) are shown on the map



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: April 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

METALS IN GROUNDWATER

Berth 191-193
Wilmington, California

Figure 6

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- ug/L — microgram per liter
- VOC — Volatile Organic Compound
- PCE — Tetrachloroethene
- TCE — Trichloroethene

Only VOC concentrations exceeding Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board) are shown on the map



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: April 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

VOCS IN GROUNDWATER

Berth 191-193
Wilmington, California

Figure 7

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- ug/L — microgram per liter
- VOC — Volatile Organic Compound
- PCE — Tetrachloroethene
- cis-1,2-DCE — cis-1,2-Dichloroethene

Only VOC concentrations exceeding DTSC HERO Notes 3 or 5 industrial criteria are shown on the map.



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

VOCS IN SOIL GAS

Berth 191-193
Wilmington, California

Figure 8

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- ug/L — microgram per liter
- PCE — Tetrachloroethene
- 440 — Concentration of PCE in ug/L
- ND — Non-Detect
- 10,000 ug/L — Isoconcentration Contour, queried where inferred



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

PCE IN GROUNDWATER

Berth 191-193
Wilmington, California

Figure 9

Leighton

LEGEND

- Approximate Boring Location
- Approximate Site Boundary
- ug/L — microgram per liter
- TCE — Trichloroethene
- 7,900 — Concentration of TCE in ug/L
- ND — Non-Detect
- 1,000 ug/L — Isoconcentration Contour, queried where inferred

Yacht St

LB23 0.78

LB13 1.6

LB25 3.5

LB43 ND

LB31 ND

LB34 ND

LB27 ND

LB6 ND

LB49 1.8

LB44 ND

LB48 10

LB38 ND

10 ug/L

100 ug/L

1,000 ug/L

LB40 21

LB39 890

LB1 7,900

LB36 3.8

LB42 ND

110 LB41

LB37 870

N

0 100 200

Feet

Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

Base Map: Google Earth 2016
drafted by Mark Withrow

TCE IN GROUNDWATER

Berth 191-193
Wilmington, California

Figure 10

Leighton

TABLE 1
TPH IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB1-0.5	0.5	10/11/17	mg/kg	ND<0.20	**200**	**460**	**660**
LB1-2.5	2.5	10/11/17	mg/kg	ND<0.20	**8.4**	**7.1**	**15.5**
LB1-5.0	5	10/11/17	mg/kg	ND<0.20	**5.0**	**4.4**	**9.4**
LB2-0.5	0.5	10/11/17	mg/kg	ND<0.20	**720**	**1,700**	**2,420**
LB2-2.5	2.5	10/11/17	mg/kg	ND<0.20	**8.7**	**13**	**21.7**
LB2-5.0	5	10/11/17	mg/kg	ND<0.20	**8.1**	**8.3**	**16.4**
LB3-0.5	0.5	10/11/17	mg/kg	ND<0.20	**20**	**41**	**61**
LB3-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.1**	**5.4**	**11.5**
LB3-5.0	5	10/11/17	mg/kg	ND<0.20	**10**	**9.1**	**19.1**
LB4-0.5	0.5	10/11/17	mg/kg	ND<0.20	**640**	**1,900**	**2,540**
LB4-2.5	2.5	10/11/17	mg/kg	ND<0.20	**22**	**52**	**74**
LB4-3.5	3.5	10/11/17	mg/kg	ND<0.20	**70**	**140**	**210**
LB5-0.5	0.5	10/11/17	mg/kg	ND<0.21	**470**	**1,500**	**1,970**
LB5-2.5	2.5	10/11/17	mg/kg	ND<0.18	**20**	**46**	**66**
LB5-5.0	5	10/11/17	mg/kg	ND<0.21	**19**	**15**	**34**
LB6-0.5	0.5	10/12/17	mg/kg	ND<0.20	**7.1**	**16**	**23.1**
LB6-2.5	2.5	10/12/17	mg/kg	ND<0.20	**6.8**	**5.1**	**11.9**
LB6-5.0	5	10/12/17	mg/kg	ND<0.20	**1.2**	**1.6**	**2.8**
LB7-0.5	0.5	10/12/17	mg/kg	ND<0.20	**270**	**630**	**900**
LB7-2.5	2.5	10/12/17	mg/kg	ND<0.20	**92**	**130**	**222**
LB7-5.0	5	10/12/17	mg/kg	ND<0.20	**10**	**11**	**21**
LB8-0.5	0.5	10/11/17	mg/kg	ND<0.20	**180**	**580**	**760**
LB8-2.5	2.5	10/11/17	mg/kg	ND<0.20	**4.8**	**5.0**	**9.8**
LB8-5.0	5	10/11/17	mg/kg	ND<0.20	**3.7**	**3.7**	**7.4**
LB9-0.5	0.5	10/11/17	mg/kg	ND<0.22	**690**	**2,500**	**3,190**
LB9-2.5	2.5	10/11/17	mg/kg	ND<0.19	**75**	**160**	**235**
LB9-5.0	5	10/11/17	mg/kg	ND<0.17	**8.9**	**5.7**	**14.6**
LB10-0.5	0.5	10/12/17	mg/kg	ND<0.20	**840**	**3,800**	**4,640**
LB10-2.5	2.5	10/12/17	mg/kg	ND<0.20	**5.2**	**7.3**	**12.5**
LB10-5.0	5	10/12/17	mg/kg	ND<0.20	**1.3**	**1.5**	**2.8**
LB11-0.5	0.5	10/12/17	mg/kg	ND<0.20	**310**	**730**	**1,040**
LB11-2.5	2.5	10/12/17	mg/kg	ND<0.20	**8.6**	**7.9**	**16.5**
LB11-5.0	5	10/12/17	mg/kg	ND<0.20	**12**	**9.3**	**21.3**
LB12-0.5	0.5	10/11/17	mg/kg	ND<0.20	**180**	**420**	**600**
LB12-2.5	2.5	10/11/17	mg/kg	ND<0.20	**5.7**	**5.7**	**11.4**
LB12-5.0	5	10/11/17	mg/kg	ND<0.20	**6.4**	**6.6**	**13**
LB13-0.5	0.5	10/11/17	mg/kg	ND<0.20	**350**	**1,200**	**1,550**
LB13-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.9**	**8.4**	**15.3**
LB13-5.0	5	10/11/17	mg/kg	ND<0.20	**6.7**	**6.7**	**13.4**
LB14-0.5	0.5	10/11/17	mg/kg	ND<0.20	**160**	**440**	**600**
LB14-2.5	2.5	10/11/17	mg/kg	ND<0.24	**9.2**	**15**	**24.2**
LB14-5.0	5	10/11/17	mg/kg	ND<0.20	**3.6**	**3.1**	**6.7**
LB15-0.5	0.5	10/12/17	mg/kg	ND<0.20	**20**	**35**	**55**
LB15-2.5	2.5	10/12/17	mg/kg	ND<0.20	**4.0**	**4.6**	**8.6**
LB15-5.0	5	10/12/17	mg/kg	ND<0.20	**2.9**	**2.5**	**5.4**
LB16-0.5	0.5	10/12/17	mg/kg	ND<0.20	**7.7**	**10**	**17.7**

TABLE 1
TPH IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB16-2.5	2.5	10/12/17	mg/kg	ND<0.20	**390**	**1,100**	**1,490**
LB16-5.0	5	10/12/17	mg/kg	ND<0.20	**63**	**130**	**193**
LB17-0.5	0.5	10/11/17	mg/kg	ND<0.20	**1,400**	**3,400**	**4,800**
LB17-2.5	2.5	10/11/17	mg/kg	ND<0.20	**11**	**9.6**	**20.6**
LB17-5.0	5	10/11/17	mg/kg	ND<0.20	**6.7**	**6.2**	**12.9**
LB18-0.5	0.5	10/11/17	mg/kg	ND<0.20	**110**	**280**	**390**
LB18-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.1**	**5.9**	**12**
LB18-5.0	5	10/11/17	mg/kg	ND<0.20	**11**	**9.8**	**20.8**
LB19-0.5	0.5	10/11/17	mg/kg	ND<0.20	**8.8**	**7.9**	**16.7**
LB19-2.5	2.5	10/11/17	mg/kg	ND<0.20	**3.3**	**3.7**	**7.0**
LB19-5.0	5	10/11/17	mg/kg	ND<0.20	**3.9**	**4.0**	**7.9**
LB20-0.5	0.5	10/11/17	mg/kg	ND<0.20	**14**	**26**	**40**
LB20-2.5	2.5	10/11/17	mg/kg	ND<0.20	**3.2**	**3.7**	**6.9**
LB20-5.0	5	10/11/17	mg/kg	ND<0.20	**4.2**	**3.1**	**7.3**
LB21-0.5	0.5	10/12/17	mg/kg	ND<0.20	**9.1**	**9.9**	**19**
LB21-2.5	2.5	10/12/17	mg/kg	ND<0.20	**20**	**17**	**37**
LB21-5.0	5	10/12/17	mg/kg	ND<0.20	**7.2**	**8.5**	**15.7**
LB22-0.5	0.5	10/12/17	mg/kg	ND<0.20	**11**	**21**	**32**
LB22-2.5	2.5	10/12/17	mg/kg	ND<0.20	**8.6**	**10**	**18.6**
LB22-5.0	5	10/12/17	mg/kg	ND<0.20	**9.6**	**9.2**	**18.8**
LB23-0.5	0.5	10/11/17	mg/kg	ND<0.20	**14**	**12**	**26**
LB23-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.3**	**7.1**	**13.4**
LB23-5.0	5	10/11/17	mg/kg	ND<0.20	**8.7**	**7.6**	**16.3**
LB24-0.5	0.5	10/11/17	mg/kg	ND<0.20	**5.1**	**6.2**	**11.3**
LB24-2.5	2.5	10/11/17	mg/kg	ND<0.20	**5.6**	**5.6**	**11.2**
LB24-5.0	5	10/11/17	mg/kg	ND<0.20	**4.3**	**4.7**	**9.0**
LB25-0.5	0.5	10/11/17	mg/kg	ND<0.20	**2.6**	**2.2**	**4.8**
LB25-2.5	2.5	10/11/17	mg/kg	ND<0.20	**2.1**	**1.9**	**4.0**
LB25-5.0	5	10/11/17	mg/kg	ND<0.20	**2.4**	**2.6**	**5.0**
LB26-0.5	0.5	10/12/17	mg/kg	ND<0.20	**11**	**14**	**25**
LB26-2.5	2.5	10/12/17	mg/kg	ND<0.20	**12**	**12**	**24**
LB26-5.0	5	10/12/17	mg/kg	ND<0.20	**20**	**18**	**38**
LB27-0.5	0.5	10/12/17	mg/kg	ND<0.20	**41**	**80**	**121**
LB27-2.5	2.5	10/12/17	mg/kg	ND<0.20	**9.5**	**11**	**20.5**
LB27-5.0	5	10/12/17	mg/kg	ND<0.20	**8.1**	**8.4**	**16.5**
LB28-0.5	0.5	10/12/17	mg/kg	ND<0.20	**530**	**930**	**1,460**
LB28-2.5	2.5	10/12/17	mg/kg	ND<0.20	**480**	**1,000**	**1,480**
LB28-5.0	5	10/12/17	mg/kg	**400**	**11,000**	**5,600**	**16,600**
LB29-0.5	0.5	10/12/17	mg/kg	ND<0.20	**54**	**100**	**154**
LB29-2.5	2.5	10/12/17	mg/kg	ND<0.20	**8.8**	**8.8**	**17.6**
LB29-5.0	5	10/12/17	mg/kg	ND<0.20	**5.4**	**5.6**	**11**
LB30-0.5	0.5	10/12/17	mg/kg	ND<0.20	**32**	**36**	**68**
LB30-2.5	2.5	10/12/17	mg/kg	ND<0.20	**220**	**450**	**670**
LB30-5.0	5	10/12/17	mg/kg	ND<0.20	**9.2**	**13**	**22.2**
LB31-0.5	0.5	10/12/17	mg/kg	ND<0.20	**230**	**490**	**720**
LB31-2.5	2.5	10/12/17	mg/kg	ND<0.20	**5.7**	**6.0**	**11.7**

TABLE 1
TPH IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB31-5.0	5	10/12/17	mg/kg	ND<0.20	**9.3**	**9.4**	**18.7**
LB32-0.5	0.5	10/12/17	mg/kg	ND<0.20	**170**	**360**	**530**
LB32-2.5	2.5	10/12/17	mg/kg	ND<0.20	**6.8**	**9.5**	**16.3**
LB32-5.0	5	10/12/17	mg/kg	ND<0.20	**13**	**12**	**25**
LB33-0.5	0.5	10/12/17	mg/kg	ND<0.20	**78**	**160**	**238**
LB33-2.5	2.5	10/12/17	mg/kg	ND<0.20	**2,500**	**6,800**	**9,300**
LB33-5.0	5	10/12/17	mg/kg	ND<0.20	**9.0**	**8.1**	**17.1**
LB34-0.5	0.5	10/13/17	mg/kg	ND<0.20	**1,100**	**4,000**	**5,100**
LB34-2.5	2.5	10/13/17	mg/kg	ND<0.20	**30**	**59**	**89**
LB34-5.0	5	10/13/17	mg/kg	ND<0.20	**5.0**	**7.1**	**12.1**
LB35-0.5	0.5	10/13/17	mg/kg	ND<0.20	**2,400**	**7,800**	**10,200**
LB35-2.5	2.5	10/13/17	mg/kg	ND<0.20	**1,800**	**7,400**	**9,200**
LB35-5.0	5	10/13/17	mg/kg	ND<0.20	**6,300**	**17,000**	**23,300**

Notes:
TPH = total petroleum hydrocarbons
bgs = below ground surface
mg/kg = milligrams per kilogram
RSL = USEPA Regional Screening Level, industrial (November 2017). Most conservative value between aromatic/aliphatic
ND<0.20 = Not detected above the reporting detection limit.
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons
Bold concentrations were detected above laboratory reporting limit
Highlighted values exceed Industrial RSL

TABLE 2
METALS IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	470	3.0	220,000	2,300	980	1,800,000	350	47,000	800	46	5,800	22,000	5,800	5,800	12	5,800	350,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	--	--	--	210	7.3	170,000	--	--	320	4.5	--	3,100	--	1,500	--	1,000	--
Arsenic Background (DTSC, 2008)			mg/kg	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LB1-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.6**	**50**	ND<0.03	ND<0.14	**9.2**	**5.1**	**29**	**22**	**0.17**	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**23**	**40**
LB1-2.5	2.5	10/11/17	mg/kg	ND<0.51	**1.7**	**28**	ND<0.03	ND<0.14	**6.3**	**2.9**	**2.9**	ND<0.18	**0.17**	ND<0.12	**4.0**	ND<0.40	ND<0.12	ND<0.38	**13**	**14**
LB1-5.0	5	10/11/17	mg/kg	ND<0.51	**2.0**	**26**	ND<0.03	ND<0.14	**6.7**	**3.5**	**3.8**	ND<0.18	ND<0.005	ND<0.12	**4.3**	ND<0.40	ND<0.12	ND<0.38	**15**	**16**
LB2-0.5	0.5	10/11/17	mg/kg	ND<0.51	**4.0**	**93**	ND<0.03	ND<0.14	**29**	**7.2**	**670**	**110**	**0.28**	**1.9**	**22**	ND<0.40	ND<0.12	ND<0.38	**30**	**120**
LB2-2.5	2.5	10/11/17	mg/kg	ND<0.51	**1.7**	**50**	ND<0.03	ND<0.14	**7.9**	**4.0**	**5.2**	**5.8**	**0.16**	ND<0.12	**5.6**	ND<0.40	ND<0.12	ND<0.38	**15**	**32**
LB2-5.0	5	10/11/17	mg/kg	ND<0.51	**3.5**	**25**	ND<0.03	**1.2**	**7.5**	**4.8**	**4.2**	**1.7**	**0.11**	ND<0.12	**5.6**	ND<0.40	ND<0.12	ND<0.38	**15**	**17**
LB3-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.2**	**53**	ND<0.03	ND<0.14	**10**	**4.0**	**8.8**	**29**	**0.25**	ND<0.12	**7.9**	ND<0.40	ND<0.12	ND<0.38	**20**	**65**
LB3-2.5	2.5	10/11/17	mg/kg	ND<0.51	**2.0**	**29**	ND<0.03	ND<0.14	**6.1**	**3.6**	**3.5**	ND<0.18	**0.15**	ND<0.12	**4.6**	ND<0.40	ND<0.12	ND<0.38	**12**	**18**
LB3-5.0	5	10/11/17	mg/kg	ND<0.51	**1.4**	**33**	ND<0.03	ND<0.14	**6.6**	**3.6**	**3.1**	ND<0.18	**0.12**	ND<0.12	**4.8**	ND<0.40	ND<0.12	ND<0.38	**12**	**18**
LB4-0.5	0.5	10/11/17	mg/kg	**5.1**	**2.3**	**96**	ND<0.03	ND<0.14	**16**	**3.9**	**58**	**130**	**0.72**	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**18**	**160**
LB4-2.5	2.5	10/11/17	mg/kg	ND<0.51	**2.3**	**51**	ND<0.03	ND<0.14	**7.4**	**3.0**	**11**	**20**	**0.34**	ND<0.12	**6.2**	ND<0.40	ND<0.12	ND<0.38	**13**	**43**
LB4-3.5	3.5	10/11/17	mg/kg	ND<0.51	**8.0**	**94**	ND<0.03	ND<0.14	**8.5**	**4.5**	**590**	**5.0**	**0.13**	ND<0.12	**8.0**	ND<0.40	ND<0.12	ND<0.38	**23**	**43**
LB5-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.8**	**73**	ND<0.03	ND<0.14	**13**	**5.7**	**22**	**14**	ND<0.005	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**23**	**51**
LB5-2.5	2.5	10/11/17	mg/kg	**2.5**	**5.5**	**89**	ND<0.03	ND<0.14	**12**	**5.1**	**51**	**99**	**1.4**	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**23**	**160**
LB5-5.0	5	10/11/17	mg/kg	ND<0.51	**1.6**	**47**	ND<0.03	ND<0.14	**9.5**	**5.3**	**6.3**	ND<0.18	**0.18**	ND<0.12	**7.2**	ND<0.40	ND<0.12	ND<0.38	**17**	**25**
LB6-0.5	0.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**12**	ND<0.03	ND<0.14	**2.9**	**1.2**	**2.4**	**7.3**	**0.16**	ND<0.12	**2.1**	ND<0.40	ND<0.12	ND<0.38	**4.9**	**16**
LB6-2.5	2.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**9.8**	ND<0.03	ND<0.14	**2.1**	**1.2**	ND<0.19	ND<0.18	**0.16**	ND<0.12	**1.6**	ND<0.40	ND<0.12	ND<0.38	**3.7**	**6.7**
LB6-5.0	5	10/12/17	mg/kg	ND<0.51	ND<0.12	**9.1**	ND<0.03	ND<0.14	**1.7**	ND<0.07	ND<0.19	ND<0.18	**0.20**	ND<0.12	**1.2**	ND<0.40	ND<0.12	ND<0.38	**3.0**	**5.3**
LB7-0.5	0.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**110**	ND<0.03	ND<0.14	**12**	**11**	**27**	**16**	ND<0.005	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**36**	**71**
LB7-2.5	2.5	10/12/17	mg/kg	ND<0.51	**1.5**	**52**	ND<0.03	ND<0.14	**9.3**	**4.5**	**50**	**49**	**0.25**	ND<0.12	**14**	ND<0.40	**1.5**	ND<0.38	**16**	**89**
LB7-5.0	5	10/12/17	mg/kg	ND<0.51	ND<0.12	**29**	ND<0.03	ND<0.14	**6.6**	**3.5**	**4.1**	**1.0**	ND<0.005	ND<0.12	**5.0**	ND<0.40	ND<0.12	ND<0.38	**13**	**19**
LB8-0.5	0.5	10/11/17	mg/kg	ND<0.51	**5.0**	**100**	ND<0.03	ND<0.14	**17**	**6.1**	**42**	**29**	**0.21**	ND<0.12	**15**	ND<0.40	ND<0.12	ND<0.38	**27**	**170**
LB8-2.5	2.5	10/11/17	mg/kg	ND<0.51	**2.9**	**34**	ND<0.03	ND<0.14	**6.9**	**3.4**	**3.5**	**1.4**	ND<0.005	ND<0.12	**4.6**	ND<0.40	ND<0.12	ND<0.38	**15**	**18**
LB8-5.0	5	10/11/17	mg/kg	ND<0.51	**2.9**	**26**	ND<0.03	ND<0.14	**6.8**	**3.1**	**3.1**	**2.0**	ND<0.005	ND<0.12	**3.9**	ND<0.40	ND<0.12	ND<0.38	**19**	**15**
LB9-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.7**	**90**	ND<0.03	ND<0.14	**13**	**6.2**	**19**	**13**	**0.12**	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**27**	**44**
LB9-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.2**	**55**	ND<0.03	ND<0.14	**11**	**5.9**	**14**	**13**	**0.27**	ND<0.12	**9.7**	ND<0.40	ND<0.12	ND<0.38	**22**	**46**
LB9-5.0	5	10/11/17	mg/kg	ND<0.51	**2.0**	**21**	ND<0.03	ND<0.14	**5.8**	**3.1**	**2.6**	ND<0.18	**0.12**	ND<0.12	**3.8**	ND<0.40	ND<0.12	ND<0.38	**13**	**14**
LB10-0.5	0.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**21**	ND<0.03	ND<0.14	**3.1**	**1.6**	**5.7**	**5.0**	**0.21**	ND<0.12	**4.7**	ND<0.40	ND<0.12	ND<0.38	**6.3**	**18**
LB10-2.5	2.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**21**	ND<0.03	ND<0.14	**3.8**	**2.2**	**2.3**	ND<0.18	**0.51**	ND<0.12	**3.0**	ND<0.40	ND<0.12	ND<0.38	**6.5**	**11**
LB10-5.0	5	10/12/17	mg/kg	ND<0.51	ND<0.12	**11**	ND<0.03	ND<0.14	**2.4**	**1.3**	ND<0.19	ND<0.18	**0.24**	ND<0.12	**1.6**	ND<0.40	ND<0.12	ND<0.38	**3.8**	**6.4**
LB11-0.5	0.5	10/12/17	mg/kg	ND<0.51	**12**	**61**	ND<0.03	ND<0.14	**25**	**5.1**	**890**	**150**	**2.2**	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**17**	**780**
LB11-2.5	2.5	10/12/17	mg/kg	ND<0.51	**5.0**	**79**	ND<0.03	ND<0.14	**14**	**9.0**	**16**	**3.9**	ND<0.005	ND<0.12	**13**	ND<0.40	ND<0.12	ND<0.38	**32**	**38**
LB11-5.0	5	10/12/17	mg/kg	ND<0.51	**2.9**	**110**	ND<0.03	ND<0.14	**19**	**9.3**	**19**	**3.9**	ND<0.005	ND<0.12	**14**	ND<0.40	ND<0.12	ND<0.38	**33**	**46**
LB12-0.5	0.5	10/11/17	mg/kg	ND<0.51	**5.4**	**140**	ND<0.03	ND<0.14	**18**	**6.3**	**52**	**38**	**0.34**	ND<0.12	**16**	ND<0.40	ND<0.12	ND<0.38	**28**	**200**
LB12-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.4**	**30**	ND<0.03	ND<0.14	**7.9**	**2.6**	ND<0.19	**1.2**	ND<0.005	ND<0.12	**3.1**	ND<0.40	ND<0.12	ND<0.38	**28**	**13**
LB12-5.0	5	10/11/17	mg/kg	ND<0.51	**3.7**	**46**	ND<0.03	ND<0.14	**8.5**	**4.6**	**4.7**	**1.6**	**0.17**	ND<0.12	**6.0**	ND<0.40	ND<0.12	ND<0.38	**19**	**23**
LB13-0.5	0.5	10/11/17	mg/kg	ND<0.51	**4.8**	**100**	ND<0.03	ND<0.14	**15**	**5.5**	**34**	**42**	**0.62**	ND<0.12	**13**	ND<0.40	ND<0.12	ND<0.38	**27**	**210**
LB13-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.7**	**47**	ND<0.03	ND<0.14	**9.3**	**4.9**	**6.3**	**6.3**	ND<0.005	ND<0.12	**7.4**	ND<0.40	ND<0.12	ND<0.38	**22**	**31**
LB13-5.0	5	10/11/17	mg/kg	ND<0.51	**2.8**	**25**	ND<0.03	ND<0.14	**6.7**	**3.1**	**2.0**	**1.2**	ND<0.005	ND<0.12	**4.0**	ND<0.40	ND<0.12	ND<0.38	**17**	**15**
LB14-0.5	0.5	10/11/17	mg/kg	ND<0.51	**3.6**	**84**	ND<0.03	ND<0.14	**24**	**6.7**	**33**	**28**	**0.28**	ND<0.12	**16**	ND<0.40	ND<0.12	ND<0.38	**27**	**86**
LB14-2.5	2.5	10/11/17	mg/kg	ND<0.51	ND<0.12	**97**	ND<0.03	ND<0.14	**8.5**	**4.2**	**9.3**	ND<0.18	**0.15**	ND<0.12	**5.6**	ND<0.40	ND<0.12	ND<0.38	**18**	**26**
LB14-5.0	5	10/11/17	mg/kg	ND<0.51	**1.5**	**57**	ND<0.03	ND<0.14	**11**	**6.2**	**7.8**	ND<0.18	**0.21**	ND<0.12	**8.3**	ND<0.40	ND<0.12	ND<0.38	**21**	**30**
LB15-0.5	0.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**78**	ND<0.03	ND<0.14	**7.8**	**3.9**	**9.2**	**4.5**	ND<0.005	ND<0.12	**6.4**	ND<0.40	ND<0.12	ND<0.38	**15**	**31**
LB15-2.5	2.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**15**	ND<0.03	ND<0.14	**2.9**	**1.8**	**2.1**	ND<0.18	**0.22**	ND<0.12	**2.3**	ND<0.40	ND<0.12	ND<0.38	**5.6**	**8.7**
LB15-5.0	5	10/12/17	mg/kg	ND<0.51	ND<0.12	**8.3**	ND<0.03	ND<0.14	**1.7**	ND<0.07	ND<0.19	ND<0.18	**0.17**	ND<0.12	**1.2**	ND<0.40	ND<0.12	ND<0.38	**2.8**	**4.6**
LB16-0.5	0.5	10/12/17	mg/kg	ND<0.51	**2.2**	**74**	ND<0.03	ND<0.14	**6.7**	**6.0**	**27**	**5.0**	ND<0.005	ND<0.12	**7.1**	ND<0.40	ND<0.12	ND<0.38	**17**	**180**
LB16-2.5	2.5	10/12/17	mg/kg	ND<0.51	**2.5**	**78**	ND<0.03	ND<0.14	**10**	**5.6**	**19**	**33**	ND<0.005	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**18**	**160**
LB16-5.0	5	10/12/17	mg/kg	ND<0.51	**2.4**	**65**	ND<0.03	ND<0.14	**7.3**	**3.7**	**12**	**4.9**	ND<0.005	ND<0.12	**6.5**	ND<0.40	ND<0.12	ND<0.38	**14**	**39**

TABLE 2
METALS IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	470	3.0	220,000	2,300	980	1,800,000	350	47,000	800	46	5,800	22,000	5,800	5,800	12	5,800	350,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	--	--	--	210	7.3	170,000	--	--	320	4.5	--	3,100	--	1,500	--	1,000	--
Arsenic Background (DTSC, 2008)			mg/kg	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LB17-0.5	0.5	10/11/17	mg/kg	ND<0.51	**1.4**	**75**	ND<0.03	ND<0.14	**14**	**4.0**	**16**	**51**	**0.73**	ND<0.12	**10**	ND<0.40	ND<0.12	ND<0.38	**22**	**250**
LB17-2.5	2.5	10/11/17	mg/kg	ND<0.51	**1.3**	**46**	ND<0.03	ND<0.14	**9.1**	**4.9**	**6.0**	ND<0.18	ND<0.005	ND<0.12	**6.7**	ND<0.40	ND<0.12	ND<0.38	**20**	**24**
LB17-5.0	5	10/11/17	mg/kg	ND<0.51	**1.0**	**51**	ND<0.03	ND<0.14	**8.5**	**5.1**	**5.3**	ND<0.18	**0.10**	ND<0.12	**6.6**	ND<0.40	ND<0.12	ND<0.38	**16**	**24**
LB18-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.5**	**99**	ND<0.03	ND<0.14	**35**	**7.3**	**100**	**33**	**0.23**	**3.5**	**32**	ND<0.40	ND<0.12	ND<0.38	**23**	**150**
LB18-2.5	2.5	10/11/17	mg/kg	ND<0.51	**2.1**	**28**	ND<0.03	ND<0.14	**7.0**	**3.3**	**3.1**	ND<0.18	ND<0.005	ND<0.12	**4.5**	ND<0.40	ND<0.12	ND<0.38	**16**	**16**
LB18-5.0	5	10/11/17	mg/kg	ND<0.51	**2.2**	**35**	ND<0.03	ND<0.14	**7.5**	**4.3**	**3.9**	ND<0.18	ND<0.005	ND<0.12	**5.3**	ND<0.40	ND<0.12	ND<0.38	**17**	**18**
LB19-0.5	0.5	10/11/17	mg/kg	ND<0.51	**3.1**	**37**	ND<0.03	ND<0.14	**7.5**	**3.7**	**3.6**	**1.6**	ND<0.005	ND<0.12	**4.9**	ND<0.40	ND<0.12	ND<0.38	**19**	**21**
LB19-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.4**	**20**	ND<0.03	ND<0.14	**6.0**	**2.9**	ND<0.19	**1.4**	ND<0.005	ND<0.12	**3.3**	ND<0.40	ND<0.12	ND<0.38	**17**	**14**
LB19-5.0	5	10/11/17	mg/kg	ND<0.51	**3.0**	**33**	ND<0.03	ND<0.14	**6.6**	**3.8**	**3.2**	**1.1**	ND<0.005	ND<0.12	**4.9**	ND<0.40	ND<0.12	ND<0.38	**14**	**19**
LB20-0.5	0.5	10/11/17	mg/kg	ND<0.51	**3.7**	**52**	ND<0.03	ND<0.14	**15**	**6.1**	**39**	**35**	**0.22**	ND<0.12	**21**	ND<0.40	ND<0.12	ND<0.38	**32**	**110**
LB20-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.3**	**30**	ND<0.03	ND<0.14	**6.6**	**3.4**	**3.0**	**1.8**	ND<0.005	ND<0.12	**4.5**	ND<0.40	ND<0.12	ND<0.38	**13**	**17**
LB20-5.0	5	10/11/17	mg/kg	ND<0.51	**2.9**	**36**	ND<0.03	ND<0.14	**7.1**	**3.7**	**3.1**	**2.3**	ND<0.005	ND<0.12	**4.8**	ND<0.40	ND<0.12	ND<0.38	**15**	**18**
LB21-0.5	0.5	10/12/17	mg/kg	ND<0.51	**1.3**	**20**	ND<0.03	ND<0.14	**5.6**	**2.8**	**3.1**	ND<0.18	ND<0.005	ND<0.12	**3.8**	ND<0.40	ND<0.12	ND<0.38	**12**	**14**
LB21-2.5	2.5	10/12/17	mg/kg	ND<0.51	**2.1**	**38**	ND<0.03	ND<0.14	**8.1**	**4.4**	**4.8**	ND<0.18	ND<0.005	ND<0.12	**6.2**	ND<0.40	ND<0.12	ND<0.38	**14**	**22**
LB21-5.0	5	10/12/17	mg/kg	ND<0.51	**2.4**	**65**	ND<0.03	ND<0.14	**11**	**6.5**	**8.3**	ND<0.18	ND<0.005	ND<0.12	**8.9**	ND<0.40	ND<0.12	ND<0.38	**19**	**33**
LB22-0.5	0.5	10/12/17	mg/kg	ND<0.51	**2.3**	**50**	ND<0.03	ND<0.14	**11**	**5.3**	**9.8**	**5.5**	ND<0.005	ND<0.12	**8.7**	ND<0.40	ND<0.12	ND<0.38	**19**	**97**
LB22-2.5	2.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**69**	ND<0.03	ND<0.14	**15**	**7.1**	**12**	**1.3**	**0.17**	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**23**	**40**
LB22-5.0	5	10/12/17	mg/kg	ND<0.51	**1.7**	**19**	ND<0.03	ND<0.14	**4.1**	**2.1**	**2.5**	ND<0.18	ND<0.005	ND<0.12	**2.9**	ND<0.40	ND<0.12	ND<0.38	**7.2**	**10**
LB23-0.5	0.5	10/11/17	mg/kg	ND<0.51	ND<0.12	**24**	ND<0.03	ND<0.14	**6.0**	**2.4**	**2.8**	ND<0.18	ND<0.005	ND<0.12	**3.0**	ND<0.40	ND<0.12	ND<0.38	**14**	**11**
LB23-2.5	2.5	10/11/17	mg/kg	ND<0.51	**1.1**	**36**	ND<0.03	ND<0.14	**8.4**	**4.2**	**5.9**	ND<0.18	**0.10**	ND<0.12	**5.7**	ND<0.40	ND<0.12	ND<0.38	**15**	**20**
LB23-5.0	5	10/11/17	mg/kg	ND<0.51	**1.7**	**28**	ND<0.03	ND<0.14	**5.8**	**2.9**	**2.6**	ND<0.18	ND<0.005	ND<0.12	**4.0**	ND<0.40	ND<0.12	ND<0.38	**10**	**15**
LB24-0.5	0.5	10/11/17	mg/kg	ND<0.51	**4.5**	**59**	ND<0.03	ND<0.14	**12**	**6.7**	**9.7**	**2.9**	ND<0.005	ND<0.12	**9.4**	ND<0.40	ND<0.12	ND<0.38	**28**	**35**
LB24-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.3**	**36**	ND<0.03	ND<0.14	**7.2**	**3.7**	**3.3**	**1.5**	ND<0.005	ND<0.12	**5.2**	ND<0.40	ND<0.12	ND<0.38	**14**	**19**
LB24-5.0	5	10/11/17	mg/kg	ND<0.51	**4.4**	**23**	ND<0.03	ND<0.14	**5.8**	**2.9**	ND<0.19	**1.2**	ND<0.005	ND<0.12	**3.6**	ND<0.40	ND<0.12	ND<0.38	**15**	**14**
LB25-0.5	0.5	10/11/17	mg/kg	ND<0.51	**2.8**	**18**	ND<0.03	ND<0.14	**5.8**	**2.6**	**2.4**	**1.9**	ND<0.005	ND<0.12	**3.2**	ND<0.40	ND<0.12	ND<0.38	**17**	**12**
LB25-2.5	2.5	10/11/17	mg/kg	ND<0.51	**3.4**	**48**	ND<0.03	ND<0.14	**8.6**	**5.0**	**4.7**	**1.8**	ND<0.005	ND<0.12	**6.5**	ND<0.40	ND<0.12	ND<0.38	**18**	**25**
LB25-5.0	5	10/11/17	mg/kg	ND<0.51	**2.4**	**24**	ND<0.03	ND<0.14	**5.6**	**2.6**	ND<0.19	**1.1**	ND<0.005	ND<0.12	**3.5**	ND<0.40	ND<0.12	ND<0.38	**12**	**14**
LB26-0.5	0.5	10/12/17	mg/kg	ND<0.51	**2.2**	**13**	ND<0.03	ND<0.14	**4.2**	**2.1**	**2.4**	**1.1**	ND<0.005	ND<0.12	**2.7**	ND<0.40	ND<0.12	ND<0.38	**8.0**	**11**
LB26-2.5	2.5	10/12/17	mg/kg	ND<0.51	**2.0**	**23**	ND<0.03	ND<0.14	**5.5**	**2.6**	**2.7**	ND<0.18	ND<0.005	ND<0.12	**3.8**	ND<0.40	ND<0.12	ND<0.38	**8.8**	**14**
LB26-5.0	5	10/12/17	mg/kg	ND<0.51	**1.6**	**62**	ND<0.03	ND<0.14	**9.8**	**5.8**	**7.0**	ND<0.18	ND<0.005	ND<0.12	**7.7**	ND<0.40	ND<0.12	ND<0.38	**18**	**30**
LB27-0.5	0.5	10/12/17	mg/kg	ND<0.51	**4.0**	**98**	ND<0.03	ND<0.14	**18**	**8.7**	**28**	**130**	ND<0.005	ND<0.12	**15**	ND<0.40	ND<0.12	ND<0.38	**32**	**120**
LB27-2.5	2.5	10/12/17	mg/kg	ND<0.51	**2.1**	**43**	ND<0.03	ND<0.14	**9.4**	**5.5**	**6.5**	ND<0.18	ND<0.005	ND<0.12	**7.1**	ND<0.40	ND<0.12	ND<0.38	**16**	**26**
LB27-5.0	5	10/12/17	mg/kg	ND<0.51	**1.1**	**16**	ND<0.03	ND<0.14	**3.8**	**1.8**	ND<0.19	ND<0.18	ND<0.005	ND<0.12	**2.4**	ND<0.40	ND<0.12	ND<0.38	**6.7**	**9.5**
LB28-0.5	0.5	10/12/17	mg/kg	ND<0.51	**4.2**	**45**	ND<0.03	ND<0.14	**8.3**	**4.1**	**17**	**85**	ND<0.005	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**16**	**190**
LB28-2.5	2.5	10/12/17	mg/kg	ND<0.51	**5.0**	**63**	ND<0.03	ND<0.14	**13**	**5.3**	**27**	**53**	ND<0.005	ND<0.12	**13**	ND<0.40	ND<0.12	ND<0.38	**20**	**120**
LB28-5.0	5	10/12/17	mg/kg	ND<0.51	**2.5**	**81**	ND<0.03	ND<0.14	**19**	**4.1**	**9.2**	**4.0**	ND<0.005	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**18**	**50**
LB29-0.5	0.5	10/12/17	mg/kg	ND<0.51	**2.4**	**17**	ND<0.03	ND<0.14	**4.1**	**2.2**	**10**	**10**	ND<0.005	ND<0.12	**4.0**	ND<0.40	ND<0.12	ND<0.38	**9.7**	**43**
LB29-2.5	2.5	10/12/17	mg/kg	ND<0.51	**2.1**	**18**	ND<0.03	ND<0.14	**5.1**	**2.3**	**2.1**	ND<0.18	ND<0.005	ND<0.12	**3.0**	ND<0.40	ND<0.12	ND<0.38	**9.9**	**11**
LB29-5.0	5	10/12/17	mg/kg	ND<0.51	**1.4**	**35**	ND<0.03	ND<0.14	**7.0**	**3.8**	**4.4**	ND<0.18	ND<0.005	ND<0.12	**5.3**	ND<0.40	ND<0.12	ND<0.38	**12**	**19**
LB30-0.5	0.5	10/12/17	mg/kg	ND<0.51	**1.6**	**48**	ND<0.03	ND<0.14	**10**	**4.6**	**8.3**	**5.0**	ND<0.005	ND<0.12	**6.5**	ND<0.40	ND<0.12	ND<0.38	**18**	**26**
LB30-2.5	2.5	10/12/17	mg/kg	ND<0.51	**1.6**	**82**	ND<0.03	ND<0.14	**16**	**5.4**	**91**	**180**	**0.25**	ND<0.12	**24**	ND<0.40	ND<0.12	ND<0.38	**38**	**130**
LB30-5.0	5	10/12/17	mg/kg	ND<0.51	ND<0.12	**44**	ND<0.03	ND<0.14	**10**	**7.0**	**8.1**	**3.0**	ND<0.005	ND<0.12	**7.4**	ND<0.40	ND<0.12	ND<0.38	**18**	**29**
LB31-0.5	0.5	10/12/17	mg/kg	ND<0.51	**4.3**	**63**	ND<0.03	ND<0.14	**12**	**5.2**	**110**	**110**	**0.89**	ND<0.12	**9.7**	ND<0.40	ND<0.12	ND<0.38	**21**	**140**
LB31-2.5	2.5	10/12/17	mg/kg	ND<0.51	ND<0.12	**13**	ND<0.03	ND<0.14	**3.6**	**1.8**	**2.2**	ND<0.18	ND<0.005	ND<0.12	**2.2**	ND<0.40	ND<0.12	ND<0.38	**6.8**	**8.3**
LB31-5.0	5	10/12/17	mg/kg	ND<0.51	**1.6**	**53**	ND<0.03	ND<0.14	**9.6**	**5.8**	**6.8**	ND<0.18	ND<0.005	ND<0.12	**7.8**	ND<0.40	ND<0.12	ND<0.38	**17**	**29**
LB32-0.5	0.5	10/12/17	mg/kg	ND<0.51	**3.7**	**60**	ND<0.03	ND<0.14	**13**	**6.1**	**29**	**7.5**	ND<0.005	ND<0.12	**11**	ND<0.40	ND<0.12	ND<0.38	**22**	**48**
LB32-2.5	2.5	10/12/17	mg/kg	ND<0.51	**1.6**	**28**	ND<0.03	ND<0.14	**5.9**	**3.0**	**3.3**	ND<0.18	ND<0.005	ND<0.12	**4.4**	ND<0.40	ND<0.12	ND<0.38	**10**	**19**
LB32-5.0	5	10/12/17	mg/kg	ND<0.51	**1.7**	**63**	ND<0.03	ND<0.14	**11**	**6.6**	**9.7**	ND<0.18	ND<0.005	ND<0.12	**9.1**	ND<0.40	ND<0.12	ND<0.38	**20**	**32**

TABLE 2
METALS IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	470	3.0	220,000	2,300	980	1,800,000	350	47,000	800	46	5,800	22,000	5,800	5,800	12	5,800	350,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			mg/kg	--	--	--	210	7.3	170,000	--	--	320	4.5	--	3,100	--	1,500	--	1,000	--
Arsenic Background (DTSC, 2008)			mg/kg	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LB33-0.5	0.5	10/12/17	mg/kg	ND<0.51	**1.7**	**44**	ND<0.03	ND<0.14	**13**	**6.2**	**6.1**	**1.5**	ND<0.005	ND<0.12	**9.3**	ND<0.40	ND<0.12	ND<0.38	**22**	**34**
LB33-2.5	2.5	10/12/17	mg/kg	ND<0.51	**6.9**	**73**	ND<0.03	ND<0.14	**14**	**9.0**	**230**	**110**	**0.23**	ND<0.12	**20**	ND<0.40	ND<0.12	ND<0.38	**22**	**790**
LB33-5.0	5	10/12/17	mg/kg	ND<0.51	**2.0**	**55**	ND<0.03	ND<0.14	**9.7**	**6.1**	**7.9**	ND<0.18	ND<0.005	ND<0.12	**8.0**	ND<0.40	ND<0.12	ND<0.38	**19**	**29**
LB34-0.5	0.5	10/13/17	mg/kg	ND<0.51	**3.1**	**100**	ND<0.03	ND<0.14	**20**	**5.1**	**23**	**25**	ND<0.005	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**20**	**79**
LB34-2.5	2.5	10/13/17	mg/kg	ND<0.51	ND<0.12	**99**	ND<0.03	ND<0.14	**7.5**	**3.7**	**7.6**	ND<0.18	ND<0.005	ND<0.12	**5.8**	ND<0.40	ND<0.12	ND<0.38	**15**	**26**
LB34-5.0	5	10/13/17	mg/kg	ND<0.51	**1.7**	**52**	ND<0.03	ND<0.14	**8.7**	**5.2**	**6.8**	ND<0.18	ND<0.005	ND<0.12	**7.0**	ND<0.40	ND<0.12	ND<0.38	**15**	**27**
LB35-0.5	0.5	10/13/17	mg/kg	ND<0.51	ND<0.12	**71**	ND<0.03	ND<0.14	**6.7**	**4.6**	**8.1**	**4.1**	ND<0.005	ND<0.12	**15**	ND<0.40	ND<0.12	ND<0.38	**24**	**30**
LB35-2.5	2.5	10/13/17	mg/kg	ND<0.51	ND<0.12	**67**	ND<0.03	ND<0.14	**6.1**	**3.7**	**5.3**	**1.1**	ND<0.005	ND<0.12	**13**	ND<0.40	ND<0.12	ND<0.38	**19**	**74**
LB35-5.0	5	10/13/17	mg/kg	ND<0.51	ND<0.12	**39**	ND<0.03	ND<0.14	**6.7**	**3.2**	**5.1**	**8.5**	ND<0.005	ND<0.12	**12**	ND<0.40	ND<0.12	ND<0.38	**17**	**29**

Notes:
mg/kg = milligrams per kilogram
ug/kg= micrograms per kilogram
bgs = below ground surface
<2.0 = Not detected above laboratory reporting limit as shown
-- = Not analyzed or not applicable
RSL = EPA Region 9 Industrial Regional Screening Level (November 2017)
SoCal Background = DTSC Determination of a Southern California Regional Background Arsenic Concentration in Soil (DTSC, 2008)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (June 2017)
Bold concentrations were detected above laboratory reporting limit
Highlighted concentrations exceeds selected screening criteria

TABLE 3
SOIL WASTE CHARACTERIZATION
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Copper (STLC/TCLP)	Lead (STLC/TCLP)	Mercury (STLC/TCLP)
STLC limit			mg/L	25	5.0	0.2
TCLP limit			mg/L	--	5.0	0.2
LB2-0.5	0.5	10/11/2017	mg/L	2.6 D1	2.5 D1 / ND<0.047 D5	--
LB4-0.5	0.5	10/11/2017	mg/L	--	3.7 D1 / ND<0.024 D1	--
LB4-3.5	3.5	10/11/2017	mg/L	18 D1	--	--
LB5-2.5	2.5	10/11/2017	mg/L	--	5.8 D1	--
LB11-0.5	0.5	10/12/2017	mg/L	25 D1 / 0.77	2.2 D1 / ND<0.024 D1	ND<0.00023 / ND<0.00005
LB17-0.5	0.5	10/11/2017	mg/L	--	7.0 D1	--
LB27-0.5	0.5	10/12/2017	mg/L	--	1.9 D1 / 0.33 D1	--
LB28-0.5	0.5	10/12/2017	mg/L	--	4.8 D1	--
LB28-2.5	2.5	10/12/2017	mg/L	--	1.0 D1	--
LB30-2.5	2.5	10/12/2017	mg/L	--	2.2 D1 / ND<0.024 D1	--
LB31-0.5	0.5	10/12/2017	mg/L	--	13 D1 / 0.33 D1	--
LB33-2.5	2.5	10/12/2017	mg/L	--	11 D1 / ND<0.024 D1	--

mg/kg = milligrams per kilogram
ug/kg= micrograms per kilogram
bgs = below ground surface
<2.0 = Not detected above laboratory reporting limit as shown
-- = Not analyzed or not applicable
D1 = Sample required dilution due to possible matrix interference
D5 = Sample diluted due to failing internal standard on the original run
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
Highlighted concentrations exceeds selected screening criteria

TABLE 4
VOCs in Soil
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Carbon Disulfide	Tetrachloroethene
USEPA RSL Industrial Soil			ug/kg	3,500,000	100,000
HERO HHRA Note 3 Industrial Soil Screening Criteria			ug/kg	--	2,700
LB2-0.5	0.5	10/11/2017	ug/kg	**5.3**	ND<1.5
LB2-2.5	2.5	10/11/2017	ug/kg	**7.4 H7**	ND<1.4 H7
LB4-0.5	0.5	10/11/2017	ug/kg	ND<3.5	**27**
LB4-2.5	2.5	10/11/2017	ug/kg	ND<3.3	ND<1.5
LB5-0.5	0.5	10/11/2017	ug/kg	ND<3.2	ND<1.4
LB5-2.5	2.5	10/11/2017	ug/kg	ND<3.7	ND<1.7
LB9-0.5	0.5	10/11/2017	ug/kg	ND<3.3	ND<1.5
LB9-2.5	2.5	10/11/2017	ug/kg	ND<3.7	ND<1.7
LB10-0.5	0.5	10/12/2017	ug/kg	ND<3.4	ND<1.5
LB10-2.5	2.5	10/12/2017	ug/kg	**13**	ND<1.4
LB11-0.5	0.5	10/12/2017	ug/kg	ND<3.4	ND<1.5
LB11-2.5	2.5	10/12/2017	ug/kg	ND<3.4	ND<1.5
LB13-0.5	0.5	10/11/2017	ug/kg	ND<3.3	ND<1.5
LB13-2.5	2.5	10/11/2017	ug/kg	ND<3.8	ND<1.7
LB16-2.5	2.5	10/12/2017	ug/kg	ND<3.4	ND<1.5
LB16-5.0	5	10/12/2017	ug/kg	ND<3.3	ND<1.5
LB17-0.5	0.5	10/11/2017	ug/kg	**12**	ND<1.6
LB17-2.5	2.5	10/11/2017	ug/kg	ND<3.9	ND<1.7
LB28-0.5	0.5	10/12/2017	ug/kg	ND<3.7	ND<1.7
LB28-2.5	2.5	10/12/2017	ug/kg	ND<3.5	ND<1.5
LB28-5.0	5	10/12/2017	ug/kg	ND<3.9	ND<1.7
LB33-2.5	2.5	10/12/2017	ug/kg	ND<3.3	ND<1.5
LB33-5.0	5	10/12/2017	ug/kg	ND<3.7	ND<1.6
LB34-0.5	0.5	10/13/2017	ug/kg	ND<3.9	ND<1.7
LB34-2.5	2.5	10/13/2017	ug/kg	ND<4.8	ND<2.1
LB34-5.0	5	10/13/2017	ug/kg	ND<4.3	ND<1.9
LB35-0.5	0.5	10/13/2017	ug/kg	ND<4.5	ND<2.0
LB35-2.5	2.5	10/13/2017	ug/kg	ND<4.5	ND<2.0
LB35-5.0	5	10/13/2017	ug/kg	ND<3.9	ND<1.7

Notes:
VOCs = volatile organic compounds
bgs = below ground surface
ug/kg = micrograms per kilogram
ND<0.88 = Not detected above the laboratory reporting limit
H7 = The sample was logged past hold time
RSL = EPA Region 9 Industrial Regional Screening Level (November 2017)
HERO Note 3 = Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Number 3 (June 2017)

TABLE 5
PAHs IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	2-Methylnaphthalene	Benzo(b)fluoranthene	Fluoranthene	Pyrene
USEPA RSL Industrial Soil			ug/kg	3,000,000	21,000	30,000,000	23,000,000
LB2-0.5	0.5	10/11/17	ug/kg	ND<60 D1	ND<220 D1	ND<45 D1	ND<51 D1
LB2-2.5	2.5	10/11/17	ug/kg	ND<1.2 H4	**10 H4**	**12 H4**	**11 H4**
LB4-0.5	0.5	10/11/17	ug/kg	ND<60 D1	ND<220 D1	ND<45 D1	ND<51 D1
LB4-2.5	2.5	10/11/17	ug/kg	ND<12 D1	ND<43 D1	ND<9.0 D1	ND<10 D1
LB5-0.5	0.5	10/11/17	ug/kg	ND<60 D1	ND<220 D1	ND<45 D1	ND<51 D1
LB5-2.5	2.5	10/11/17	ug/kg	ND<3.0	ND<11	ND<2.2	ND<2.6
LB9-0.5	0.5	10/11/17	ug/kg	ND<60 D1	ND<220 D1	ND<45 D1	ND<51 D1
LB9-2.5	2.5	10/11/17	ug/kg	ND<30 D1	ND<110 D1	ND<22 D1	ND<26 D1
LB10-0.5	0.5	10/12/17	ug/kg	ND<120 D1	ND<430 D1	ND<90 D1	ND<100 D1
LB10-2.5	2.5	10/12/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB11-0.5	0.5	10/12/17	ug/kg	ND<12 D1	ND<43 D1	ND<9.0 D1	ND<10 D1
LB11-2.5	2.5	10/12/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB13-0.5	0.5	10/11/17	ug/kg	ND<60 D1	ND<220 D1	ND<45 D1	ND<51 D1
LB13-2.5	2.5	10/11/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB16-2.5	2.5	10/12/17	ug/kg	ND<30 D1	ND<110 D1	ND<22 D1	ND<26 D1
LB16-5.0	5	10/12/17	ug/kg	ND<30 D1	ND<110 D1	ND<22 D1	ND<26 D1
LB17-0.5	0.5	10/11/17	ug/kg	ND<30 D1	ND<110 D1	ND<22 D1	ND<26 D1
LB17-2.5	2.5	10/11/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB28-0.5	0.5	10/12/17	ug/kg	ND<30 D1	ND<110 D1	ND<22 D1	ND<26 D1
LB28-2.5	2.5	10/12/17	ug/kg	ND<120 D1	ND<430 D1	ND<90 D1	ND<100 D1
LB28-5.0	5	10/12/17	ug/kg	**7,800**	ND<43	ND<9.0	ND<10
LB33-2.5	2.5	10/12/17	ug/kg	ND<120 D1	ND<430 D1	ND<90 D1	ND<100 D1
LB33-5.0	5	10/12/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB34-0.5	0.5	10/13/17	ug/kg	ND<300 D1	ND<1100 D1	ND<220 D1	ND<260 D1
LB34-2.5	2.5	10/13/17	ug/kg	ND<0.60	ND<2.2	ND<0.45	ND<0.51
LB35-0.5	0.5	10/13/17	ug/kg	ND<300 D1	ND<1100 D1	ND<220 D1	ND<260 D1
LB35-2.5	2.5	10/13/17	ug/kg	ND<600 D1	ND<2200 D1	ND<450 D1	ND<510 D1
LB35-5.0	5	10/13/17	ug/kg	ND<750 D1	ND<2700 D1	ND<560 D1	ND<640 D1

Notes:
PAHs = Polynuclear aromatic hydrocarbons
bgs = below ground surface
ug/kg = micrograms per kilogram
ND<0.88 = Not detected above the laboratory reporting limit
D1 = Sample required dilution due to possible matrix interference
H4 = Change order analysis requested past the sample holding time
RSL = EPA Region 9 Industrial Regional Screening Level (November 2017)

TABLE 6
PCBs IN SOIL
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Aroclor 1254	Aroclor 1260
USEPA RSL Industrial Soil			mg/kg	0.970	0.990
LB2-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	ND<0.0046
LB4-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	**0.079**
LB5-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	ND<0.0046
LB9-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	ND<0.0046
LB10-0.5	0.5	10/12/2017	mg/kg	ND<0.0046	**0.21**
LB11-0.5	0.5	10/12/2017	mg/kg	**0.870**	ND<0.0046
LB13-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	**0.021**
LB16-2.5	2.5	10/12/2017	mg/kg	**0.110**	ND<0.0046
LB17-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	**0.032**
LB19-0.5	0.5	10/11/2017	mg/kg	ND<0.0046	ND<0.0046
LB28-5.0	5	10/12/2017	mg/kg	ND<0.0046	ND<0.0046
LB33-2.5	2.5	10/12/2017	mg/kg	ND<0.0091	ND<0.0091
LB34-0.5	0.5	10/13/2017	mg/kg	ND<0.0046	ND<0.0046
LB35-0.5	0.5	10/13/2017	mg/kg	ND<0.046 D1	ND<0.046 D1
LB35-5.0	5	10/13/2017	mg/kg	ND<0.0091	ND<0.0091
LB45-0.5	0.5	12/13/2017	mg/kg	<0.016	**0.068**
LB46-0.5	0.5	12/13/2017	mg/kg	<0.016	<0.016
LB47-0.5	0.5	12/13/2017	mg/kg	<0.016	**0.180**

Notes:
PCBs = Polychlorinated Biphenyls
bgs = below ground surface
mg/kg = milligrams per kilogram
ND<4.6 = Not detected above the reporting limit.
D1 = Sample required dilution due to possible matrix interference
RSL = EPA Region 9 Industrial Regional Screening Level (November 2017)

TABLE 7
DIOXINS AND FURANS
Berth 191-193
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	Total TCDD	Total PeCDD	Total HxCDD	Total HpCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total TCDF	Total PeCDF	Total HxCDF	Total HpCDF	Total Toxic Equivalency
Toxic Equivalency Factor				1	1	0.1	0.1	0.1	0.01	0.0003	N/A	N/A	N/A	N/A	0.1	0.03	0.3	0.1	0.1	0.1	0.1	0.01	0.01	0.0003	N/A	N/A	N/A	N/A	N/A
LB17-0.5	0.5	10/11/17	pg/g	ND<0.172	ND<0.327	ND<0.327	7.34	ND<0.315	245	2150	ND<0.480	8.34	80.9	564	ND<0.0886	ND<0.412	2.82 J	ND<0.518	3.47 J	ND<0.319	ND<0.425	22.6	ND<0.378	86.7	26.8	44.1 / 50.5 EMPC	48.1	66.7	5.27*

Notes:
pg/g = picograms per gram
ND <0.327= Not detected above estimated detection limit
J = Estimated concentration found below the lower quantitation limit but greater than zero.
EMPC = Estimated Maximum possible concentration due to ion abundance ratio failure
* = The total toxic equivalency of 5.27 is below the DTSC Human and Ecological Risk Office Human Health Risk Assessment Note 2 (April 2017) conservative value of 22 pg/g for industrial/commercial workers.

TABLE 8
TPH IN GROUNDWATER
Berth 191-193
Wilmington, California

Sample ID	Date	Units	GRO	DRO	ORO
ESLs Saltwater Tox.		mg/L	3.7	0.64	0.64
LB1-GW	10/11/17	mg/L	**9.9**	**0.93**	**0.38**
LB6-GW	10/12/17	mg/L	**0.09**	**0.47**	**0.43**
LB13-GW	10/11/17	mg/L	ND<0.05	**0.47**	**0.42**
LB23-GW	10/11/17	mg/L	ND<0.05	**0.33**	**0.38**
LB25-GW	10/11/17	mg/L	**0.08**	**0.23**	**0.16**
LB27-GW	10/12/17	mg/L	ND<0.05	**0.35**	**0.27**
LB31-GW	10/12/17	mg/L	ND<0.05	**0.38**	**0.33**
LB34-GW	10/13/17	mg/L	ND<0.05	**0.15**	**0.10**

Notes:
TPH = total petroleum hydrocarbons
mg/L = milligrams per liter
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2016) for saltwater aquatic habits
ND<0.05 = Not detected above laboratory reporting limit
-- = not applicable
Highlighted values exceed Port Screening Criteria

TABLE 9
METALS IN GROUNDWATER
Berth 191-193
Wilmington, California

Sample ID	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
ESLs Saltwater Tox.		mg/L	0.5	0.036	--	--	0.0093	--	--	0.0031	0.0081	0.00094	--	0.0082	0.071	0.00034	0.21	--	0.081
LB1-GW	10/11/17	mg/L	ND<0.0088	ND<0.0078	**0.11**	ND<0.0016	ND<0.0024	**0.015**	ND<0.0016	**0.011**	ND<0.0047	ND<0.00005	**0.027**	**0.011**	ND<0.0093	ND<0.0024	ND<0.0085	**0.011**	ND<0.0057
LB6-GW	10/12/17	mg/L	ND<0.0088	ND<0.0078	**0.098**	ND<0.0016	ND<0.0024	**0.0087**	**0.0035**	**0.0090**	ND<0.0047	ND<0.00005	**0.022**	**0.0067**	ND<0.0093	ND<0.0024	ND<0.0085	**0.018**	ND<0.0057
LB13-GW	10/11/17	mg/L	ND<0.0088	ND<0.0078	**0.12**	ND<0.0016	ND<0.0024	**0.0094**	ND<0.0016	ND<0.0038	ND<0.0047	ND<0.00005	**0.0093**	**0.0060**	ND<0.0093	ND<0.0024	ND<0.0085	**0.013**	ND<0.0057
LB23-GW	10/11/17	mg/L	ND<0.0088	ND<0.0078	**0.089**	ND<0.0016	ND<0.0024	ND<0.0020	ND<0.0016	ND<0.0038	ND<0.0047	ND<0.00005	**0.0087**	ND<0.0046	ND<0.0093	ND<0.0024	ND<0.0085	**0.0036**	ND<0.0057
LB25-GW	10/11/17	mg/L	**0.013**	ND<0.0078	**0.062**	ND<0.0016	ND<0.0024	**0.012**	ND<0.0016	ND<0.0038	ND<0.0047	ND<0.00005	**0.021**	**0.0083**	ND<0.0093	ND<0.0024	ND<0.0085	**0.0043**	ND<0.0057
LB27-GW	10/12/17	mg/L	ND<0.0088	**0.013**	**0.31**	ND<0.0016	ND<0.0024	**0.022**	**0.0086**	**0.016**	ND<0.0047	ND<0.00005	ND<0.0030	**0.016**	ND<0.0093	ND<0.0024	ND<0.0085	**0.034**	**0.090**
LB31-GW	10/12/17	mg/L	ND<0.0088	ND<0.0078	**0.047**	ND<0.0016	ND<0.0024	ND<0.0020	ND<0.0016	ND<0.0038	ND<0.0047	ND<0.00005	**0.0059**	ND<0.0046	ND<0.0093	ND<0.0024	ND<0.0085	**0.0067**	ND<0.0057
LB34-GW	10/13/17	mg/L	ND<0.0088	ND<0.0078	**0.13**	ND<0.0016	ND<0.0024	ND<0.0020	**0.0034**	ND<0.0038	ND<0.0047	ND<0.00005	ND<0.0030	ND<0.0046	ND<0.0093	ND<0.0024	ND<0.0085	ND<0.0022	ND<0.0057

Notes:
mg/L = milligrams per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2016) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable
Highlighted values exceed Port Screening Criteria

TABLE 10
VOCs IN GROUNDWATER
Berth 191-193
Wilmington, California

Sample ID	Date	Units	1,1-Dichloroethene	1,2-Dichloroethane	Benzene	Bromodichloromethane	Bromoform	Carbon disulfide	cis-1,2-Dichloroethene	Dibromochloromethane	MTBE	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
ESLs Saltwater Tox.		ug/L	22,000	11,000	350	3,200	3,200	--	22,000	3,200	8,000	230	22,000	200	--
LB1-GW	10/11/17	ug/L	ND<14	ND<20	ND<10	ND<16	ND<7.0	ND<11	**3,300**	ND<5.3	ND<4.6	**19,000**	**210**	**7,900**	ND<13
LB6-GW	10/12/17	ug/L	ND<0.28	ND<0.39	**0.81**	ND<0.32	ND<0.14	ND<0.21	**78**	ND<0.11	**19**	ND<0.18	**33**	ND<0.15	**43**
LB13-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	**0.61**	ND<0.11	ND<0.09	**2.0**	ND<0.15	**1.6**	ND<0.25
LB23-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	**1.3**	ND<0.15	**0.78**	ND<0.25
LB25-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	**1.5**	ND<0.11	ND<0.09	**6.2**	ND<0.15	**3.5**	ND<0.25
LB27-GW	10/12/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	ND<0.18	ND<0.15	ND<0.15	ND<0.25
LB31-GW	10/12/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	ND<0.18	ND<0.15	ND<0.15	ND<0.25
LB34-GW	10/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
LB36-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**7.6**	ND<0.5	**1.3**	**2.6**	**0.50**	**3.8**	**0.73**
LB37-GW	12/13/17	ug/L	**7.2**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**2,400**	ND<0.5	ND<0.5	**440**	**230**	**870**	**4.0**
LB38-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	**0.70**	**4.2**	ND<0.5	**24**	**2.7**	ND<0.5	ND<0.5	**0.78**	ND<0.5	**2.7**
LB39-GW	12/13/17	ug/L	**9.6**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**4,900**	ND<0.5	**1.2**	**380**	**220**	**890**	**7.7**
LB40-GW	12/13/17	ug/L	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**3.5**	**380**	ND<1.0	**2.0**	**12**	**19**	**21**	**11**
LB41-GW	12/13/17	ug/L	**13**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**8,500**	ND<0.5	ND<0.5	**40**	**290**	**110**	**57**
LB42-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**4.7**	ND<0.5	ND<0.5	ND<0.5	ND<0.5
LB43-GW	12/13/17	ug/L	ND<0.5	**1.1**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**5.9**	ND<0.5	**15**	ND<0.5	ND<0.5	ND<0.5	**2.4**
LB44-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**17**	ND<0.5	**6.3**	ND<0.5	ND<0.5	ND<0.5	ND<0.5
LB48-GW	12/13/17	ug/L	**2.8**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**1,100**	ND<0.5	ND<0.5	**7.6**	**38**	**10**	**8.3**
LB49-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**180**	ND<0.5	**6.8**	**0.52**	**35**	**1.8**	**57**

Notes:
VOCs = volatile organic compounds
MTBE = methyl tertiary butyl ether
ug/L = micrograms per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2016) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit
Highlighted values exceed Port Screening Criteria

TABLE 11
PAHs IN GROUNDWATER
Berth 191-193
Wilmington, California

Sample ID	Date	Units	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
ESLs Saltwater Tox.		ug/L	30	40	30	--	--	--	--	--	--	--	--	8.0	30	--	240	--	--
LB1-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB6-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB13-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB23-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB25-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB27-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB31-GW	10/13/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB34-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02

Notes:
PAHs = polynuclear aromatic hydrocarbons
ug/L = micrograms per liter
ESLs Saltwater Tox. = Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (February 2016) for saltwater aquatic habits
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable

TABLE 12
VOCs IN SOIL GAS
Berth 191-193
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Benzene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	2-Chlorotoluene	4-Chlorotoluene	Dichlorodifluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride	m,p-Xylene	o-Xylene
USEPA RSL Industrial Air*				3.2	520	--	--	--	1.06	--	--	880	1,760	--	--	9.8	3,600	--	8,800	8,800	0.42	94	44,000	1.54	6	--	520	520	5.6	880	880
DTSC HERO Note 3 industrial*				0.84	--	--	--	--	--	--	--	--	620	70	700	--	--	--	--	7,800	--	4.0	2,600	--	--	10,800	--	--	0.32	--	--
DTSC HERO Note 5 industrial*				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	--	--	--	--	--	--
LB1-4	10/17/2017	4.0	ug/L	**0.024**	<0.008	<0.008	<0.008	<0.008	**0.167**	<0.008	<0.008	**0.027**	**0.024**	**30.6**	**3.56**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**148**	**0.055**	<0.008	**23.2**	**0.016**	**0.008**	<0.008	<0.008	<0.008	<0.008
LB6-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**2.15**	**0.445**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**3.20**	<0.008	<0.008
LB13-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.035**	<0.008	<0.008	**0.026**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB23-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB23-4 REP	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB25-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.262**	<0.008	<0.008	**0.021**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB27-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.011**	<0.008	**0.030**	<0.008	<0.008	<0.008	<0.008	<0.008	**0.102**	**0.066**	<0.008	**0.029**	<0.008	**0.038**	<0.008	<0.008	**0.136**	**0.038**
LB31-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB34-4	10/17/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.274**	**0.038**	<0.008	**0.029**	<0.008	<0.008	<0.008	<0.008	**0.016**	<0.008
LB36-4'	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.010**	<0.008	<0.008	<0.008	**0.019**	**0.011**	**0.771**	**0.012**	**0.009**	**0.011**	**0.141**	**0.081**	**0.304**	<0.008	**3.59**	**0.234**	**0.010**	<0.008	**0.046**	**0.019**
LB37-4'	12/18/2017	4.0	ug/L	No flow, water in probe																											
LB38-3'	12/18/2017	3.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.011**	<0.008	<0.008	<0.008	<0.008	<0.008	**0.106**	<0.008	<0.008	<0.008	<0.008	**0.016**	<0.008	<0.008	**3.71**	**0.036**	<0.008	<0.008	<0.008	<0.008
LB39-4'	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	**0.026**	<0.008	<0.008	**0.010**	**0.056**	**70.1**	**2.67**	<0.008	<0.008	**0.023**	<0.008	<0.008	<0.008	**8.75**	**0.011**	**0.015**	**18.4**	<0.008	<0.008	<0.008	**0.014**	<0.008	<0.008
LB40-4'	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.009**	<0.008	**0.218**	**0.012**	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.243**	<0.008	**0.012**	**0.146**	**0.010**	<0.008	<0.008	<0.008	<0.008	<0.008
LB41-4'	12/18/2017	4.0	ug/L	No flow, water in probe																											
LB42-4'	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.110**	<0.008	<0.008	<0.008	**0.206**	<0.008	<0.008	<0.008	**0.066**	**0.010**	<0.008	**0.014**	**0.052**	**0.066**	<0.008	<0.008	<0.008	<0.008
LB42-4' REP	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.133**	<0.008	<0.008	<0.008	**0.206**	<0.008	<0.008	<0.008	**0.075**	**0.012**	<0.008	**0.030**	**0.054**	**0.070**	<0.008	<0.008	<0.008	<0.008
LB43-4'	12/18/2017	4.0	ug/L	<0.008	**0.009**	**0.013**	**0.014**	**0.013**	<0.008	**0.009**	**0.010**	**0.011**	<0.008	<0.008	<0.008	**0.012**	**0.012**	**0.026**	**0.014**	<0.008	<0.008	**0.011**	**0.021**	**0.118**	<0.008	**0.009**	**0.021**	**0.013**	<0.008	**0.021**	**0.011**
LB44-4'	12/18/2017	4.0	ug/L	No flow, water in probe																											
LB48-4'	12/18/2017	4.0	ug/L	No flow, water in probe																											
LB49-4'	12/18/2017	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.100**	<0.008	<0.008	<0.008	**0.014**	<0.008	<0.008	<0.008	**0.090**	<0.008	<0.008	**0.064**	<0.008	<0.008	<0.008	**0.021**	<0.008	<0.008

Notes:

*= Screening levels are adjusted using a 0.0005 attenuation factor for future commerical/industrial use are from Table 2 of the 2011 Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)

ug/L = micrograms per liter

bgs = below ground surface

APPENDIX A

References

APPENDIX A

References

California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Characteristics of Hazardous Waste.

California Department of Water Resources (DWR), 1961, Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Bulletin No. 104.

Department of Toxic Substance Control, Determination of a Southern California Regional Background Arsenic Concentration in Soil, 2008.

Department of Toxic Substances Control, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), October 2011.

Department of Toxic Substances Control, Human and Ecological Risk Office, Human Health Risk Assessment Note Number: 3, DTSC-modified Screening Levels, February 2018.

Department of Toxic Substances Control, Human and Ecological Risk Office, Human Health Risk Assessment Note Number: 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites, April 2017.

Department of Toxic Substances Control, Human and Ecological Risk Office, Human Health Risk Assessment Note Number: 5, Health-based Indoor Air Screening Criteria for Trichloroethylene, August 23, 2014.

Department of Toxic Substances Control Los Angeles Regional Water Quality Control Board and San Francisco Regional Water Quality Control Board, 2012, Advisory – Active Soil Gas Investigations, July 2015.

San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, February 2016.

United States Environmental Protection Agency, 2017, Region 9 Residential Regional Screening Levels, November 2017.

APPENDIX B

Boring Permit

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • Facsimile: (626) 813-3013 • Email: waterquality@ph.lacounty.gov
http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm

SR0120054
Berth 191-193, Canal Street & Yacht Street, Wilmington, CA 90744
Work Plan Approval

TO BE COMPLETED BY APPLICANT:

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS FOR WELL PERMIT APPROVAL
Berth 191-193, Canal Street & Yacht Street	Wilmington	90744	bmcculloch@leightongroup.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- WORK PLAN APPROVALS ARE LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- ALL FIELD WORK MUST BE CONDUCTED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL GEOLOGIST LICENSED IN THE STATE OF CALIFORNIA.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- ***ONCE APPROVED NOTIFY INSPECTOR AT ytaye@ph.lacounty.gov PREFERABLY 3 BUSINESS DAYS BEFORE WORK IS SCHEDULED TO BEGIN.***

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X WORK PLAN APPROVED (35 soil borings) **DATE: September 26, 2017**

ADDITIONAL APPROVAL CONDITIONS:

- Provide the start of project date and time via my email listed above.
- Ensure to backfill with appropriate sealing material in accordance with the California Well Standards Bulletins 74-90 and 74-81 within 72 hours.
- Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90).

REHS NO. 7115

Yonas Taye, REHS

□ ANNULAR SEAL FINAL INSPECTION REQUIRED

DATE ACCEPTED:	REHS signature

□ WELL COMPLETION LOG REQUIRED

DATE ACCEPTED:	REHS signature

□ WATER QUALITY—BACTERIOLOGICAL STANDARDS REQUIRED

DATE ACCEPTED:	REHS signature

□ WATER QUALITY—CHEMICAL STANDARDS REQUIRED

DATE ACCEPTED:	REHS signature

□ WATER SUPPLY YIELD REQUIRED

DATE ACCEPTED:	REHS signature

□ OTHER REQUIREMENT

DATE ACCEPTED:	REHS signature

APPENDIX C

Boring Logs

SOIL GAS PROBE BORING/CONSTRUCTION LOG

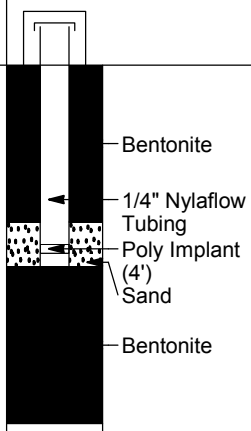
PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB1
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER 5.50 ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly Silty Sand.	0.3
			LB1-0.5		0	ML		@0.5': SILT (ML), olive gray, moist, soft, no staining or odor	2.5
			LB1-2.5		0	SM		@2.5': Silty SAND (SM), gray, moist, medium dense, fine grained sand, trace shell fragments, no staining or odor	5.0
5			LB1-5.0		0	SP		@5.0': Poorly Graded SAND (SP), gray, moist, medium dense, no staining or odor ▼	
					0			@5.5': Poorly Graded SAND (SP) with silt, dark gray, wet, medium dense, some shell fragements, no staining or odor	8.0
10									
15									
20									
25									
30									

Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.

WELL DIAGRAM



SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB2
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly Silty Sand.	0.3	
			LB2-0.5		0	ML		@0.5'-Sandy SILT (ML), brown, moist, very stiff, fine grained sand, no staining or odor		
			LB2-2.5		0	ML		@2.5'-Sandy SILT (ML), brown, moist, very stiff, fine grained sand, no staining or odor		
5			LB2-5.0		0	SP		@5.0': Poorly Graded SAND (SP) with silt, brown, moist, very dense, fine grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB3
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly Silty Sand.	0.3	
			LB3-0.5		0	SP		@0.5': Poorly Graded SAND (SP) with silt, brown, moist, dense, fine to medium grained sand, no staining or odor		
			LB3-2.5		0			@2.5': Poorly Graded SAND (SP) with silt, gray brown, moist, dense, fine to medium grained sand, no staining or odor	4.7	
5			LB3-5.0		0	ML		@5'-Sandy SILT (ML), brown, moist, very stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB4
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 3.5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly Silty Sand.	0.3	
			LB4-0.5		0	SP		@0.5': Poorly Graded SAND (SP) with silt, dark brown, moist, dense, fine to medium grained, staining and chemical odor		
			LB4-2.5		0			@2.5': Asphaltic type material and Poorly Graded SAND (SP) with silt, brown, moist, dense, possible hydrocarbon staining and odor	3.5	
5			LB4-5.0		1.5			@3.5'-Refusal-two borings were attempted. Possible riprap boundary.		
10										
15										
20										
25										
30										

Notes:
Total Depth = 3.5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB5
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly Sand.	0.3	
			LB5-0.5		0	SW		@0.5':Gravelly SAND (SW), gray brown, moist, dense, fine to medium grained, no odor or staining	2.5	
			LB5-2.5		0	ML		@2.5': Sandy SILT (ML), dark brown, moist, stiff, fine grained sand, no staining or odor	4.7	
5			LB5-5.0		0	SP		@5.0': Poorly Graded SAND (SP), gray, moist, dense, fine grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

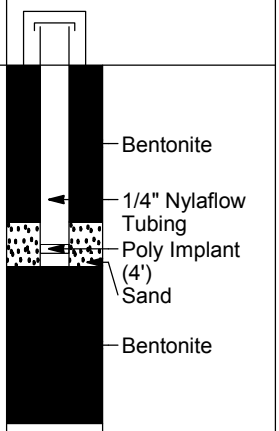
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB6
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER 5.50 ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
			LB6-0.5		0	SM		@0.5':Silty SAND (SM), gray, moist, dense, fine to medium grained, no odor or staining	
			LB6-2.5		0	SM		@2.5': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor	
5			LB6-5.0		0	SM		@ 5.0': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor @ 5.5': Silty SAND (SM), dark gray-black, wet, dense, fine grained sand, no staining or odor	8.0
10								**Notes:** Total Depth = 8 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.	
15									
20									
25									
30									

WELL DIAGRAM



SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB7
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
			LB7-0.5		0			@Surface: Gravel @0.5': Gravelly SILT (ML), black, moist, soft, no odor or staining	0.3	
			LB7-2.5		0			@2.5': Sandy SILT (ML), gray brown, moist, stiff, no staining or odor	4.7	
5			LB7-5.0		0	SM		@5.0': Silty SAND (SM), gray brown, moist, stiff, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB8
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB8-0.5		0	ML		@0.5': SILT (ML), light gray, moist, soft, no odor or staining		
			LB8-2.5		0	ML		@2.5': Sandy SILT (ML), dark gray, moist, stiff, no staining or odor		
5			LB8-5.0		0	ML		@5.0': Sandy SILT (SM), dark gray, moist, stiff, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB9
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SAND	0.3	
			LB9-0.5		0	ML		@0.5':Gravelly SILT (ML), light brown, dry, stiff, no odor or staining	2.5	
			LB9-2.5		0	SM		@2.5': Silty SAND (SM) with gravel, dark brown, moist, medium dense, fine grained sand, no staining or odor	4.7	
5			LB9-5.0		0	SP		@5.0': Poorly Graded SAND (SP), gray, moist, medium dense, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB10
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
			LB10-0.5		0			@Surface: Gravelly SILT @0.5':Gravelly SILT (SW), gray, moist, stiff, no odor or staining	0.3	
			LB10-2.5		0	SM		@2.5': Sandy SILT (SM), dark gray, moist, stiff, fine grained sand, no staining or odor	2.5	
5			LB10-5.0		0	SM		@5.0': Sandy SILT (SM), dark gray, moist, stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB11
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravel	0.3	
			LB11-0.5		0	ML		@0.5':Gravelly SILT (ML), brown, moist, dense, no odor or staining		
			LB11-2.5		0	ML		@2.5': Sandy SILT (ML), gray brown, moist, stiff, fine grained sand, no staining or odor		
5			LB11-5.0		0	ML		@5.0': Sandy SILT (ML), brown, moist, stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB12
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER - ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB12-0.5		0	ML		@0.5':SILT (ML), light gray-brown, dry, stiff, no odor or staining		
			LB12-2.5		0	ML		@2.5':SILT (ML), light gray-brown, slightly moist, stiff, no odor or staining		
5			LB12-5.0		0	ML		@5.0': Sandy SILT (ML), brown, moist, stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

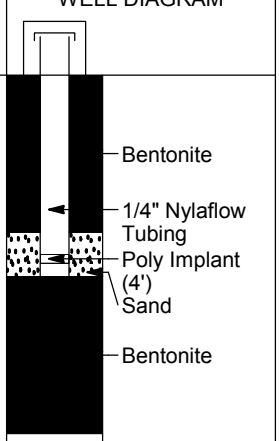
PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB13
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER 5.50 ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
			LB13-0.5		0	ML		@0.5':SILT (ML), gray-brown, moist, stiff, no odor or staining	
			LB13-2.5		0	ML		@2.5':Sandy SILT (ML), gray, moist, stiff, no odor or staining	
5			LB13-5.0		0	SM SM		@5.0': Silty SAND (SM), gray, moist, medium dense, no staining or odor @5.5': Silty SAND (SM), gray, wet, medium dense, no staining or odor	5.0
10									
15									
20									
25									
30									

Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.

WELL DIAGRAM



SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB14
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SAND	0.3	
			LB14-0.5		0	ML		@0.5': Gravelly SILT (ML), gray, dry, stiff, no odor or staining		
			LB14-2.5		0	ML		@2.5':SILT (ML), black, moist, stiff, no odor, staining possible, degraded asphaltic appearance	4.7	
5			LB14-5.0		0	SP		@5.0': SAND (SP), gray, moist, medium dense, fine grained, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB15
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB15-0.5		0	ML		@0.5': Gravelly SILT (ML), gray, moist, stiff, no odor or staining		
									2.5	
			LB15-2.5		0	SM		@2.5': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor		
5			LB15-5.0		0	SM		@5.0': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB16
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB16-0.5		0	ML		@0.5': Gravelly SILT (ML), gray, moist, stiff, no odor or staining		
			LB16-2.5		0	SM		@2.5': Silty SAND (SM) with gravel, gray, moist, dense, fine grained sand, no staining or odor	2.5	
									4.5	
5			LB16-5.0		0	ML		@5.0': Sandy SILT (ML), gray, moist, stiff, some medium to coarse grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB17
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface:Silty Sand.	0.3	
			LB17-0.5		0	ML		@0.5'-SILT (ML), brown, dry, stiff, no staining or odor		
			LB17-2.5		0			@2.5'-Sandy SILT (ML), brown, moist, stiff, no staining or odor		
									4.7	
5			LB17-5.0		0	SP		@5'-SAND (SP), light gray, moist, medium dense, medium to coarse grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB18
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB18-0.5		0	ML		@0.5'-SILT (ML), dark brown, moist, stiff, no staining or odor		
			LB18-2.5		0	ML		@2.5'-Sandy SILT (ML), dark gray, moist, stiff, no staining or odor, some shell fragments		
5			LB18-5.0		0	ML		@5.0'-Sandy SILT (ML), dark gray, moist, stiff, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER	11618.005	**BORING/WELL NUMBER**	LB19
PROJECT NAME	POLA Berth 191-193	**DATE DRILLED**	10/11/2017
LOCATION	SE Corner of Canal Ave. and Yacht St., Wilmington, CA	**CASING TYPE/DIAMETER**	
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	
SAMPLING METHOD	Sleeve	**FILTER PACK TYPE**	
GROUND ELEVATION	-- ft. above MSL	**GROUT TYPE**	
TOP OF CASING ELEV.	ft. above MSL	**DEPTH TO WATER**	-- ft.
LOGGED BY	KCH	**TOTAL DRILL DEPTH**	5 ft.
REMARKS	Boring completed by Millenium Environmental using direct push.		

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 2 inch thick concrete	0.3	
			LB19-0.5		0	ML		@0.5'-SILT (ML) with gravel, light gray, dry, loose, no staining or odor	2.5	
			LB19-2.5		0	SM		@2.5'-Silty SAND (SM), gray, moist, dense, no staining or odor	5.0	
5			LB19-5.0		0	SM		@5.0'-Silty SAND (SM), dark gray, moist, dense, no staining or odor		
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB20
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SAND	0.3	
			LB20-0.5		0	ML		@0.5'-SILT (ML) with gravel, light brown, moist, loose, no staining or odor		
			LB20-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, fine grained sand, no staining or odor		
5			LB20-5.0		0	ML		@5.0'-Sandy SILT (ML), gray, moist, stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB21
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Asphalt	0.3	
			LB21-0.5		0	ML		@0.5'-SILT (ML) with gravel, gray, moist, stiff, no staining or odor		
			LB21-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, fine grained sand, no staining or odor		
5			LB21-5.0		0	ML		@5.0'-Sandy SILT (ML), gray, moist, stiff, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB22
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB22-0.5		0	ML		@0.5'-Sandy SILT (ML) with gravel, dark gray, moist, stiff, no staining or odor		
			LB22-2.5		0	ML		@2.5'-SILT (ML), dark gray, moist, stiff, fine grained sand, no staining or odor	4.7	
5			LB22-5.0		0	SM		@5.0'-Silty SAND (SM), dark gray, moist, medium dense, no staining or odor	5.0	

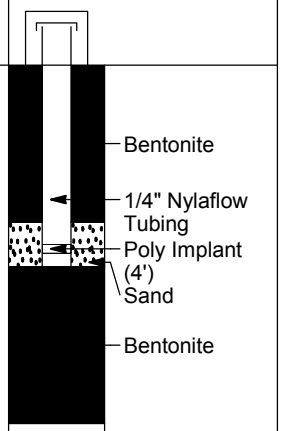
Notes:
Total Depth = 5 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB23
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER 5.50 ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: SILT	0.3
			LB23-0.5		0	ML		@0.5'-SILT (ML), gray, dry, soft, no staining or odor	
			LB23-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, no staining or odor	
5			LB23-5.0		0	ML		@5.0'-Sandy SILT (ML),dark gray, moist, stiff, no staining or odor ▼	
								@5.5'-Sandy SILT (ML),dark gray, wet, stiff, no staining or odor	8.0
10									
15									
20									
25									
30									



Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5' bgs
Groundwater was collected from this boring
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB24
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Asphalt	0.3	
			LB24-0.5		0	ML		@0.5'-SILT (ML) with gravel, gray, dry, no staining or odor		
			LB24-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, fine grained sand, no staining or odor		
									4.7	
5			LB24-5.0		0	SM		@5.0'-Silty SAND (SM),dark gray, moist, stiff, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

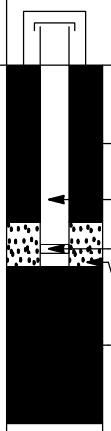
PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB25
DATE DRILLED 10/11/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
			LB25-0.5		0	ML		@0.5'-SILT (ML) with gravel, light brown, dry, no staining or odor	2.5
			LB25-2.5		0	SP		@2.5': SAND (SP), gray, moist, medium dense, fine grained, some shell fragments, no staining or odor	5.0
5			LB25-5.0		0	SM		@5.0'-Silty SAND (SM),dark gray, moist, medium dense, no staining or odor @5.5'-Silty SAND (SM),dark gray, wet, stiff, no staining or odor	8.0
10									
15									
20									
25									
30									

Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.

WELL DIAGRAM



SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB26
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Asphalt	0.3	
			LB26-0.5		0	ML		@0.5'-Sandy SILT (ML) with gravel, gray, moist, stiff, no staining or odor		
			LB26-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, no staining or odor		
5			LB26-5.0		0	ML		@5.0'-Sandy SILT (ML), gray, moist, stiff, no staining or odor	5.0	

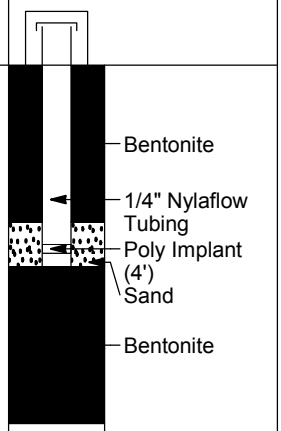
Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB27
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
			LB27-0.5		0	ML		@0.5'-Gravelly SILT (ML), dark brown, moist, stiff, no staining or odor	
			LB27-2.5		0	ML		@2.5'-SILT (ML), gray-brown, moist, stiff, no staining or odor	
5			LB27-5.0		0	SM		@5.0'-Silty SAND (SM),dark gray, moist, medium dense, no staining or odor	5.0
						SM		@6.5'-Silty SAND (SM), gray-black, wet, medium dense, no staining or odor	8.0
10									
15									
20									
25									
30									



Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB28
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 3" Asphalt	0.3	
			LB28-0.5		0	ML		@0.5'-Silty SAND (ML), gray, moist, medium dense, no staining or odor		
			LB28-2.5		0	ML		@2.5'-SILT (ML), gray, moist, stiff, no staining or odor, shell fragments	4.7	
5			LB28-5.0		0	SM		@5.0'-Silty SAND (SM), gray, moist, medium dense, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB29
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Asphalt	0.3	
			LB29-0.5		0	ML		@0.5'-SILT (ML) with gravel, light brown, dry, no staining or odor		
			LB29-2.5		0	ML		@2.5'-Sandy SILT (ML), gray, moist, stiff, no staining or odor		
5			LB29-5.0		0	ML		@5.0'-Sandy SILT (ML), gray, moist, stiff, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB30
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB30-0.5		0	ML		@0.5'-Sandy SILT (ML) with gravel, gray, moist, stiff, no staining or odor		
			LB30-2.5		0	ML		@2.5'-SILT (ML), dark brown, moist, stiff, no staining or odor		
5			LB30-5.0		0	ML		@5.0'-SILT (ML), black-gray, moist, stiff, no staining or odor, some shell fragments	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

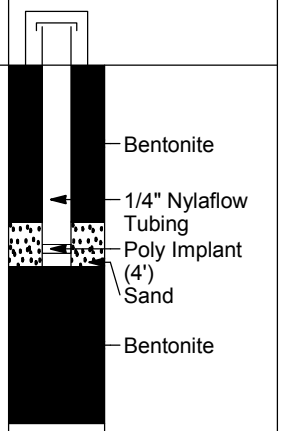
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SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB31
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Asphalt	0.3
			LB31-0.5		0	ML		@0.5'-SILT (ML) with gravel, dark brown, moist, stiff, no staining or odor	2.5
			LB31-2.5		0	SM		@2.5'-Silty SAND (SM), light gray, moist, medium dense, no staining or odor	
5			LB31-5.0		0	SM		@5.0'-Silty SAND (SM), light gray, moist, medium dense, no staining or odor @5.5'-Silty SAND (SM), light gray, wet, medium dense, no staining or odor	8.0
10									
15									
20									
25									
30									



Notes:
Total Depth = 8 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB32
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB32-0.5		0	ML		@0.5'-SILT (ML) with gravel, brown, moist, stiff, no staining or odor		
			LB32-2.5		0	ML		@2.5'-Sandy SILT (ML) with gravel, brown, moist, stiff, no staining or odor		
									4.7	
5			LB32-5.0		0	SM		@5.0'-Silty SAND (SM), gray, moist, medium dense, fine grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB33
DATE DRILLED 10/12/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Asphalt	0.3	
			LB33-0.5		0	ML		@0.5'-SILT (ML) with gravel, brown, moist, stiff, no staining or odor		
			LB33-2.5		0	ML		@2.5'-SILT (ML) with gravel, brown, moist, stiff, no staining or odor		
5			LB33-5.0		0	SM		@5.0'-Silty SAND (SM), gray, moist, medium dense, fine grained sand, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

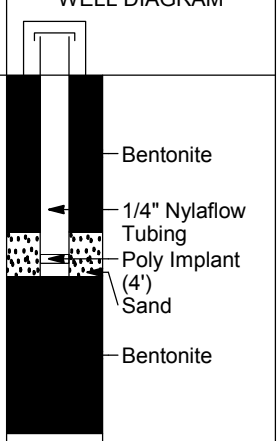
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB34
DATE DRILLED 10/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: 4" Asphalt	0.3
			LB34-0.5		0	ML		@0.5'-Sandy SILT (ML), brown-gray, moist, stiff, some fine grained sand, no staining or odor	
			LB34-2.5		0	ML		@2.5'-Sandy SILT (ML), brown-gray, moist, stiff, some fine grained sand, no staining or odor	
5			LB34-5.0		0	ML ML		@5.0'-SILT (ML), gray, moist, stiff, some shell fragments, no staining or odor @5.5'-Sandy SILT (ML), gray, wet, stiff, fine to medium grained sand, no staining or odor	8.0
10								**Notes:** Total Depth = 8 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.	
15									
20									
25									
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WELL DIAGRAM



SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB35
DATE DRILLED 10/13/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 4" Concrete over 4" Asphalt	0.3	
			LB35-0.5		0	ML		@0.5'-SILT (ML) with gravel, gray, moist, stiff, no staining or odor		
			LB35-2.5		0	ML		@2.5'-SILT (ML) with gravel, gray, moist, stiff, no staining or odor		
5			LB35-5.0		0	ML		@5.0'-SILT (ML) with gravel, gray, moist, stiff, no staining or odor	5.0	

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

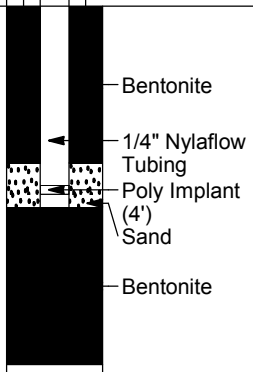
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER	11618.005	**BORING/WELL NUMBER**	LB36
PROJECT NAME	POLA Berth 191-193	**DATE DRILLED**	12/13/2017
LOCATION	SE Corner of Canal Ave. and Yacht St., Wilmington, CA	**CASING TYPE/DIAMETER**	Nylaflow Tubing / 1/4"
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	Air Stone
SAMPLING METHOD	Sleeve	**FILTER PACK TYPE**	Monterrey Sand
GROUND ELEVATION	-- ft. above MSL	**GROUT TYPE**	Hydrated Bentonite
TOP OF CASING ELEV.	ft. above MSL	**DEPTH TO WATER**	-- ft.
LOGGED BY	KCH	**TOTAL DRILL DEPTH**	9 ft.

REMARKS Boring completed by Millenium Environmental using direct push.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: 4" Asphalt	0.3
								@0.5'-Silty SAND (ML), gray, moist, medium dense, no staining or odor	
						ML		@2.5'-Silty SAND (ML), gray, moist, medium dense, no staining or odor	
5						ML		@5.0'-Silty SAND (ML), gray, wet, medium dense, no staining or odor	
									9.0
10								**Notes:** Total Depth = 9 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.	
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WELL DIAGRAM



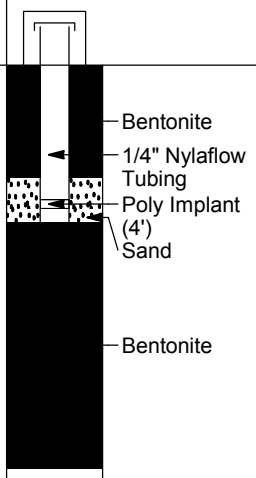
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB38
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Green waste and debris	0.3
						ML		@0.5'-Silty SAND (ML), gray, moist, medium dense, no staining or odor	
						ML		@2.5'-Silty SAND (ML), gray, moist, medium dense, no staining or odor	
5						ML		@5.0'-Silty SAND (ML), gray, wet, medium dense, no staining or odor	
									9.0
10								**Notes:** Total Depth = 9 feet bgs Groundwater was encountered at 6 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.	
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WELL DIAGRAM



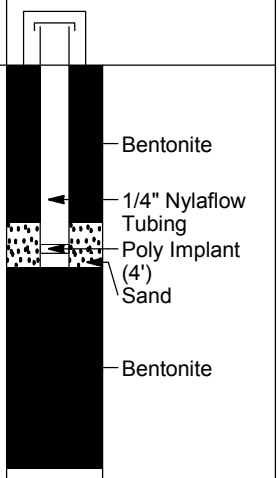
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB39
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 8 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly Silty Sand.	0.3
						ML		@0.5': SILT (ML), olive gray, moist, soft, no staining or odor	2.5
						SM		@2.5': Silty SAND (SM), gray, moist, medium dense, fine grained sand, trace shell fragments, no staining or odor	5.0
5						SP		@5.0': Poorly Graded SAND (SP), gray, moist, medium dense, no staining or odor @5.5': Poorly Graded SAND (SP) with silt, dark gray, wet, medium dense, some shell fragements, no staining or odor	8.0
								Notes: Total Depth = 8 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 8 ft bgs to dry boring prior to soil vapor probe contruction.	
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WELL DIAGRAM

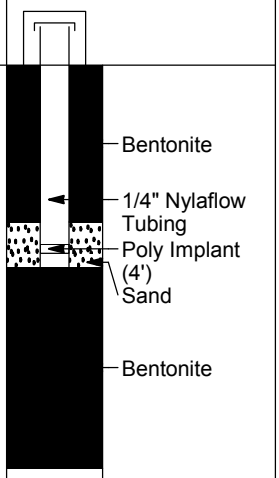


SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB40
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ML		@Surface: Gravelly Silty Sand. @0.5'-Sandy SILT, brown, moist, very stiff, fine grained sand, no staining or odor	0.3
						ML		@2.5'-Sandy SILT, brown, moist, very stiff, fine grained sand, no staining or odor	5.0
5						SP		@5.0': Poorly Graded SAND (SP) with silt, brown, moist, very dense, fine grained sand, no staining or odor	9.0
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15									
20									
25									
30									



WELL DIAGRAM

Notes:
Total Depth = 9 feet bgs
Groundwater was encountered at 6 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.

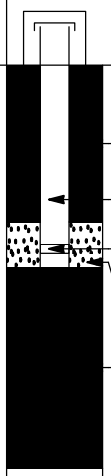
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB41
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ML		@Surface: Gravelly Silty Sand. @0.5'-Sandy SILT, brown, moist, very stiff, fine grained sand, no staining or odor	0.3
						ML		@2.5'-Sandy SILT, brown, moist, very stiff, fine grained sand, no staining or odor	
5						SP		@5.0': Poorly Graded SAND (SP) with silt, brown, moist, very dense, fine grained sand, no staining or odor	5.0
									8.0
10									
15									
20									
25									
30									

WELL DIAGRAM



Notes:
Total Depth = 9 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.

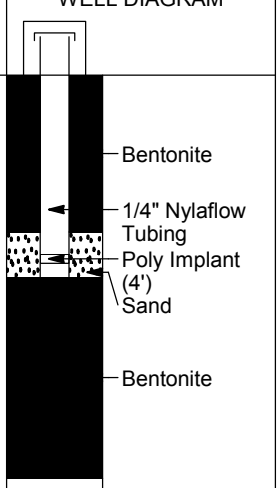
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB42
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						SM		@Surface: Silty SAND @0.5'-Silty SAND (SM), gray, moist, medium dense, no staining or odor	0.3
5						SP		@5.0'-SAND (SP), gray-brown, moist, medium dense, no staining or odor @5.5'-SAND (SP), gray-brown, wet, medium dense, no staining or odor	5.0
									9.0
10								**Notes:** Total Depth = 9 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.	
15									
20									
25									
30									

WELL DIAGRAM



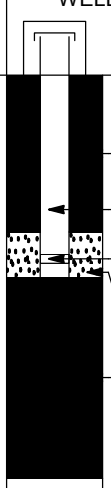
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB43
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SAND	0.3
						SW		@0.5':Gravelly SILT (SW), light brown, dry, stiff, no odor or staining	2.5
						SM		@2.5': Silty SAND (SM) with gravel, dark brown, moist, medium dense, fine grained sand, no staining or odor	5.0
5						SP		@5.0': Poorly Graded SAND (SP), gray, moist, medium dense, no staining or odor	9.0
10									
15									
20									
25									
30									

WELL DIAGRAM



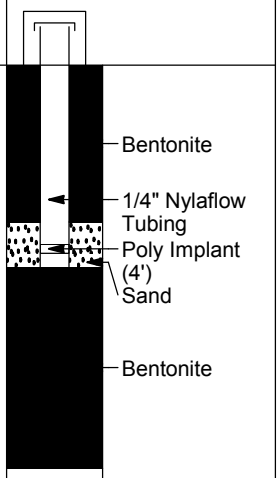
Notes:
Total Depth = 9 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER	11618.005	**BORING/WELL NUMBER**	LB44
PROJECT NAME	POLA Berth 191-193	**DATE DRILLED**	12/13/2017
LOCATION	SE Corner of Canal Ave. and Yacht St., Wilmington, CA	**CASING TYPE/DIAMETER**	Nylaflow Tubing / 1/4"
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	Air Stone
SAMPLING METHOD	Sleeve	**FILTER PACK TYPE**	Monterrey Sand
GROUND ELEVATION	-- ft. above MSL	**GROUT TYPE**	Hydrated Bentonite
TOP OF CASING ELEV.	ft. above MSL	**DEPTH TO WATER**	-- ft.
LOGGED BY	KCH	**TOTAL DRILL DEPTH**	9 ft.

REMARKS Boring completed by Millenium Environmental using direct push.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
						ML		@0.5': Gravelly SILT (ML), gray, moist, stiff, no odor or staining	2.5
						SM		@2.5': Silty SAND (SM) with gravel, gray, moist, dense, fine grained sand, no staining or odor	5.0
5						ML		@5.0': Sandy SILT (ML), gray, moist, stiff, some medium to coarse grained sand, no staining or odor	9.0
10									
15									
20									
25									
30									



Notes:
Total Depth = 9 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Jars
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB45
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 2.7 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravel	0.3	
			LB45-0.5		0	ML		@0.5': Silty SAND (ML) with gravel, gray-black, no odor, possible staining.		
			LB45-2.5		0	ML		@2.5': Silty SAND (ML), gray, moist, medium dense, no odor, possible staining. @2.7'-Refusal-two borings were attempted. Possible riprap boundary	2.8	

Notes:
Total Depth = 2.7 feet bgs
Groundwater not encountered
Boring backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Jars
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB46
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Gravelly SILT	0.3	
			LB46-0.5		0	SM		@0.5'-Silty SAND (ML) with gravel, black, moist, stiff, no odor, staining to sand, appears asphaltic		
			LB46-2.5		0	SM		@2.5'-Silty SAND (SM), gray-brown, moist, medium dense, fine grained sand, no staining or odor		
5			LB46-5.0		0	SM		@5.0'-Silty SAND (SM), gray-brown, moist, medium dense, fine grained sand, no staining or odor	5.0	
10										
15										
20										
25										
30										

Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Jars
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB47
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER
SCREEN TYPE/SLOT
FILTER PACK TYPE
GROUT TYPE
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 5 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: Green waste and debris	0.3	
			LB47-0.5		0	SM		@0.5'-Silty SAND (SM), dark brown, moist, medium dense, no staining or odor		
			LB47-2.5		0	SM		@2.5'-Silty SAND (SM), gray, moist, medium dense, no staining or odor		
5			LB47-5.0		0	SM		@5.0'-Silty SAND (SM), gray, wet, medium dense, no staining or odor	5.0	

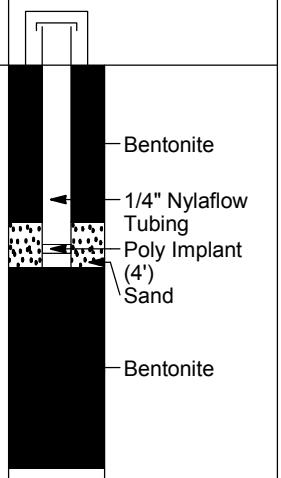
Notes:
Total Depth = 5 feet bgs
Groundwater was not encountered.
Boring was backfilled with bentonite

SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB48
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravel	0.3
						ML		@0.5': Gravelly SILT (ML), black, moist, soft, no odor or staining	
								@2.5': Sandy SILT (ML), gray brown, moist, stiff, no staining or odor	4.7
5						SM		@5.0': Silty SAND (SM), gray brown, moist, stiff, no staining or odor	5.0
									9.0
10									
15									
20									
25									
30									



Notes:
Total Depth = 9 feet bgs
Groundwater was encountered at 5.5 feet bgs.
Groundwater was collected from this boring.
Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.

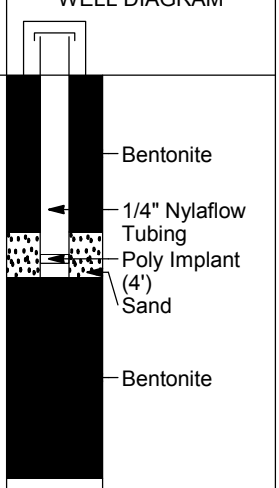
SOIL GAS PROBE BORING/CONSTRUCTION LOG

PROJECT NUMBER 11618.005
PROJECT NAME POLA Berth 191-193
LOCATION SE Corner of Canal Ave. and Yacht St., Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Sleeve
GROUND ELEVATION -- ft. above MSL
TOP OF CASING ELEV. ft. above MSL
LOGGED BY KCH
REMARKS Boring completed by Millenium Environmental using direct push.

BORING/WELL NUMBER LB49
DATE DRILLED 12/13/2017
CASING TYPE/DIAMETER Nylaflow Tubing / 1/4"
SCREEN TYPE/SLOT Air Stone
FILTER PACK TYPE Monterrey Sand
GROUT TYPE Hydrated Bentonite
DEPTH TO WATER -- ft.
TOTAL DRILL DEPTH 9 ft.

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								@Surface: Gravelly SILT	0.3
						SM		@0.5':Sandy SILT (SM), gray, moist, dense, fine to medium grained, no odor or staining	
						SM		@2.5': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor	
5						SM		@ 5.0': Silty SAND (SM), gray, moist, dense, fine grained sand, no staining or odor @ 5.5': Silty SAND (SM), dark gray-black, wet, dense, fine grained sand, no staining or odor	
								Notes: Total Depth = 9 feet bgs Groundwater was encountered at 5.5 feet bgs. Groundwater was collected from this boring. Boring was backfilled with bentonite from 4.5 to 9 ft bgs to dry boring prior to soil vapor probe contruction.	9.0
10									
15									
20									
25									
30									

WELL DIAGRAM



APPENDIX D

Laboratory Reports and Chain-of-Custody Documents

ADVANCED TECHNOLOGY LABORATORIES

October 19, 2017

Brynn McCulloch
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 394-2306
Fax:(949) 250-1114

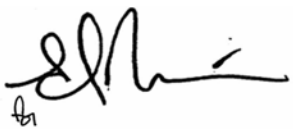
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703640
Client Reference : POLA Berth 191-193, 11618-005

Enclosed are the results for sample(s) received on October 11, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB1-GW	1703640-01	Groundwater	10/11/17 9:30	10/11/17 16:18
LB25-GW	1703640-02	Groundwater	10/11/17 11:50	10/11/17 16:18
LB13-GW	1703640-03	Groundwater	10/11/17 13:45	10/11/17 16:18
LB23-GW	1703640-04	Groundwater	10/11/17 15:22	10/11/17 16:18

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-GW

Lab ID: 1703640-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:21	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:21	
Barium	**0.11**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Chromium	**0.015**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Cobalt	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Copper	**0.011**	0.0090	1	B7J0455	10/17/2017	10/17/17 17:21	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:21	
Molybdenum	**0.027**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:21	
Nickel	**0.011**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:21	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:21	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:21	
Vanadium	**0.011**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:21	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:21	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 16:59	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**9.9**	0.05	1	B7J0254	10/13/2017	10/13/17 12:36	
Surrogate: 4-Bromofluorobenzene	*125 %*	*70 - 130*		B7J0254	10/13/2017	*10/13/17 12:36*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.93**	0.05	1	B7J0338	10/13/2017	10/14/17 10:03	
ORO	**0.38**	0.05	1	B7J0338	10/13/2017	10/14/17 10:03	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-GW
Lab ID: 1703640-01

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*126 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 10:03*	

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1,1-Trichloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1,2,2-Tetrachloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1,2-Trichloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1-Dichloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1-Dichloroethene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,1-Dichloropropene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2,3-Trichloropropane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2,3-Trichlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2,4-Trichlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2,4-Trimethylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2-Dibromo-3-chloropropane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2-Dibromoethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2-Dichlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2-Dichloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,2-Dichloropropane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,3,5-Trimethylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,3-Dichlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,3-Dichloropropane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
1,4-Dichlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
2,2-Dichloropropane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
2-Chlorotoluene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
4-Chlorotoluene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
4-Isopropyltoluene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Benzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Bromobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Bromochloromethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Bromodichloromethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Bromoform	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Bromomethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-GW
Lab ID: 1703640-01

Volatile Organic Compounds by EPA 8260B — **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	50	50	B7J0394	10/16/2017	10/16/17 16:01	
Carbon tetrachloride	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Chlorobenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Chloroethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Chloroform	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Chloromethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
cis-1,2-Dichloroethene	**3300**	25	50	B7J0394	10/16/2017	10/16/17 16:01	
cis-1,3-Dichloropropene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Di-isopropyl ether	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Dibromochloromethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Dibromomethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Dichlorodifluoromethane	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Ethyl Acetate	ND	500	50	B7J0394	10/16/2017	10/16/17 16:01	
Ethyl Ether	ND	500	50	B7J0394	10/16/2017	10/16/17 16:01	
Ethyl tert-butyl ether	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Ethylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Freon-113	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Hexachlorobutadiene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Isopropylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
m,p-Xylene	ND	50	50	B7J0394	10/16/2017	10/16/17 16:01	
Methylene chloride	ND	50	50	B7J0394	10/16/2017	10/16/17 16:01	
MTBE	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
n-Butylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
n-Propylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Naphthalene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
o-Xylene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
sec-Butylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Styrene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
tert-Amyl methyl ether	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
tert-Butanol	ND	500	50	B7J0394	10/16/2017	10/16/17 16:01	
tert-Butylbenzene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Tetrachloroethene	**19000**	250	500	B7J0394	10/16/2017	10/16/17 16:25	
Toluene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
trans-1,2-Dichloroethene	**210**	25	50	B7J0394	10/16/2017	10/16/17 16:01	
trans-1,3-Dichloropropene	ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Trichloroethene	**7900**	250	500	B7J0394	10/16/2017	10/16/17 16:25	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-GW
Lab ID: 1703640-01

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte		Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane		ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Vinyl acetate		ND	500	50	B7J0394	10/16/2017	10/16/17 16:01	
Vinyl chloride		ND	25	50	B7J0394	10/16/2017	10/16/17 16:01	
Surrogate: 1,2-Dichloroethane-d4	*96.4 %*		*70 - 166*		B7J0394	10/16/2017	*10/16/17 16:25*	
Surrogate: 1,2-Dichloroethane-d4	*98.9 %*		*70 - 166*		B7J0394	10/16/2017	*10/16/17 16:01*	
Surrogate: 4-Bromofluorobenzene	*92.7 %*		*88 - 120*		B7J0394	10/16/2017	*10/16/17 16:25*	
Surrogate: 4-Bromofluorobenzene	*93.2 %*		*88 - 120*		B7J0394	10/16/2017	*10/16/17 16:01*	
Surrogate: Dibromofluoromethane	*104 %*		*80 - 150*		B7J0394	10/16/2017	*10/16/17 16:01*	
Surrogate: Dibromofluoromethane	*102 %*		*80 - 150*		B7J0394	10/16/2017	*10/16/17 16:25*	
Surrogate: Toluene-d8	*100 %*		*87 - 121*		B7J0394	10/16/2017	*10/16/17 16:01*	
Surrogate: Toluene-d8	*98.7 %*		*87 - 121*		B7J0394	10/16/2017	*10/16/17 16:25*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Acenaphthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Acenaphthylene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Benzo(a)anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Benzo(a)pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Benzo(b)fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Benzo(g,h,i)perylene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Benzo(k)fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Chrysene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Dibenz(a,h)anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Fluorene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Indeno(1,2,3-cd)pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Naphthalene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Phenanthrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 13:36	
Surrogate: 1,2-Dichlorobenzene-d4	*71.2 %*		*32 - 99*		B7J0413	10/16/2017	*10/16/17 13:36*	
Surrogate: 2-Fluorobiphenyl	*80.5 %*		*29 - 105*		B7J0413	10/16/2017	*10/16/17 13:36*	
Surrogate: Nitrobenzene-d5	*91.6 %*		*17 - 123*		B7J0413	10/16/2017	*10/16/17 13:36*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-GW

Lab ID: 1703640-01

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 4-Terphenyl-d14	*94.8 %*		*32 - 119*		B7J0413	10/16/2017	*10/16/17 13:36*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-GW

Lab ID: 1703640-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.013**	0.010	1	B7J0455	10/17/2017	10/17/17 17:25	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:25	
Barium	**0.062**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Chromium	**0.012**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Cobalt	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Copper	ND	0.0090	1	B7J0455	10/17/2017	10/17/17 17:25	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:25	
Molybdenum	**0.021**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:25	
Nickel	**0.0083**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:25	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:25	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:25	
Vanadium	**0.0043**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:25	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:25	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:14	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**0.08**	0.05	1	B7J0254	10/13/2017	10/13/17 12:57	
Surrogate: 4-Bromofluorobenzene	*115 %*	*70 - 130*		B7J0254	10/13/2017	*10/13/17 12:57*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.23**	0.05	1	B7J0338	10/13/2017	10/14/17 10:19	
ORO	**0.16**	0.05	1	B7J0338	10/13/2017	10/14/17 10:19	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-GW

Lab ID: 1703640-02

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*118 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 10:19*	

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Benzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-GW

Lab ID: 1703640-02

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:31	
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
cis-1,2-Dichloroethene	**1.5**	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 16:31	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 16:31	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:31	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:31	
MTBE	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 16:31	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Tetrachloroethene	**6.2**	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
trans-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Trichloroethene	**3.5**	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-GW
Lab ID: 1703640-02

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 16:31	
Vinyl chloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:31	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*70 - 166*		B7J0319	10/13/2017	*10/13/17 16:31*	
Surrogate: 4-Bromofluorobenzene	*90.9 %*	*88 - 120*		B7J0319	10/13/2017	*10/13/17 16:31*	
Surrogate: Dibromofluoromethane	*106 %*	*80 - 150*		B7J0319	10/13/2017	*10/13/17 16:31*	
Surrogate: Toluene-d8	*101 %*	*87 - 121*		B7J0319	10/13/2017	*10/13/17 16:31*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:04	
Surrogate: 1,2-Dichlorobenzene-d4	*73.6 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 14:04*	
Surrogate: 2-Fluorobiphenyl	*76.9 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 14:04*	
Surrogate: Nitrobenzene-d5	*93.1 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 14:04*	
Surrogate: 4-Terphenyl-d14	*94.7 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 14:04*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-GW

Lab ID: 1703640-03

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:26	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:26	
Barium	**0.12**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Chromium	**0.0094**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Cobalt	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Copper	ND	0.0090	1	B7J0455	10/17/2017	10/17/17 17:26	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:26	
Molybdenum	**0.0093**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:26	
Nickel	**0.0060**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:26	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:26	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:26	
Vanadium	**0.013**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:26	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:26	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:16	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	1	B7J0254	10/13/2017	10/13/17 13:17	
Surrogate: 4-Bromofluorobenzene	*112 %*	*70 - 130*		B7J0254	10/13/2017	*10/13/17 13:17*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.47**	0.05	1	B7J0338	10/13/2017	10/14/17 10:36	
ORO	**0.42**	0.05	1	B7J0338	10/13/2017	10/14/17 10:36	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-GW

Lab ID: 1703640-03

Diesel Range Organics by EPA 8015B — **Analyst: TKT**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*130 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 10:36*	

Volatile Organic Compounds by EPA 8260B — **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Benzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-GW

Lab ID: 1703640-03

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:55	
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
cis-1,2-Dichloroethene	**0.61**	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 16:55	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 16:55	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:55	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 16:55	
MTBE	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 16:55	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Tetrachloroethene	**2.0**	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
trans-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Trichloroethene	**1.6**	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-GW
Lab ID: 1703640-03

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 16:55	
Vinyl chloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 16:55	
Surrogate: 1,2-Dichloroethane-d4	*99.3 %*	*70 - 166*		B7J0319	10/13/2017	*10/13/17 16:55*	
Surrogate: 4-Bromofluorobenzene	*92.1 %*	*88 - 120*		B7J0319	10/13/2017	*10/13/17 16:55*	
Surrogate: Dibromofluoromethane	*104 %*	*80 - 150*		B7J0319	10/13/2017	*10/13/17 16:55*	
Surrogate: Toluene-d8	*101 %*	*87 - 121*		B7J0319	10/13/2017	*10/13/17 16:55*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 14:33	
Surrogate: 1,2-Dichlorobenzene-d4	*65.8 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 14:33*	
Surrogate: 2-Fluorobiphenyl	*72.4 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 14:33*	
Surrogate: Nitrobenzene-d5	*84.4 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 14:33*	
Surrogate: 4-Terphenyl-d14	*82.8 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 14:33*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-GW

Lab ID: 1703640-04

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:27	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:27	
Barium	**0.089**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Chromium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Cobalt	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Copper	ND	0.0090	1	B7J0455	10/17/2017	10/17/17 17:27	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:27	
Molybdenum	**0.0087**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:27	
Nickel	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:27	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:27	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:27	
Vanadium	**0.0036**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:27	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:27	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:18	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	1	B7J0254	10/13/2017	10/13/17 13:37	
Surrogate: 4-Bromofluorobenzene	*113 %*	*70 - 130*		B7J0254	10/13/2017	*10/13/17 13:37*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.33**	0.05	1	B7J0338	10/13/2017	10/14/17 10:53	
ORO	**0.38**	0.05	1	B7J0338	10/13/2017	10/14/17 10:53	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-GW

Lab ID: 1703640-04

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*110 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 10:53*	

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Benzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-GW

Lab ID: 1703640-04

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:20	
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
cis-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 17:20	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 17:20	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:20	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:20	
MTBE	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 17:20	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Tetrachloroethene	**1.3**	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
trans-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Trichloroethene	**0.78**	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-GW
Lab ID: 1703640-04

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 17:20	
Vinyl chloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:20	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*70 - 166*		B7J0319	10/13/2017	*10/13/17 17:20*	
Surrogate: 4-Bromofluorobenzene	*93.3 %*	*88 - 120*		B7J0319	10/13/2017	*10/13/17 17:20*	
Surrogate: Dibromofluoromethane	*105 %*	*80 - 150*		B7J0319	10/13/2017	*10/13/17 17:20*	
Surrogate: Toluene-d8	*100 %*	*87 - 121*		B7J0319	10/13/2017	*10/13/17 17:20*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:02	
Surrogate: 1,2-Dichlorobenzene-d4	*65.3 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 15:02*	
Surrogate: 2-Fluorobiphenyl	*71.2 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 15:02*	
Surrogate: Nitrobenzene-d5	*82.9 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 15:02*	
Surrogate: 4-Terphenyl-d14	*82.1 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 15:02*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W										
Blank (B7J0455-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Antimony	ND	0.010	0.0088							
Arsenic	ND	0.010	0.0078							
Barium	ND	0.0030	0.0026							
Beryllium	ND	0.0030	0.0016							
Cadmium	ND	0.0030	0.0024							
Chromium	ND	0.0030	0.0020							
Cobalt	ND	0.0030	0.0016							
Copper	ND	0.0090	0.0038							
Lead	ND	0.0050	0.0047							
Molybdenum	ND	0.0050	0.0030							
Nickel	ND	0.0050	0.0046							
Selenium	ND	0.010	0.0093							
Silver	ND	0.0030	0.0024							
Thallium	ND	0.015	0.0085							
Vanadium	ND	0.0030	0.0022							
Zinc	ND	0.025	0.0057							
LCS (B7J0455-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Antimony	0.929102	0.010	0.0088	1.00000		92.9	80 - 120			
Arsenic	0.941062	0.010	0.0078	1.00000		94.1	80 - 120			
Barium	0.969431	0.0030	0.0026	1.00000		96.9	80 - 120			
Beryllium	0.952237	0.0030	0.0016	1.00000		95.2	80 - 120			
Cadmium	0.923200	0.0030	0.0024	1.00000		92.3	80 - 120			
Chromium	0.964497	0.0030	0.0020	1.00000		96.4	80 - 120			
Cobalt	0.960800	0.0030	0.0016	1.00000		96.1	80 - 120			
Copper	0.947343	0.0090	0.0038	1.00000		94.7	80 - 120			
Lead	0.953769	0.0050	0.0047	1.00000		95.4	80 - 120			
Molybdenum	0.936200	0.0050	0.0030	1.00000		93.6	80 - 120			
Nickel	0.929993	0.0050	0.0046	1.00000		93.0	80 - 120			
Selenium	0.907008	0.010	0.0093	1.00000		90.7	80 - 120			
Silver	1.18499	0.0030	0.0024	1.00000		118	80 - 120			
Thallium	0.946903	0.015	0.0085	1.00000		94.7	80 - 120			
Vanadium	0.953132	0.0030	0.0022	1.00000		95.3	80 - 120			
Zinc	0.930909	0.025	0.0057	1.00000		93.1	80 - 120			
Matrix Spike (B7J0455-MS1)				**Source: 1703640-01**	Prepared: 10/17/2017 Analyzed: 10/17/2017					
Antimony	2.45296	0.010	0.0088	2.50000	ND	98.1	60 - 130			
Arsenic	2.51904	0.010	0.0078	2.50000	ND	101	69 - 123			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W (continued)										
Matrix Spike (B7J0455-MS1) - Continued			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/17/2017				
Barium	2.59554	0.0030	0.0026	2.50000	0.106382	99.6	67 - 129			
Beryllium	2.52702	0.0030	0.0016	2.50000	ND	101	74 - 120			
Cadmium	2.37069	0.0030	0.0024	2.50000	ND	94.8	69 - 116			
Chromium	2.49293	0.0030	0.0020	2.50000	0.014934	99.1	74 - 120			
Cobalt	2.43594	0.0030	0.0016	2.50000	0.002840	97.3	70 - 116			
Copper	2.53772	0.0090	0.0038	2.50000	0.01129	101	76 - 123			
Lead	2.42425	0.0050	0.0047	2.50000	ND	97.0	69 - 117			
Molybdenum	2.53677	0.0050	0.0030	2.50000	0.026825	100	68 - 120			
Nickel	2.38734	0.0050	0.0046	2.50000	0.011243	95.0	70 - 115			
Selenium	2.39006	0.010	0.0093	2.50000	ND	95.6	66 - 120			
Silver	2.66866	0.0030	0.0024	2.50000	ND	107	73 - 123			
Thallium	2.34797	0.015	0.0085	2.50000	ND	93.9	57 - 124			
Vanadium	2.52252	0.0030	0.0022	2.50000	0.010942	100	72 - 123			
Zinc	2.38635	0.025	0.0057	2.50000	0.023691	94.5	73 - 111			
Matrix Spike Dup (B7J0455-MSD1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	2.42439	0.010	0.0088	2.50000	ND	97.0	60 - 130	1.17	20	
Arsenic	2.47205	0.010	0.0078	2.50000	ND	98.9	69 - 123	1.88	20	
Barium	2.56504	0.0030	0.0026	2.50000	0.106382	98.3	67 - 129	1.18	20	
Beryllium	2.49000	0.0030	0.0016	2.50000	ND	99.6	74 - 120	1.48	20	
Cadmium	2.33304	0.0030	0.0024	2.50000	ND	93.3	69 - 116	1.60	20	
Chromium	2.44862	0.0030	0.0020	2.50000	0.014934	97.3	74 - 120	1.79	20	
Cobalt	2.39427	0.0030	0.0016	2.50000	0.002840	95.7	70 - 116	1.73	20	
Copper	2.50095	0.0090	0.0038	2.50000	0.01129	99.6	76 - 123	1.46	20	
Lead	2.39216	0.0050	0.0047	2.50000	ND	95.7	69 - 117	1.33	20	
Molybdenum	2.50298	0.0050	0.0030	2.50000	0.026825	99.0	68 - 120	1.34	20	
Nickel	2.35861	0.0050	0.0046	2.50000	0.011243	93.9	70 - 115	1.21	20	
Selenium	2.34170	0.010	0.0093	2.50000	ND	93.7	66 - 120	2.04	20	
Silver	2.62202	0.0030	0.0024	2.50000	ND	105	73 - 123	1.76	20	
Thallium	2.34150	0.015	0.0085	2.50000	ND	93.7	57 - 124	0.276	20	
Vanadium	2.48646	0.0030	0.0022	2.50000	0.010942	99.0	72 - 123	1.44	20	
Zinc	2.35433	0.025	0.0057	2.50000	0.023691	93.2	73 - 111	1.35	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0458 - EPA 245.1/7470_W										
Blank (B7J0458-BLK1)						Prepared: 10/17/2017 Analyzed: 10/18/2017				
Mercury	ND	0.20	0.05							
LCS (B7J0458-BS1)						Prepared: 10/17/2017 Analyzed: 10/18/2017				
Mercury	9.54958	0.20	0.05	10.0000		95.5	80 - 120			
Matrix Spike (B7J0458-MS1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/18/2017				
Mercury	9.82494	0.20	0.05	10.0000	0.066603	97.6	70 - 130			
Matrix Spike Dup (B7J0458-MSD1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/18/2017				
Mercury	10.2498	0.20	0.05	10.0000	0.066603	102	70 - 130	4.23	20	
Post Spike (B7J0458-PS1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/18/2017				
Mercury	4.94797			5.00000	0.066603	97.6	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0254 - GCVOA_W										
Blank (B7J0254-BLK1)						Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	ND	0.05	0.05							
Surrogate: 4-Bromofluorobenzen	*0.1180*			*0.100000*		*118*	*70 - 130*			
LCS (B7J0254-BS1)						Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	0.916000	0.05	0.05	1.00000		91.6	70 - 130			
Surrogate: 4-Bromofluorobenzen	*0.1125*			*0.100000*		*113*	*70 - 130*			
LCS Dup (B7J0254-BSD1)						Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	0.821000	0.05	0.05	1.00000		82.1	70 - 130	10.9	20	
Surrogate: 4-Bromofluorobenzen	*0.1179*			*0.100000*		*118*	*70 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0338 - GCSEMI_DRO_W										
Blank (B7J0338-BLK1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	ND	0.05	0.05							
ORO	ND	0.05	0.05							
Surrogate: p-Terphenyl	*0.1079*			*8.00000E-2*		*135*	*20 - 150*			
LCS (B7J0338-BS1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	0.547070	0.05	0.05	1.00000		54.7	42 - 142			
Surrogate: p-Terphenyl	*0.1020*			*8.00000E-2*		*128*	*20 - 150*			
LCS Dup (B7J0338-BSD1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	0.504190	0.05	0.05	1.00000		50.4	42 - 142	8.16	20	
Surrogate: p-Terphenyl	*0.1056*			*8.00000E-2*		*132*	*20 - 150*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W										
Blank (B7J0319-BLK1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1,1,2-Tetrachloroethane	ND	0.50	0.13							
1,1,1-Trichloroethane	ND	0.50	0.38							
1,1,2,2-Tetrachloroethane	ND	0.50	0.20							
1,1,2-Trichloroethane	ND	0.50	0.19							
1,1-Dichloroethane	ND	0.50	0.20							
1,1-Dichloroethene	ND	0.50	0.28							
1,1-Dichloropropene	ND	0.50	0.36							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.06							
1,2,4-Trichlorobenzene	ND	0.50	0.07							
1,2,4-Trimethylbenzene	ND	0.50	0.09							
1,2-Dibromo-3-chloropropane	ND	0.50	0.20							
1,2-Dibromoethane	ND	0.50	0.13							
1,2-Dichlorobenzene	ND	0.50	0.12							
1,2-Dichloroethane	ND	0.50	0.39							
1,2-Dichloropropane	ND	0.50	0.47							
1,3,5-Trimethylbenzene	ND	0.50	0.08							
1,3-Dichlorobenzene	ND	0.50	0.13							
1,3-Dichloropropane	ND	0.50	0.08							
1,4-Dichlorobenzene	ND	0.50	0.18							
2,2-Dichloropropane	ND	0.50	0.23							
2-Chlorotoluene	ND	0.50	0.12							
4-Chlorotoluene	ND	0.50	0.11							
4-Isopropyltoluene	ND	0.50	0.12							
Benzene	ND	0.50	0.21							
Bromobenzene	ND	0.50	0.12							
Bromochloromethane	ND	0.50	0.10							
Bromodichloromethane	ND	0.50	0.32							
Bromoform	ND	0.50	0.14							
Bromomethane	ND	0.50	0.22							
Carbon disulfide	ND	1.0	0.21							
Carbon tetrachloride	ND	0.50	0.31							
Chlorobenzene	ND	0.50	0.16							
Chloroethane	ND	0.50	0.29							
Chloroform	ND	0.50	0.16							
Chloromethane	ND	0.50	0.19							
cis-1,2-Dichloroethene	ND	0.50	0.39							
cis-1,3-Dichloropropene	ND	0.50	0.08							
Di-isopropyl ether	ND	0.50	0.14							
Dibromochloromethane	ND	0.50	0.11							

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
Blank (B7J0319-BLK1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Dibromomethane	ND	0.50	0.09							
Dichlorodifluoromethane	ND	0.50	0.31							
Ethyl Acetate	ND	10	1.1							
Ethyl Ether	ND	10	1.4							
Ethyl tert-butyl ether	ND	0.50	0.08							
Ethylbenzene	ND	0.50	0.08							
Freon-113	ND	0.50	0.34							
Hexachlorobutadiene	ND	0.50	0.22							
Isopropylbenzene	ND	0.50	0.10							
m,p-Xylene	ND	1.0	0.18							
Methylene chloride	ND	1.0	0.26							
MTBE	ND	0.50	0.09							
n-Butylbenzene	ND	0.50	0.15							
n-Propylbenzene	ND	0.50	0.14							
Naphthalene	ND	0.50	0.09							
o-Xylene	ND	0.50	0.04							
sec-Butylbenzene	ND	0.50	0.15							
Styrene	ND	0.50	0.05							
tert-Amyl methyl ether	ND	0.50	0.10							
tert-Butanol	ND	10	3.0							
tert-Butylbenzene	ND	0.50	0.11							
Tetrachloroethene	ND	0.50	0.18							
Toluene	ND	0.50	0.14							
trans-1,2-Dichloroethene	ND	0.50	0.15							
trans-1,3-Dichloropropene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.15							
Trichlorofluoromethane	ND	0.50	0.33							
Vinyl acetate	ND	10	1.9							
Vinyl chloride	ND	0.50	0.25							
Surrogate: 1,2-Dichloroethane-d	*24.67*			*25.0000*		*98.7*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*23.05*			*25.0000*		*92.2*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.32*			*25.0000*		*101*	*80 - 150*			
Surrogate: Toluene-d8	*25.18*			*25.0000*		*101*	*87 - 121*			
LCS (B7J0319-BS1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1,1,2-Tetrachloroethane	7.43000	0.50	0.13	10.0000		74.3	73 - 136			
1,1,1-Trichloroethane	9.16000	0.50	0.38	10.0000		91.6	73 - 143			
1,1,2,2-Tetrachloroethane	9.50000	0.50	0.20	10.0000		95.0	62 - 127			
1,1,2-Trichloroethane	10.3500	0.50	0.19	10.0000		104	72 - 122			
1,1-Dichloroethane	10.0700	0.50	0.20	10.0000		101	73 - 138			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS (B7J0319-BS1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1-Dichloroethene	9.99000	0.50	0.28	10.0000		99.9	74 - 132			
1,1-Dichloropropene	13.1800	0.50	0.36	10.0000		132	70 - 143			
1,2,3-Trichloropropane	10.3200	0.50	0.16	10.0000		103	66 - 119			
1,2,3-Trichlorobenzene	10.1600	0.50	0.06	10.0000		102	70 - 131			
1,2,4-Trichlorobenzene	10.1400	0.50	0.07	10.0000		101	70 - 128			
1,2,4-Trimethylbenzene	10.2400	0.50	0.09	10.0000		102	74 - 142			
1,2-Dibromo-3-chloropropane	6.24000	0.50	0.20	10.0000		62.4	56 - 118			
1,2-Dibromoethane	10.4100	0.50	0.13	10.0000		104	73 - 122			
1,2-Dichlorobenzene	10.4900	0.50	0.12	10.0000		105	75 - 128			
1,2-Dichloroethane	13.3700	0.50	0.39	10.0000		134	70 - 131			L4
1,2-Dichloropropane	10.6900	0.50	0.47	10.0000		107	69 - 124			
1,3,5-Trimethylbenzene	10.3000	0.50	0.08	10.0000		103	73 - 144			
1,3-Dichlorobenzene	10.5500	0.50	0.13	10.0000		106	75 - 131			
1,3-Dichloropropane	10.5900	0.50	0.08	10.0000		106	70 - 122			
1,4-Dichlorobenzene	10.5200	0.50	0.18	10.0000		105	75 - 127			
2,2-Dichloropropane	8.20000	0.50	0.23	10.0000		82.0	68 - 151			
2-Chlorotoluene	10.2100	0.50	0.12	10.0000		102	72 - 138			
4-Chlorotoluene	10.0800	0.50	0.11	10.0000		101	72 - 140			
4-Isopropyltoluene	10.4200	0.50	0.12	10.0000		104	74 - 149			
Benzene	27.1300	0.50	0.21	20.0000		136	67 - 138			
Bromobenzene	10.4900	0.50	0.12	10.0000		105	73 - 127			
Bromochloromethane	10.0900	0.50	0.10	10.0000		101	74 - 123			
Bromodichloromethane	8.40000	0.50	0.32	10.0000		84.0	74 - 129			
Bromoform	6.12000	0.50	0.14	10.0000		61.2	63 - 131			L4
Bromomethane	16.3300	0.50	0.22	10.0000		163	57 - 216			
Carbon disulfide	10.2300	1.0	0.21	10.0000		102	81 - 147			
Carbon tetrachloride	9.47000	0.50	0.31	10.0000		94.7	77 - 151			
Chlorobenzene	10.1800	0.50	0.16	10.0000		102	73 - 125			
Chloroethane	11.2000	0.50	0.29	10.0000		112	54 - 154			
Chloroform	10.3200	0.50	0.16	10.0000		103	77 - 132			
Chloromethane	5.64000	0.50	0.19	10.0000		56.4	57 - 142			L4
cis-1,2-Dichloroethene	9.86000	0.50	0.39	10.0000		98.6	73 - 126			
cis-1,3-Dichloropropene	8.28000	0.50	0.08	10.0000		82.8	76 - 120			
Di-isopropyl ether	9.00000	0.50	0.14	10.0000		90.0	54 - 147			
Dibromochloromethane	7.27000	0.50	0.11	10.0000		72.7	71 - 126			
Dibromomethane	10.0000	0.50	0.09	10.0000		100	73 - 121			
Dichlorodifluoromethane	8.66000	0.50	0.31	10.0000		86.6	48 - 152			
Ethyl Acetate	95.8800	10	1.1	100.000		95.9	50 - 144			
Ethyl Ether	94.3500	10	1.4	100.000		94.4	67 - 140			
Ethyl tert-butyl ether	8.68000	0.50	0.08	10.0000		86.8	58 - 137			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS (B7J0319-BS1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Ethylbenzene	20.9500	0.50	0.08	20.0000		105	72 - 134			
Freon-113	11.3900	0.50	0.34	10.0000		114	75 - 157			
Hexachlorobutadiene	10.1900	0.50	0.22	10.0000		102	72 - 139			
Isopropylbenzene	10.4400	0.50	0.10	10.0000		104	73 - 146			
m,p-Xylene	20.3800	1.0	0.18	20.0000		102	75 - 138			
Methylene chloride	9.38000	1.0	0.26	10.0000		93.8	52 - 154			
MTBE	8.97000	0.50	0.09	10.0000		89.7	62 - 129			
n-Butylbenzene	10.7000	0.50	0.15	10.0000		107	72 - 151			
n-Propylbenzene	10.7300	0.50	0.14	10.0000		107	69 - 149			
Naphthalene	10.2600	0.50	0.09	10.0000		103	61 - 122			
o-Xylene	20.4900	0.50	0.04	20.0000		102	66 - 147			
sec-Butylbenzene	10.6400	0.50	0.15	10.0000		106	72 - 148			
Styrene	9.95000	0.50	0.05	10.0000		99.5	72 - 138			
tert-Amyl methyl ether	8.61000	0.50	0.10	10.0000		86.1	53 - 122			
tert-Butanol	35.6900	10	3.0	50.0000		71.4	21 - 149			
tert-Butylbenzene	10.3600	0.50	0.11	10.0000		104	70 - 145			
Tetrachloroethene	10.4100	0.50	0.18	10.0000		104	61 - 145			
Toluene	21.3400	0.50	0.14	20.0000		107	70 - 140			
trans-1,2-Dichloroethene	10.1800	0.50	0.15	10.0000		102	73 - 130			
trans-1,3-Dichloropropene	7.14000	0.50	0.09	10.0000		71.4	72 - 129			L4
Trichloroethene	10.5000	0.50	0.15	10.0000		105	69 - 126			
Trichlorofluoromethane	11.2000	0.50	0.33	10.0000		112	70 - 159			
Vinyl acetate	80.0100	10	1.9	100.000		80.0	69 - 170			
Vinyl chloride	9.61000	0.50	0.25	10.0000		96.1	56 - 151			
Surrogate: 1,2-Dichloroethane-d	*24.98*			*25.0000*		*99.9*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*24.03*			*25.0000*		*96.1*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.30*			*25.0000*		*101*	*80 - 150*			
Surrogate: Toluene-d8	*24.91*			*25.0000*		*99.6*	*87 - 121*			
LCS Dup (B7J0319-BSD1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1,1,2-Tetrachloroethane	7.41000	0.50	0.13	10.0000		74.1	73 - 136	0.270	20	
1,1,1-Trichloroethane	9.63000	0.50	0.38	10.0000		96.3	73 - 143	5.00	20	
1,1,2,2-Tetrachloroethane	9.37000	0.50	0.20	10.0000		93.7	62 - 127	1.38	20	
1,1,2-Trichloroethane	10.4100	0.50	0.19	10.0000		104	72 - 122	0.578	20	
1,1-Dichloroethane	10.3600	0.50	0.20	10.0000		104	73 - 138	2.84	20	
1,1-Dichloroethene	10.3300	0.50	0.28	10.0000		103	74 - 132	3.35	20	
1,1-Dichloropropene	13.5800	0.50	0.36	10.0000		136	70 - 143	2.99	20	
1,2,3-Trichloropropane	10.1300	0.50	0.16	10.0000		101	66 - 119	1.86	20	
1,2,3-Trichlorobenzene	10.1500	0.50	0.06	10.0000		102	70 - 131	0.0985	20	
1,2,4-Trichlorobenzene	9.99000	0.50	0.07	10.0000		99.9	70 - 128	1.49	20	

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS Dup (B7J0319-BSD1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,2,4-Trimethylbenzene	10.2100	0.50	0.09	10.0000		102	74 - 142	0.293	20	
1,2-Dibromo-3-chloropropane	6.13000	0.50	0.20	10.0000		61.3	56 - 118	1.78	20	
1,2-Dibromoethane	10.2900	0.50	0.13	10.0000		103	73 - 122	1.16	20	
1,2-Dichlorobenzene	10.5000	0.50	0.12	10.0000		105	75 - 128	0.0953	20	
1,2-Dichloroethane	12.8400	0.50	0.39	10.0000		128	70 - 131	4.04	20	
1,2-Dichloropropane	10.7400	0.50	0.47	10.0000		107	69 - 124	0.467	20	
1,3,5-Trimethylbenzene	10.2400	0.50	0.08	10.0000		102	73 - 144	0.584	20	
1,3-Dichlorobenzene	10.5500	0.50	0.13	10.0000		106	75 - 131	0.00	20	
1,3-Dichloropropane	10.5400	0.50	0.08	10.0000		105	70 - 122	0.473	20	
1,4-Dichlorobenzene	10.4100	0.50	0.18	10.0000		104	75 - 127	1.05	20	
2,2-Dichloropropane	8.14000	0.50	0.23	10.0000		81.4	68 - 151	0.734	20	
2-Chlorotoluene	10.1800	0.50	0.12	10.0000		102	72 - 138	0.294	20	
4-Chlorotoluene	10.1200	0.50	0.11	10.0000		101	72 - 140	0.396	20	
4-Isopropyltoluene	10.3200	0.50	0.12	10.0000		103	74 - 149	0.964	20	
Benzene	28.3500	0.50	0.21	20.0000		142	67 - 138	4.40	20	L4
Bromobenzene	10.4600	0.50	0.12	10.0000		105	73 - 127	0.286	20	
Bromochloromethane	10.1700	0.50	0.10	10.0000		102	74 - 123	0.790	20	
Bromodichloromethane	8.68000	0.50	0.32	10.0000		86.8	74 - 129	3.28	20	
Bromoform	6.11000	0.50	0.14	10.0000		61.1	63 - 131	0.164	20	L4
Bromomethane	16.9000	0.50	0.22	10.0000		169	57 - 216	3.43	20	
Carbon disulfide	10.6700	1.0	0.21	10.0000		107	81 - 147	4.21	20	
Carbon tetrachloride	9.68000	0.50	0.31	10.0000		96.8	77 - 151	2.19	20	
Chlorobenzene	10.2200	0.50	0.16	10.0000		102	73 - 125	0.392	20	
Chloroethane	11.5100	0.50	0.29	10.0000		115	54 - 154	2.73	20	
Chloroform	10.6300	0.50	0.16	10.0000		106	77 - 132	2.96	20	
Chloromethane	5.59000	0.50	0.19	10.0000		55.9	57 - 142	0.890	20	L4
cis-1,2-Dichloroethene	10.1300	0.50	0.39	10.0000		101	73 - 126	2.70	20	
cis-1,3-Dichloropropene	8.26000	0.50	0.08	10.0000		82.6	76 - 120	0.242	20	
Di-isopropyl ether	9.44000	0.50	0.14	10.0000		94.4	54 - 147	4.77	20	
Dibromochloromethane	7.14000	0.50	0.11	10.0000		71.4	71 - 126	1.80	20	
Dibromomethane	10.3200	0.50	0.09	10.0000		103	73 - 121	3.15	20	
Dichlorodifluoromethane	8.66000	0.50	0.31	10.0000		86.6	48 - 152	0.00	20	
Ethyl Acetate	97.6000	10	1.1	100.000		97.6	50 - 144	1.78	20	
Ethyl Ether	96.4500	10	1.4	100.000		96.4	67 - 140	2.20	20	
Ethyl tert-butyl ether	8.98000	0.50	0.08	10.0000		89.8	58 - 137	3.40	20	
Ethylbenzene	21.1400	0.50	0.08	20.0000		106	72 - 134	0.903	20	
Freon-113	11.5900	0.50	0.34	10.0000		116	75 - 157	1.74	20	
Hexachlorobutadiene	10.1700	0.50	0.22	10.0000		102	72 - 139	0.196	20	
Isopropylbenzene	10.3400	0.50	0.10	10.0000		103	73 - 146	0.962	20	
m,p-Xylene	20.4300	1.0	0.18	20.0000		102	75 - 138	0.245	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS Dup (B7J0319-BSD1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Methylene chloride	9.82000	1.0	0.26	10.0000		98.2	52 - 154	4.58	20	
MTBE	9.11000	0.50	0.09	10.0000		91.1	62 - 129	1.55	20	
n-Butylbenzene	10.6000	0.50	0.15	10.0000		106	72 - 151	0.939	20	
n-Propylbenzene	10.6800	0.50	0.14	10.0000		107	69 - 149	0.467	20	
Naphthalene	9.85000	0.50	0.09	10.0000		98.5	61 - 122	4.08	20	
o-Xylene	20.2200	0.50	0.04	20.0000		101	66 - 147	1.33	20	
sec-Butylbenzene	10.6700	0.50	0.15	10.0000		107	72 - 148	0.282	20	
Styrene	9.96000	0.50	0.05	10.0000		99.6	72 - 138	0.100	20	
tert-Amyl methyl ether	8.70000	0.50	0.10	10.0000		87.0	53 - 122	1.04	20	
tert-Butanol	36.6800	10	3.0	50.0000		73.4	21 - 149	2.74	20	
tert-Butylbenzene	10.4400	0.50	0.11	10.0000		104	70 - 145	0.769	20	
Tetrachloroethene	10.4900	0.50	0.18	10.0000		105	61 - 145	0.766	20	
Toluene	21.5800	0.50	0.14	20.0000		108	70 - 140	1.12	20	
trans-1,2-Dichloroethene	10.3700	0.50	0.15	10.0000		104	73 - 130	1.85	20	
trans-1,3-Dichloropropene	7.17000	0.50	0.09	10.0000		71.7	72 - 129	0.419	20	L4
Trichloroethene	10.7200	0.50	0.15	10.0000		107	69 - 126	2.07	20	
Trichlorofluoromethane	11.4800	0.50	0.33	10.0000		115	70 - 159	2.47	20	
Vinyl acetate	77.8800	10	1.9	100.000		77.9	69 - 170	2.70	20	
Vinyl chloride	9.76000	0.50	0.25	10.0000		97.6	56 - 151	1.55	20	
Surrogate: 1,2-Dichloroethane-d	*25.28*			*25.0000*		*101*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*24.08*			*25.0000*		*96.3*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.78*			*25.0000*		*103*	*80 - 150*			
Surrogate: Toluene-d8	*24.72*			*25.0000*		*98.9*	*87 - 121*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W										
Blank (B7J0394-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
1,1,1,2-Tetrachloroethane	ND	0.50	0.13							
1,1,1-Trichloroethane	ND	0.50	0.38							
1,1,2,2-Tetrachloroethane	ND	0.50	0.20							
1,1,2-Trichloroethane	ND	0.50	0.19							
1,1-Dichloroethane	ND	0.50	0.20							
1,1-Dichloroethene	ND	0.50	0.28							
1,1-Dichloropropene	ND	0.50	0.36							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.06							
1,2,4-Trichlorobenzene	ND	0.50	0.07							
1,2,4-Trimethylbenzene	ND	0.50	0.09							
1,2-Dibromo-3-chloropropane	ND	0.50	0.20							
1,2-Dibromoethane	ND	0.50	0.13							
1,2-Dichlorobenzene	ND	0.50	0.12							
1,2-Dichloroethane	ND	0.50	0.39							
1,2-Dichloropropane	ND	0.50	0.47							
1,3,5-Trimethylbenzene	ND	0.50	0.08							
1,3-Dichlorobenzene	ND	0.50	0.13							
1,3-Dichloropropane	ND	0.50	0.08							
1,4-Dichlorobenzene	ND	0.50	0.18							
2,2-Dichloropropane	ND	0.50	0.23							
2-Chlorotoluene	ND	0.50	0.12							
4-Chlorotoluene	ND	0.50	0.11							
4-Isopropyltoluene	ND	0.50	0.12							
Benzene	ND	0.50	0.21							
Bromobenzene	ND	0.50	0.12							
Bromochloromethane	ND	0.50	0.10							
Bromodichloromethane	ND	0.50	0.32							
Bromoform	ND	0.50	0.14							
Bromomethane	ND	0.50	0.22							
Carbon disulfide	ND	1.0	0.21							
Carbon tetrachloride	ND	0.50	0.31							
Chlorobenzene	ND	0.50	0.16							
Chloroethane	ND	0.50	0.29							
Chloroform	ND	0.50	0.16							
Chloromethane	ND	0.50	0.19							
cis-1,2-Dichloroethene	ND	0.50	0.39							
cis-1,3-Dichloropropene	ND	0.50	0.08							
Di-isopropyl ether	ND	0.50	0.14							
Dibromochloromethane	ND	0.50	0.11							

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W (continued)										
Blank (B7J0394-BLK1) - Continued						Prepared: 10/16/2017 Analyzed: 10/16/2017				
Dibromomethane	ND	0.50	0.09							
Dichlorodifluoromethane	ND	0.50	0.31							
Ethyl Acetate	ND	10	1.1							
Ethyl Ether	ND	10	1.4							
Ethyl tert-butyl ether	ND	0.50	0.08							
Ethylbenzene	ND	0.50	0.08							
Freon-113	ND	0.50	0.34							
Hexachlorobutadiene	ND	0.50	0.22							
Isopropylbenzene	ND	0.50	0.10							
m,p-Xylene	ND	1.0	0.18							
Methylene chloride	ND	1.0	0.26							
MTBE	ND	0.50	0.09							
n-Butylbenzene	ND	0.50	0.15							
n-Propylbenzene	ND	0.50	0.14							
Naphthalene	ND	0.50	0.09							
o-Xylene	ND	0.50	0.04							
sec-Butylbenzene	ND	0.50	0.15							
Styrene	ND	0.50	0.05							
tert-Amyl methyl ether	ND	0.50	0.10							
tert-Butanol	ND	10	3.0							
tert-Butylbenzene	ND	0.50	0.11							
Tetrachloroethene	ND	0.50	0.18							
Toluene	ND	0.50	0.14							
trans-1,2-Dichloroethene	ND	0.50	0.15							
trans-1,3-Dichloropropene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.15							
Trichlorofluoromethane	ND	0.50	0.33							
Vinyl acetate	ND	10	1.9							
Vinyl chloride	ND	0.50	0.25							
Surrogate: 1,2-Dichloroethane-d	*23.56*			*25.0000*		*94.2*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*25.12*			*25.0000*		*100*	*88 - 120*			
Surrogate: Dibromofluoromethan	*23.63*			*25.0000*		*94.5*	*80 - 150*			
Surrogate: Toluene-d8	*24.39*			*25.0000*		*97.6*	*87 - 121*			
LCS (B7J0394-BS1)						Prepared: 10/16/2017 Analyzed: 10/16/2017				
1,1,1,2-Tetrachloroethane	8.14000	0.50	0.13	10.0000		81.4	73 - 136			
1,1,1-Trichloroethane	9.56000	0.50	0.38	10.0000		95.6	73 - 143			
1,1,2,2-Tetrachloroethane	8.93000	0.50	0.20	10.0000		89.3	62 - 127			
1,1,2-Trichloroethane	9.63000	0.50	0.19	10.0000		96.3	72 - 122			
1,1-Dichloroethane	10.2300	0.50	0.20	10.0000		102	73 - 138			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W (continued)										
LCS (B7J0394-BS1) - Continued					Prepared: 10/16/2017 Analyzed: 10/16/2017					
1,1-Dichloroethene	10.3300	0.50	0.28	10.0000		103	74 - 132			
1,1-Dichloropropene	13.1400	0.50	0.36	10.0000		131	70 - 143			
1,2,3-Trichloropropane	9.58000	0.50	0.16	10.0000		95.8	66 - 119			
1,2,3-Trichlorobenzene	9.99000	0.50	0.06	10.0000		99.9	70 - 131			
1,2,4-Trichlorobenzene	10.0200	0.50	0.07	10.0000		100	70 - 128			
1,2,4-Trimethylbenzene	10.1400	0.50	0.09	10.0000		101	74 - 142			
1,2-Dibromo-3-chloropropane	6.02000	0.50	0.20	10.0000		60.2	56 - 118			
1,2-Dibromoethane	9.69000	0.50	0.13	10.0000		96.9	73 - 122			
1,2-Dichlorobenzene	10.3600	0.50	0.12	10.0000		104	75 - 128			
1,2-Dichloroethane	11.7800	0.50	0.39	10.0000		118	70 - 131			
1,2-Dichloropropane	10.8000	0.50	0.47	10.0000		108	69 - 124			
1,3,5-Trimethylbenzene	10.3200	0.50	0.08	10.0000		103	73 - 144			
1,3-Dichlorobenzene	10.5800	0.50	0.13	10.0000		106	75 - 131			
1,3-Dichloropropane	9.97000	0.50	0.08	10.0000		99.7	70 - 122			
1,4-Dichlorobenzene	10.4300	0.50	0.18	10.0000		104	75 - 127			
2,2-Dichloropropane	8.73000	0.50	0.23	10.0000		87.3	68 - 151			
2-Chlorotoluene	10.2400	0.50	0.12	10.0000		102	72 - 138			
4-Chlorotoluene	10.0100	0.50	0.11	10.0000		100	72 - 140			
4-Isopropyltoluene	10.4800	0.50	0.12	10.0000		105	74 - 149			
Benzene	26.9200	0.50	0.21	20.0000		135	67 - 138			
Bromobenzene	10.5500	0.50	0.12	10.0000		106	73 - 127			
Bromochloromethane	9.86000	0.50	0.10	10.0000		98.6	74 - 123			
Bromodichloromethane	8.76000	0.50	0.32	10.0000		87.6	74 - 129			
Bromoform	6.38000	0.50	0.14	10.0000		63.8	63 - 131			
Bromomethane	14.4800	0.50	0.22	10.0000		145	57 - 216			
Carbon disulfide	10.6600	1.0	0.21	10.0000		107	81 - 147			
Carbon tetrachloride	10.4800	0.50	0.31	10.0000		105	77 - 151			
Chlorobenzene	10.3300	0.50	0.16	10.0000		103	73 - 125			
Chloroethane	12.5400	0.50	0.29	10.0000		125	54 - 154			
Chloroform	10.3200	0.50	0.16	10.0000		103	77 - 132			
Chloromethane	5.55000	0.50	0.19	10.0000		55.5	57 - 142			L4
cis-1,2-Dichloroethene	10.0200	0.50	0.39	10.0000		100	73 - 126			
cis-1,3-Dichloropropene	8.66000	0.50	0.08	10.0000		86.6	76 - 120			
Di-isopropyl ether	9.21000	0.50	0.14	10.0000		92.1	54 - 147			
Dibromochloromethane	7.46000	0.50	0.11	10.0000		74.6	71 - 126			
Dibromomethane	9.77000	0.50	0.09	10.0000		97.7	73 - 121			
Dichlorodifluoromethane	9.01000	0.50	0.31	10.0000		90.1	48 - 152			
Ethyl Acetate	84.8300	10	1.1	100.000		84.8	50 - 144			
Ethyl Ether	90.6800	10	1.4	100.000		90.7	67 - 140			
Ethyl tert-butyl ether	8.37000	0.50	0.08	10.0000		83.7	58 - 137			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W (continued)										
LCS (B7J0394-BS1) - Continued						Prepared: 10/16/2017 Analyzed: 10/16/2017				
Ethylbenzene	21.2500	0.50	0.08	20.0000		106	72 - 134			
Freon-113	11.7900	0.50	0.34	10.0000		118	75 - 157			
Hexachlorobutadiene	10.4600	0.50	0.22	10.0000		105	72 - 139			
Isopropylbenzene	10.4300	0.50	0.10	10.0000		104	73 - 146			
m,p-Xylene	20.4900	1.0	0.18	20.0000		102	75 - 138			
Methylene chloride	11.9600	1.0	0.26	10.0000		120	52 - 154			
MTBE	8.47000	0.50	0.09	10.0000		84.7	62 - 129			
n-Butylbenzene	10.7500	0.50	0.15	10.0000		108	72 - 151			
n-Propylbenzene	10.7500	0.50	0.14	10.0000		108	69 - 149			
Naphthalene	9.19000	0.50	0.09	10.0000		91.9	61 - 122			
o-Xylene	20.5200	0.50	0.04	20.0000		103	66 - 147			
sec-Butylbenzene	10.7300	0.50	0.15	10.0000		107	72 - 148			
Styrene	9.91000	0.50	0.05	10.0000		99.1	72 - 138			
tert-Amyl methyl ether	8.07000	0.50	0.10	10.0000		80.7	53 - 122			
tert-Butanol	30.9400	10	3.0	50.0000		61.9	21 - 149			
tert-Butylbenzene	10.3600	0.50	0.11	10.0000		104	70 - 145			
Tetrachloroethene	11.1500	0.50	0.18	10.0000		112	61 - 145			
Toluene	21.2400	0.50	0.14	20.0000		106	70 - 140			
trans-1,2-Dichloroethene	10.2000	0.50	0.15	10.0000		102	73 - 130			
trans-1,3-Dichloropropene	7.62000	0.50	0.09	10.0000		76.2	72 - 129			
Trichloroethene	10.7900	0.50	0.15	10.0000		108	69 - 126			
Trichlorofluoromethane	11.2700	0.50	0.33	10.0000		113	70 - 159			
Vinyl acetate	78.3700	10	1.9	100.000		78.4	69 - 170			
Vinyl chloride	9.50000	0.50	0.25	10.0000		95.0	56 - 151			
Surrogate: 1,2-Dichloroethane-d	*23.26*			*25.0000*		*93.0*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*23.90*			*25.0000*		*95.6*	*88 - 120*			
Surrogate: Dibromofluoromethan	*24.79*			*25.0000*		*99.2*	*80 - 150*			
Surrogate: Toluene-d8	*24.34*			*25.0000*		*97.4*	*87 - 121*			
LCS Dup (B7J0394-BSD1)						Prepared: 10/16/2017 Analyzed: 10/16/2017				
1,1,1,2-Tetrachloroethane	8.07000	0.50	0.13	10.0000		80.7	73 - 136	0.864	20	
1,1,1-Trichloroethane	9.72000	0.50	0.38	10.0000		97.2	73 - 143	1.66	20	
1,1,2,2-Tetrachloroethane	9.30000	0.50	0.20	10.0000		93.0	62 - 127	4.06	20	
1,1,2-Trichloroethane	10.1500	0.50	0.19	10.0000		102	72 - 122	5.26	20	
1,1-Dichloroethane	10.0900	0.50	0.20	10.0000		101	73 - 138	1.38	20	
1,1-Dichloroethene	10.3400	0.50	0.28	10.0000		103	74 - 132	0.0968	20	
1,1-Dichloropropene	13.4800	0.50	0.36	10.0000		135	70 - 143	2.55	20	
1,2,3-Trichloropropane	9.54000	0.50	0.16	10.0000		95.4	66 - 119	0.418	20	
1,2,3-Trichlorobenzene	10.1600	0.50	0.06	10.0000		102	70 - 131	1.69	20	
1,2,4-Trichlorobenzene	10.3200	0.50	0.07	10.0000		103	70 - 128	2.95	20	

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W (continued)										
LCS Dup (B7J0394-BSD1) - Continued					Prepared: 10/16/2017 Analyzed: 10/16/2017					
1,2,4-Trimethylbenzene	10.3500	0.50	0.09	10.0000		104	74 - 142	2.05	20	
1,2-Dibromo-3-chloropropane	6.18000	0.50	0.20	10.0000		61.8	56 - 118	2.62	20	
1,2-Dibromoethane	9.96000	0.50	0.13	10.0000		99.6	73 - 122	2.75	20	
1,2-Dichlorobenzene	10.6000	0.50	0.12	10.0000		106	75 - 128	2.29	20	
1,2-Dichloroethane	12.9500	0.50	0.39	10.0000		130	70 - 131	9.46	20	
1,2-Dichloropropane	11.0800	0.50	0.47	10.0000		111	69 - 124	2.56	20	
1,3,5-Trimethylbenzene	10.3800	0.50	0.08	10.0000		104	73 - 144	0.580	20	
1,3-Dichlorobenzene	10.7400	0.50	0.13	10.0000		107	75 - 131	1.50	20	
1,3-Dichloropropane	10.3700	0.50	0.08	10.0000		104	70 - 122	3.93	20	
1,4-Dichlorobenzene	10.6000	0.50	0.18	10.0000		106	75 - 127	1.62	20	
2,2-Dichloropropane	9.24000	0.50	0.23	10.0000		92.4	68 - 151	5.68	20	
2-Chlorotoluene	10.2100	0.50	0.12	10.0000		102	72 - 138	0.293	20	
4-Chlorotoluene	10.1000	0.50	0.11	10.0000		101	72 - 140	0.895	20	
4-Isopropyltoluene	10.6000	0.50	0.12	10.0000		106	74 - 149	1.14	20	
Benzene	26.6100	0.50	0.21	20.0000		133	67 - 138	1.16	20	
Bromobenzene	10.6800	0.50	0.12	10.0000		107	73 - 127	1.22	20	
Bromochloromethane	10.1300	0.50	0.10	10.0000		101	74 - 123	2.70	20	
Bromodichloromethane	8.87000	0.50	0.32	10.0000		88.7	74 - 129	1.25	20	
Bromoform	6.47000	0.50	0.14	10.0000		64.7	63 - 131	1.40	20	
Bromomethane	15.8500	0.50	0.22	10.0000		158	57 - 216	9.03	20	
Carbon disulfide	10.4800	1.0	0.21	10.0000		105	81 - 147	1.70	20	
Carbon tetrachloride	10.2200	0.50	0.31	10.0000		102	77 - 151	2.51	20	
Chlorobenzene	10.4500	0.50	0.16	10.0000		104	73 - 125	1.15	20	
Chloroethane	13.3100	0.50	0.29	10.0000		133	54 - 154	5.96	20	
Chloroform	10.5800	0.50	0.16	10.0000		106	77 - 132	2.49	20	
Chloromethane	4.93000	0.50	0.19	10.0000		49.3	57 - 142	11.8	20	L4
cis-1,2-Dichloroethene	10.1100	0.50	0.39	10.0000		101	73 - 126	0.894	20	
cis-1,3-Dichloropropene	8.82000	0.50	0.08	10.0000		88.2	76 - 120	1.83	20	
Di-isopropyl ether	8.99000	0.50	0.14	10.0000		89.9	54 - 147	2.42	20	
Dibromochloromethane	7.99000	0.50	0.11	10.0000		79.9	71 - 126	6.86	20	
Dibromomethane	9.93000	0.50	0.09	10.0000		99.3	73 - 121	1.62	20	
Dichlorodifluoromethane	8.98000	0.50	0.31	10.0000		89.8	48 - 152	0.334	20	
Ethyl Acetate	84.7200	10	1.1	100.000		84.7	50 - 144	0.130	20	
Ethyl Ether	90.1800	10	1.4	100.000		90.2	67 - 140	0.553	20	
Ethyl tert-butyl ether	8.42000	0.50	0.08	10.0000		84.2	58 - 137	0.596	20	
Ethylbenzene	21.3500	0.50	0.08	20.0000		107	72 - 134	0.469	20	
Freon-113	11.9500	0.50	0.34	10.0000		120	75 - 157	1.35	20	
Hexachlorobutadiene	10.8200	0.50	0.22	10.0000		108	72 - 139	3.38	20	
Isopropylbenzene	10.6000	0.50	0.10	10.0000		106	73 - 146	1.62	20	
m,p-Xylene	20.5800	1.0	0.18	20.0000		103	75 - 138	0.438	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0394 - MSVOA_W (continued)										
LCS Dup (B7J0394-BSD1) - Continued					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Methylene chloride	9.74000	1.0	0.26	10.0000		97.4	52 - 154	20.5	20	R
MTBE	8.52000	0.50	0.09	10.0000		85.2	62 - 129	0.589	20	
n-Butylbenzene	10.9300	0.50	0.15	10.0000		109	72 - 151	1.66	20	
n-Propylbenzene	10.8700	0.50	0.14	10.0000		109	69 - 149	1.11	20	
Naphthalene	9.61000	0.50	0.09	10.0000		96.1	61 - 122	4.47	20	
o-Xylene	20.3700	0.50	0.04	20.0000		102	66 - 147	0.734	20	
sec-Butylbenzene	10.8600	0.50	0.15	10.0000		109	72 - 148	1.20	20	
Styrene	10.1100	0.50	0.05	10.0000		101	72 - 138	2.00	20	
tert-Amyl methyl ether	8.21000	0.50	0.10	10.0000		82.1	53 - 122	1.72	20	
tert-Butanol	31.1000	10	3.0	50.0000		62.2	21 - 149	0.516	20	
tert-Butylbenzene	10.4500	0.50	0.11	10.0000		104	70 - 145	0.865	20	
Tetrachloroethene	11.2400	0.50	0.18	10.0000		112	61 - 145	0.804	20	
Toluene	21.4700	0.50	0.14	20.0000		107	70 - 140	1.08	20	
trans-1,2-Dichloroethene	10.4300	0.50	0.15	10.0000		104	73 - 130	2.23	20	
trans-1,3-Dichloropropene	7.89000	0.50	0.09	10.0000		78.9	72 - 129	3.48	20	
Trichloroethene	10.7400	0.50	0.15	10.0000		107	69 - 126	0.464	20	
Trichlorofluoromethane	11.6700	0.50	0.33	10.0000		117	70 - 159	3.49	20	
Vinyl acetate	87.0500	10	1.9	100.000		87.0	69 - 170	10.5	20	
Vinyl chloride	9.46000	0.50	0.25	10.0000		94.6	56 - 151	0.422	20	
Surrogate: 1,2-Dichloroethane-d	*23.46*			*25.0000*		*93.8*	*70 - 166*			
Surrogate: 4-Bromofluorobenzen	*23.75*			*25.0000*		*95.0*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.08*			*25.0000*		*100*	*80 - 150*			
Surrogate: Toluene-d8	*24.58*			*25.0000*		*98.3*	*87 - 121*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W										
Blank (B7J0413-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	ND	0.20	0.02							
Acenaphthene	ND	0.20	0.02							
Acenaphthylene	ND	0.20	0.02							
Anthracene	ND	0.20	0.01							
Benzo(a)anthracene	ND	0.20	0.01							
Benzo(a)pyrene	ND	0.20	0.01							
Benzo(b)fluoranthene	ND	0.20	0.06							
Benzo(g,h,i)perylene	ND	0.20	0.02							
Benzo(k)fluoranthene	ND	0.20	0.02							
Chrysene	ND	0.20	0.02							
Dibenz(a,h)anthracene	ND	0.20	0.02							
Fluoranthene	ND	0.20	0.02							
Fluorene	ND	0.20	0.02							
Indeno(1,2,3-cd)pyrene	ND	0.20	0.02							
Naphthalene	ND	0.20	0.02							
Phenanthrene	ND	0.20	0.02							
Pyrene	ND	0.20	0.02							
Surrogate: 1,2-Dichlorobenzene-	*0.7723*			*1.00000*		*77.2*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8111*			*1.00000*		*81.1*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.9341*			*1.00000*		*93.4*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*1.165*			*1.00000*		*117*	*32 - 119*			
LCS (B7J0413-BS1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	0.594950	0.20	0.02	1.00000		59.5	38 - 137			
Acenaphthene	0.670340	0.20	0.02	1.00000		67.0	38 - 103			
Acenaphthylene	0.682710	0.20	0.02	1.00000		68.3	41 - 102			
Anthracene	0.707100	0.20	0.01	1.00000		70.7	37 - 118			
Benzo(a)anthracene	0.778780	0.20	0.01	1.00000		77.9	42 - 118			
Benzo(a)pyrene	0.712580	0.20	0.01	1.00000		71.3	17 - 148			
Benzo(b)fluoranthene	0.800210	0.20	0.06	1.00000		80.0	33 - 126			
Benzo(g,h,i)perylene	0.716580	0.20	0.02	1.00000		71.7	33 - 123			
Benzo(k)fluoranthene	0.803040	0.20	0.02	1.00000		80.3	20 - 131			
Chrysene	0.747150	0.20	0.02	1.00000		74.7	44 - 127			
Dibenz(a,h)anthracene	0.796090	0.20	0.02	1.00000		79.6	31 - 122			
Fluoranthene	0.761460	0.20	0.02	1.00000		76.1	48 - 113			
Fluorene	0.740860	0.20	0.02	1.00000		74.1	46 - 100			
Indeno(1,2,3-cd)pyrene	0.750140	0.20	0.02	1.00000		75.0	35 - 123			
Naphthalene	0.706850	0.20	0.02	1.00000		70.7	35 - 115			
Phenanthrene	0.708600	0.20	0.02	1.00000		70.9	43 - 112			
Pyrene	0.762180	0.20	0.02	1.00000		76.2	47 - 116			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W (continued)										
LCS (B7J0413-BS1) - Continued						Prepared: 10/16/2017 Analyzed: 10/16/2017				
Surrogate: 1,2-Dichlorobenzene-	*0.7505*			*1.00000*		*75.1*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8615*			*1.00000*		*86.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8931*			*1.00000*		*89.3*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9966*			*1.00000*		*99.7*	*32 - 119*			
LCS Dup (B7J0413-BSD1)						Prepared: 10/16/2017 Analyzed: 10/16/2017				
2-Methylnaphthalene	0.588280	0.20	0.02	1.00000		58.8	38 - 137	1.13	20	
Acenaphthene	0.688400	0.20	0.02	1.00000		68.8	38 - 103	2.66	20	
Acenaphthylene	0.696510	0.20	0.02	1.00000		69.7	41 - 102	2.00	20	
Anthracene	0.698560	0.20	0.01	1.00000		69.9	37 - 118	1.22	20	
Benzo(a)anthracene	0.791900	0.20	0.01	1.00000		79.2	42 - 118	1.67	20	
Benzo(a)pyrene	0.696140	0.20	0.01	1.00000		69.6	17 - 148	2.33	20	
Benzo(b)fluoranthene	0.811500	0.20	0.06	1.00000		81.2	33 - 126	1.40	20	
Benzo(g,h,i)perylene	0.721590	0.20	0.02	1.00000		72.2	33 - 123	0.697	20	
Benzo(k)fluoranthene	0.794240	0.20	0.02	1.00000		79.4	20 - 131	1.10	20	
Chrysene	0.745200	0.20	0.02	1.00000		74.5	44 - 127	0.261	20	
Dibenz(a,h)anthracene	0.792430	0.20	0.02	1.00000		79.2	31 - 122	0.461	20	
Fluoranthene	0.772070	0.20	0.02	1.00000		77.2	48 - 113	1.38	20	
Fluorene	0.737630	0.20	0.02	1.00000		73.8	46 - 100	0.437	20	
Indeno(1,2,3-cd)pyrene	0.762320	0.20	0.02	1.00000		76.2	35 - 123	1.61	20	
Naphthalene	0.704320	0.20	0.02	1.00000		70.4	35 - 115	0.359	20	
Phenanthrene	0.702930	0.20	0.02	1.00000		70.3	43 - 112	0.803	20	
Pyrene	0.772110	0.20	0.02	1.00000		77.2	47 - 116	1.29	20	
Surrogate: 1,2-Dichlorobenzene-	*0.7333*			*1.00000*		*73.3*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8521*			*1.00000*		*85.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8699*			*1.00000*		*87.0*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9920*			*1.00000*		*99.2*	*32 - 119*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 1

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☑
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐	2.6 Blue ice		

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company: Leighton
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618-005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/TPHd; 8015(DRO) TPHo; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; PAHs 8270sim

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	TAT	Container #: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn((Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1703C40-01	LB1-GW	10-11-17	930	5	9	X		
2	-02	LB25-GW		1150			X		
3	-03	LB13-GW		1345			X		
4	-04	LB23-GW		1522			X		
5									
6									
7									
8									
9									
10									

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

SUBCONTRACT

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformated report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Kevin Hall — Submitter Print Name
Kevin C. Hall — Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kevin C. Hall	10/11/17	1618	FEDEX	10/11/17	1618
FEDEX	10/11/17	1704	MPL	10/11/17	1704

ADVANCED TECHNOLOGY LABORATORIES

October 19, 2017

Brynn McCulloch
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 394-2306
Fax:(949) 250-1114

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703641
Client Reference : POLA Berth 191-193, 11618.005

Enclosed are the results for sample(s) received on October 11, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB5-0.5	1703641-01	Soil	10/11/17 10:10	10/11/17 16:18
LB5-2.5	1703641-02	Soil	10/11/17 10:12	10/11/17 16:18
LB5-5.0	1703641-03	Soil	10/11/17 10:14	10/11/17 16:18
LB9-0.5	1703641-04	Soil	10/11/17 10:24	10/11/17 16:18
LB9-2.5	1703641-05	Soil	10/11/17 10:26	10/11/17 16:18
LB9-5.0	1703641-06	Soil	10/11/17 10:28	10/11/17 16:18
LB14-0.5	1703641-07	Soil	10/11/17 10:44	10/11/17 16:18
LB14-2.5	1703641-08	Soil	10/11/17 10:46	10/11/17 16:18
LB14-5.0	1703641-09	Soil	10/11/17 10:48	10/11/17 16:18
LB20-0.5	1703641-10	Soil	10/11/17 11:12	10/11/17 16:18
LB3-0.5	1703641-11	Soil	10/11/17 7:54	10/11/17 16:18
LB3-2.5	1703641-12	Soil	10/11/17 7:56	10/11/17 16:18
LB3-5.0	1703641-13	Soil	10/11/17 7:58	10/11/17 16:18
LB4-0.5	1703641-14	Soil	10/11/17 8:34	10/11/17 16:18
LB4-2.5	1703641-15	Soil	10/11/17 8:36	10/11/17 16:18
LB4-3.5	1703641-16	Soil	10/11/17 8:38	10/11/17 16:18
LB1-0.5	1703641-17	Soil	10/11/17 9:22	10/11/17 16:18
LB1-2.5	1703641-18	Soil	10/11/17 9:24	10/11/17 16:18
LB1-5.0	1703641-19	Soil	10/11/17 9:26	10/11/17 16:18
LB2-0.5	1703641-20	Soil	10/11/17 9:59	10/11/17 16:18
LB20-2.5	1703641-21	Soil	10/11/17 11:15	10/11/17 16:18
LB20-5.0	1703641-22	Soil	10/11/17 11:18	10/11/17 16:18
LB25-0.5	1703641-23	Soil	10/11/17 11:42	10/11/17 16:18
LB25-2.5	1703641-24	Soil	10/11/17 11:45	10/11/17 16:18
LB25-5.0	1703641-25	Soil	10/11/17 11:47	10/11/17 16:18
LB24-0.5	1703641-26	Soil	10/11/17 12:52	10/11/17 16:18
LB24-2.5	1703641-27	Soil	10/11/17 12:54	10/11/17 16:18
LB24-5.0	1703641-28	Soil	10/11/17 12:56	10/11/17 16:18
LB19-0.5	1703641-29	Soil	10/11/17 13:05	10/11/17 16:18
LB19-2.5	1703641-30	Soil	10/11/17 13:07	10/11/17 16:18
LB19-5.0	1703641-31	Soil	10/11/17 13:09	10/11/17 16:18
LB13-0.5	1703641-32	Soil	10/11/17 13:40	10/11/17 16:18
LB13-2.5	1703641-33	Soil	10/11/17 13:42	10/11/17 16:18
LB13-5.0	1703641-34	Soil	10/11/17 13:44	10/11/17 16:18
LB8-0.5	1703641-35	Soil	10/11/17 14:02	10/11/17 16:18
LB8-2.5	1703641-36	Soil	10/11/17 14:04	10/11/17 16:18
LB8-5.0	1703641-37	Soil	10/11/17 14:06	10/11/17 16:18

Certificate of Analysis

Leighton Consulting, Inc.		Project Number :	POLA Berth 191-193, 11618.005
17781 Cowan Street		Report To :	Brynn McCulloch
Irvine , CA 92614		Reported :	10/19/2017

LB12-0.5	1703641-38	Soil	10/11/17 14:23	10/11/17 16:18
LB12-2.5	1703641-39	Soil	10/11/17 14:25	10/11/17 16:18
LB12-5.0	1703641-40	Soil	10/11/17 14:27	10/11/17 16:18
LB17-0.5	1703641-41	Soil	10/11/17 14:38	10/11/17 16:18
LB17-2.5	1703641-42	Soil	10/11/17 14:40	10/11/17 16:18
LB17-5.0	1703641-43	Soil	10/11/17 14:42	10/11/17 16:18
LB18-0.5	1703641-44	Soil	10/11/17 14:53	10/11/17 16:18
LB18-2.5	1703641-45	Soil	10/11/17 14:55	10/11/17 16:18
LB18-5.0	1703641-46	Soil	10/11/17 14:57	10/11/17 16:18
LB23-0.5	1703641-47	Soil	10/11/17 15:15	10/11/17 16:18
LB23-2.5	1703641-48	Soil	10/11/17 15:18	10/11/17 16:18
LB23-5.0	1703641-49	Soil	10/11/17 15:20	10/11/17 16:18
LB2-2.5	1703641-50	Soil	10/11/17 9:57	10/11/17 16:18
LB2-5.0	1703641-51	Soil	10/11/17 9:55	10/11/17 16:18

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Arsenic	**2.8**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Barium	**73**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Chromium	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Cobalt	**5.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Copper	**22**	2.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Lead	**14**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Nickel	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Vanadium	**23**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	
Zinc	**51**	1.0	1	B7J0379	10/16/2017	10/17/17 12:14	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0397	10/17/2017	10/17/17 15:29	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.1	1	B7J0257	10/12/2017	10/12/17 13:06	
Surrogate: 4-Bromofluorobenzene	*87.2 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 13:06*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**470**	100	50	B7J0415	10/16/2017	10/17/17 14:47	
ORO	**1500**	100	50	B7J0415	10/16/2017	10/17/17 14:47	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 14:47*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-2.5

Lab ID: 1703641-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**2.5**	2.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Arsenic	**5.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Barium	**89**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Chromium	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Cobalt	**5.1**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Copper	**51**	2.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Lead	**99**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Nickel	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Vanadium	**23**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	
Zinc	**160**	1.0	1	B7J0379	10/16/2017	10/17/17 12:18	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**1.4**	0.10	1	B7J0397	10/17/2017	10/17/17 15:36	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.92	1	B7J0257	10/12/2017	10/12/17 13:24	
Surrogate: 4-Bromofluorobenzene	*100 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 13:24*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B7J0415	10/16/2017	10/17/17 16:47	
ORO	**46**	1.0	1	B7J0415	10/16/2017	10/17/17 16:47	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-2.5

Lab ID: 1703641-02

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*76.9 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 16:47*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-5.0

Lab ID: 1703641-03

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Arsenic	**1.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Barium	**47**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Chromium	**9.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Cobalt	**5.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Copper	**6.3**	2.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Nickel	**7.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Vanadium	**17**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	
Zinc	**25**	1.0	1	B7J0379	10/16/2017	10/17/17 12:19	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.18**	0.10	1	B7J0397	10/17/2017	10/17/17 15:38	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.1	1	B7J0257	10/12/2017	10/12/17 13:43	
Surrogate: 4-Bromofluorobenzene	*104 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 13:43*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**19**	1.0	1	B7J0415	10/16/2017	10/17/17 12:29	
ORO	**15**	1.0	1	B7J0415	10/16/2017	10/17/17 12:29	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB5-5.0

Lab ID: 1703641-03

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*111 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 12:29*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Arsenic	**2.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Barium	**90**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Chromium	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Cobalt	**6.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Copper	**19**	2.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Lead	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Nickel	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Vanadium	**27**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	
Zinc	**44**	1.0	1	B7J0379	10/16/2017	10/17/17 12:20	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.12**	0.10	1	B7J0397	10/17/2017	10/17/17 15:40	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.1	1	B7J0257	10/12/2017	10/12/17 14:01	
Surrogate: 4-Bromofluorobenzene	*95.2 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 14:01*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**690**	100	50	B7J0415	10/16/2017	10/17/17 16:30	
ORO	**2500**	100	50	B7J0415	10/16/2017	10/17/17 16:30	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 16:30*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-2.5

Lab ID: 1703641-05

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Arsenic	**3.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Barium	**55**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Chromium	**11**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Cobalt	**5.9**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Copper	**14**	2.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Lead	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Nickel	**9.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Vanadium	**22**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	
Zinc	**46**	1.0	1	B7J0379	10/16/2017	10/17/17 12:21	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.27**	0.10	1	B7J0397	10/17/2017	10/17/17 15:42	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.94	1	B7J0257	10/12/2017	10/12/17 14:20	
Surrogate: 4-Bromofluorobenzene	*103 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 14:20*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**75**	20	20	B7J0415	10/16/2017	10/17/17 13:21	
ORO	**160**	20	20	B7J0415	10/16/2017	10/17/17 13:21	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-2.5

Lab ID: 1703641-05

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 13:21*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-5.0

Lab ID: 1703641-06

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Arsenic	**2.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Barium	**21**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Chromium	**5.8**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Cobalt	**3.1**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Copper	**2.6**	2.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Nickel	**3.8**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Vanadium	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	
Zinc	**14**	1.0	1	B7J0379	10/16/2017	10/17/17 12:22	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.12**	0.10	1	B7J0397	10/17/2017	10/17/17 15:48	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.86	1	B7J0257	10/12/2017	10/12/17 14:38	
Surrogate: 4-Bromofluorobenzene	*93.3 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 14:38*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.9**	1.0	1	B7J0415	10/16/2017	10/17/17 11:02	
ORO	**5.7**	1.0	1	B7J0415	10/16/2017	10/17/17 11:02	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
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Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB9-5.0

Lab ID: 1703641-06

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*125 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 11:02*	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-0.5

Lab ID: 1703641-07

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Arsenic	**3.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Barium	**84**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Chromium	**24**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Cobalt	**6.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Copper	**33**	2.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Lead	**28**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Nickel	**16**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Vanadium	**27**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	
Zinc	**86**	1.0	1	B7J0379	10/16/2017	10/17/17 12:26	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.28**	0.10	1	B7J0397	10/17/2017	10/17/17 15:49	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0257	10/12/2017	10/12/17 14:56	
Surrogate: 4-Bromofluorobenzene	*94.3 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 14:56*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**160**	50	50	B7J0415	10/16/2017	10/17/17 13:04	
ORO	**440**	50	50	B7J0415	10/16/2017	10/17/17 13:04	

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Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-0.5

Lab ID: 1703641-07

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 13:04*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-2.5

Lab ID: 1703641-08

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Arsenic	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Barium	**97**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Chromium	**8.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Cobalt	**4.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Copper	**9.3**	2.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Nickel	**5.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Vanadium	**18**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	
Zinc	**26**	1.0	1	B7J0379	10/16/2017	10/17/17 12:27	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.15**	0.10	1	B7J0397	10/17/2017	10/17/17 15:51	

Gasoline Range Organics by EPA 8015B (Modified) (5035)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.2	1	B7J0257	10/12/2017	10/12/17 15:15	
Surrogate: 4-Bromofluorobenzene	*55.1 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 15:15*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.2**	1.0	1	B7J0415	10/16/2017	10/17/17 12:46	
ORO	**15**	1.0	1	B7J0415	10/16/2017	10/17/17 12:46	

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Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-2.5

Lab ID: 1703641-08

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*140 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 12:46*	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-5.0

Lab ID: 1703641-09

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Arsenic	**1.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Barium	**57**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Chromium	**11**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Cobalt	**6.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Copper	**7.8**	2.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Nickel	**8.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Vanadium	**21**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	
Zinc	**30**	1.0	1	B7J0379	10/16/2017	10/17/17 12:28	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.21**	0.10	1	B7J0397	10/17/2017	10/17/17 15:53	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0257	10/12/2017	10/12/17 15:33	
Surrogate: 4-Bromofluorobenzene	*102 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 15:33*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.6**	1.0	1	B7J0415	10/16/2017	10/17/17 10:45	
ORO	**3.1**	1.0	1	B7J0415	10/16/2017	10/17/17 10:45	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB14-5.0

Lab ID: 1703641-09

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*77.7 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 10:45*	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-0.5

Lab ID: 1703641-10

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Arsenic	**3.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Barium	**52**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Chromium	**15**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Cobalt	**6.1**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Copper	**39**	2.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Lead	**35**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Nickel	**21**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Vanadium	**32**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	
Zinc	**110**	1.0	1	B7J0379	10/16/2017	10/17/17 12:29	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.22**	0.10	1	B7J0397	10/17/2017	10/17/17 15:55	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0257	10/12/2017	10/12/17 15:52	
Surrogate: 4-Bromofluorobenzene	*106 %*	*50 - 138*		B7J0257	10/12/2017	*10/12/17 15:52*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**14**	1.0	1	B7J0415	10/16/2017	10/17/17 14:12	
ORO	**26**	1.0	1	B7J0415	10/16/2017	10/17/17 14:12	

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-0.5

Lab ID: 1703641-10

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*132 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 14:12*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-0.5

Lab ID: 1703641-11

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Arsenic	**2.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Barium	**53**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Chromium	**10**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Cobalt	**4.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Copper	**8.8**	2.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Lead	**29**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Nickel	**7.9**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Vanadium	**20**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	
Zinc	**65**	1.0	1	B7J0379	10/16/2017	10/17/17 12:30	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.25**	0.10	1	B7J0397	10/17/2017	10/17/17 15:57	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0270	10/12/2017	10/12/17 21:24	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0270	10/12/2017	*10/12/17 21:24*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B7J0415	10/16/2017	10/17/17 15:55	
ORO	**41**	1.0	1	B7J0415	10/16/2017	10/17/17 15:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-0.5

Lab ID: 1703641-11

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*145 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 15:55*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-2.5

Lab ID: 1703641-12

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Arsenic	**2.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Barium	**29**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Chromium	**6.1**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Cobalt	**3.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Copper	**3.5**	2.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Nickel	**4.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Vanadium	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	
Zinc	**18**	1.0	1	B7J0379	10/16/2017	10/17/17 12:32	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.15**	0.10	1	B7J0397	10/17/2017	10/17/17 15:59	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0270	10/12/2017	10/12/17 21:43	
Surrogate: 4-Bromofluorobenzene	*103 %*	*50 - 138*		B7J0270	10/12/2017	*10/12/17 21:43*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.1**	1.0	1	B7J0415	10/16/2017	10/17/17 11:54	
ORO	**5.4**	1.0	1	B7J0415	10/16/2017	10/17/17 11:54	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-2.5

Lab ID: 1703641-12

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*143 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 11:54*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-5.0

Lab ID: 1703641-13

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Arsenic	**1.4**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Barium	**33**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Chromium	**6.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Cobalt	**3.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Copper	**3.1**	2.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Nickel	**4.8**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Vanadium	**12**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	
Zinc	**18**	1.0	1	B7J0379	10/16/2017	10/17/17 12:33	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.12**	0.10	1	B7J0397	10/17/2017	10/17/17 16:01	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0270	10/12/2017	10/12/17 22:01	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0270	10/12/2017	*10/12/17 22:01*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**10**	1.0	1	B7J0415	10/16/2017	10/17/17 12:11	
ORO	**9.1**	1.0	1	B7J0415	10/16/2017	10/17/17 12:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB3-5.0

Lab ID: 1703641-13

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*99.2 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 12:11*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**5.1**	2.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Arsenic	**2.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Barium	**96**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Chromium	**16**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Cobalt	**3.9**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Copper	**58**	2.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Lead	**130**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Nickel	**11**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Vanadium	**18**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	
Zinc	**160**	1.0	1	B7J0379	10/16/2017	10/17/17 12:34	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.72**	0.10	1	B7J0397	10/17/2017	10/17/17 16:03	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0270	10/12/2017	10/12/17 22:20	
Surrogate: 4-Bromofluorobenzene	*103 %*	*50 - 138*		B7J0270	10/12/2017	*10/12/17 22:20*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**640**	50	50	B7J0415	10/16/2017	10/17/17 16:12	
ORO	**1900**	50	50	B7J0415	10/16/2017	10/17/17 16:12	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 16:12*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-2.5

Lab ID: 1703641-15

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Arsenic	**2.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Barium	**51**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Chromium	**7.4**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Cobalt	**3.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Copper	**11**	2.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Lead	**20**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Nickel	**6.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Vanadium	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	
Zinc	**43**	1.0	1	B7J0379	10/16/2017	10/17/17 12:35	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.34**	0.10	1	B7J0397	10/17/2017	10/17/17 16:04	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0270	10/12/2017	10/12/17 22:38	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0270	10/12/2017	*10/12/17 22:38*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**22**	5.0	5	B7J0415	10/16/2017	10/17/17 14:30	
ORO	**52**	5.0	5	B7J0415	10/16/2017	10/17/17 14:30	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-2.5

Lab ID: 1703641-15

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*87.1 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 14:30*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-3.5

Lab ID: 1703641-16

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Arsenic	**8.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Barium	**94**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Chromium	**8.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Cobalt	**4.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Copper	**590**	2.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Lead	**5.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Nickel	**8.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Vanadium	**23**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	
Zinc	**43**	1.0	1	B7J0379	10/16/2017	10/17/17 12:36	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.13**	0.10	1	B7J0397	10/17/2017	10/17/17 16:10	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 10:44	
Surrogate: 4-Bromofluorobenzene *112 %*		*50 - 138*		B7J0280	10/13/2017	*10/13/17 10:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**70**	20	20	B7J0415	10/16/2017	10/17/17 13:38	
ORO	**140**	20	20	B7J0415	10/16/2017	10/17/17 13:38	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB4-3.5

Lab ID: 1703641-16

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 13:38*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-0.5

Lab ID: 1703641-17

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Arsenic	**2.6**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Barium	**50**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Chromium	**9.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Cobalt	**5.1**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Copper	**29**	2.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Lead	**22**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Nickel	**11**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Vanadium	**23**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	
Zinc	**40**	1.0	1	B7J0379	10/16/2017	10/17/17 12:40	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.17**	0.10	1	B7J0397	10/17/2017	10/17/17 16:12	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 11:02	
Surrogate: 4-Bromofluorobenzene	*108 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 11:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**200**	50	50	B7J0415	10/16/2017	10/17/17 13:55	
ORO	**460**	50	50	B7J0415	10/16/2017	10/17/17 13:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-0.5

Lab ID: 1703641-17

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 13:55*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-2.5

Lab ID: 1703641-18

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Arsenic	**1.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Barium	**28**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Chromium	**6.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Cobalt	**2.9**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Copper	**2.9**	2.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Nickel	**4.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Vanadium	**13**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	
Zinc	**14**	1.0	1	B7J0379	10/16/2017	10/17/17 12:41	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.17**	0.10	1	B7J0397	10/17/2017	10/17/17 16:14	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 11:21	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 11:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.4**	1.0	1	B7J0415	10/16/2017	10/17/17 11:19	
ORO	**7.1**	1.0	1	B7J0415	10/16/2017	10/17/17 11:19	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-2.5

Lab ID: 1703641-18

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*83.1 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 11:19*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-5.0

Lab ID: 1703641-19

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Arsenic	**2.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Barium	**26**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Chromium	**6.7**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Cobalt	**3.5**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Copper	**3.8**	2.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Lead	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Molybdenum	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Nickel	**4.3**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Vanadium	**15**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	
Zinc	**16**	1.0	1	B7J0379	10/16/2017	10/17/17 12:42	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0397	10/17/2017	10/17/17 16:16	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 11:39	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 11:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.0**	1.0	1	B7J0415	10/16/2017	10/17/17 11:37	
ORO	**4.4**	1.0	1	B7J0415	10/16/2017	10/17/17 11:37	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB1-5.0

Lab ID: 1703641-19

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*106 %*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 11:37*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Arsenic	**4.0**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Barium	**93**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Beryllium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Cadmium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Chromium	**29**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Cobalt	**7.2**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Copper	**670**	2.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Lead	**110**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Molybdenum	**1.9**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Nickel	**22**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Selenium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Silver	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Thallium	ND	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Vanadium	**30**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	
Zinc	**120**	1.0	1	B7J0379	10/16/2017	10/17/17 12:43	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.28**	0.10	1	B7J0397	10/17/2017	10/17/17 16:18	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 11:58	
Surrogate: 4-Bromofluorobenzene	*100 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 11:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**720**	100	100	B7J0415	10/16/2017	10/17/17 15:38	
ORO	**1700**	100	100	B7J0415	10/16/2017	10/17/17 15:38	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0415	10/16/2017	*10/17/17 15:38*	S4

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-2.5

Lab ID: 1703641-21

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Arsenic	**3.3**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Barium	**30**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Chromium	**6.6**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Cobalt	**3.4**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Copper	**3.0**	2.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Lead	**1.8**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Nickel	**4.5**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Vanadium	**13**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	
Zinc	**17**	1.0	1	B7J0380	10/16/2017	10/17/17 12:28	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:23	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 12:16	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 12:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.2**	1.0	1	B7J0430	10/16/2017	10/17/17 11:27	
ORO	**3.7**	1.0	1	B7J0430	10/16/2017	10/17/17 11:27	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-2.5

Lab ID: 1703641-21

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*99.0 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 11:27*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-5.0

Lab ID: 1703641-22

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Arsenic	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Barium	**36**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Chromium	**7.1**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Cobalt	**3.7**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Copper	**3.1**	2.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Lead	**2.3**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Nickel	**4.8**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Vanadium	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	
Zinc	**18**	1.0	1	B7J0380	10/16/2017	10/17/17 12:37	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:35	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 12:34	
Surrogate: 4-Bromofluorobenzene	*108 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 12:34*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**4.2**	1.0	1	B7J0430	10/16/2017	10/17/17 10:56	
ORO	**3.1**	1.0	1	B7J0430	10/16/2017	10/17/17 10:56	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB20-5.0

Lab ID: 1703641-22

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*85.3 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 10:56*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-0.5

Lab ID: 1703641-23

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Arsenic	**2.8**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Barium	**18**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Chromium	**5.8**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Cobalt	**2.6**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Copper	**2.4**	2.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Lead	**1.9**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Nickel	**3.2**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Vanadium	**17**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	
Zinc	**12**	1.0	1	B7J0380	10/16/2017	10/17/17 12:40	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:37	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 12:53	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 12:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2.6**	1.0	1	B7J0430	10/16/2017	10/17/17 09:25	
ORO	**2.2**	1.0	1	B7J0430	10/16/2017	10/17/17 09:25	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-0.5

Lab ID: 1703641-23

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*76.0 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 09:25*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-2.5

Lab ID: 1703641-24

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Arsenic	**3.4**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Barium	**48**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Chromium	**8.6**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Cobalt	**5.0**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Copper	**4.7**	2.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Lead	**1.8**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Nickel	**6.5**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Vanadium	**18**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	
Zinc	**25**	1.0	1	B7J0380	10/16/2017	10/17/17 12:43	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:38	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 13:11	
Surrogate: 4-Bromofluorobenzene	*108 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 13:11*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2.1**	1.0	1	B7J0430	10/16/2017	10/17/17 09:10	
ORO	**1.9**	1.0	1	B7J0430	10/16/2017	10/17/17 09:10	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-2.5

Lab ID: 1703641-24

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*54.0 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 09:10*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-5.0

Lab ID: 1703641-25

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Arsenic	**2.4**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Barium	**24**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Chromium	**5.6**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Cobalt	**2.6**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Copper	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Lead	**1.1**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Nickel	**3.5**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Vanadium	**12**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	
Zinc	**14**	1.0	1	B7J0380	10/16/2017	10/17/17 12:46	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:40	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 13:30	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 13:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2.4**	1.0	1	B7J0430	10/16/2017	10/17/17 12:45	
ORO	**2.6**	1.0	1	B7J0430	10/16/2017	10/17/17 12:45	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB25-5.0

Lab ID: 1703641-25

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*81.2 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 12:45*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-0.5

Lab ID: 1703641-26

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Arsenic	**4.5**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Barium	**59**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Chromium	**12**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Cobalt	**6.7**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Copper	**9.7**	2.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Lead	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Nickel	**9.4**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Vanadium	**28**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	
Zinc	**35**	1.0	1	B7J0380	10/16/2017	10/17/17 12:49	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:42	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 13:48	
Surrogate: 4-Bromofluorobenzene	*108 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 13:48*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.1**	1.0	1	B7J0430	10/16/2017	10/17/17 13:01	
ORO	**6.2**	1.0	1	B7J0430	10/16/2017	10/17/17 13:01	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-0.5

Lab ID: 1703641-26

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*140 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 13:01*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-2.5

Lab ID: 1703641-27

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Arsenic	**3.3**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Barium	**36**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Chromium	**7.2**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Cobalt	**3.7**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Copper	**3.3**	2.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Lead	**1.5**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Nickel	**5.2**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Vanadium	**14**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	
Zinc	**19**	1.0	1	B7J0380	10/16/2017	10/17/17 12:59	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:44	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 14:07	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 14:07*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.6**	1.0	1	B7J0430	10/16/2017	10/17/17 10:10	
ORO	**5.6**	1.0	1	B7J0430	10/16/2017	10/17/17 10:10	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-2.5

Lab ID: 1703641-27

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*102 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 10:10*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-5.0

Lab ID: 1703641-28

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Arsenic	**4.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Barium	**23**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Chromium	**5.8**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Cobalt	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Copper	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Lead	**1.2**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Nickel	**3.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Vanadium	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	
Zinc	**14**	1.0	1	B7J0380	10/16/2017	10/17/17 13:48	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:46	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 23:21	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 23:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**4.3**	1.0	1	B7J0430	10/16/2017	10/17/17 12:30	
ORO	**4.7**	1.0	1	B7J0430	10/16/2017	10/17/17 12:30	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB24-5.0

Lab ID: 1703641-28

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*70.0 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 12:30*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-0.5

Lab ID: 1703641-29

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Arsenic	**3.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Barium	**37**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Chromium	**7.5**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Cobalt	**3.7**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Copper	**3.6**	2.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Lead	**1.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Nickel	**4.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Vanadium	**19**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	
Zinc	**21**	1.0	1	B7J0380	10/16/2017	10/17/17 13:05	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:48	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 14:44	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 14:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.8**	1.0	1	B7J0430	10/16/2017	10/17/17 12:14	
ORO	**7.9**	1.0	1	B7J0430	10/16/2017	10/17/17 12:14	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-0.5

Lab ID: 1703641-29

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*102 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 12:14*	

Polychlorinated Biphenyls by EPA 8082 **Analyst: CO**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1221	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1232	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1242	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1248	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1254	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1260	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1262	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1268	ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Surrogate: Decachlorobiphenyl	*52.8 %*	*18 - 136*		B7J0511	10/18/2017	*10/18/17 13:43*	
Surrogate: Tetrachloro-m-xylene	*80.2 %*	*30 - 130*		B7J0511	10/18/2017	*10/18/17 13:43*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-2.5

Lab ID: 1703641-30

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Arsenic	**3.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Barium	**20**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Chromium	**6.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Cobalt	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Copper	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Lead	**1.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Nickel	**3.3**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Vanadium	**17**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	
Zinc	**14**	1.0	1	B7J0380	10/16/2017	10/17/17 13:08	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:50	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 15:02	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 15:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.3**	1.0	1	B7J0430	10/16/2017	10/17/17 11:12	
ORO	**3.7**	1.0	1	B7J0430	10/16/2017	10/17/17 11:12	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-2.5

Lab ID: 1703641-30

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*128 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 11:12*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-5.0

Lab ID: 1703641-31

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Arsenic	**3.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Barium	**33**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Chromium	**6.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Cobalt	**3.8**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Copper	**3.2**	2.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Lead	**1.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Nickel	**4.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Vanadium	**14**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	
Zinc	**19**	1.0	1	B7J0380	10/16/2017	10/17/17 13:11	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:55	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 15:21	
Surrogate: 4-Bromofluorobenzene	*83.2 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 15:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.9**	1.0	1	B7J0430	10/16/2017	10/17/17 08:55	
ORO	**4.0**	1.0	1	B7J0430	10/16/2017	10/17/17 08:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB19-5.0

Lab ID: 1703641-31

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*91.0 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 08:55*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Arsenic	**4.8**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Barium	**100**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Chromium	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Cobalt	**5.5**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Copper	**34**	2.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Lead	**42**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Nickel	**13**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Vanadium	**27**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	
Zinc	**210**	1.0	1	B7J0380	10/16/2017	10/17/17 13:14	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.62**	0.10	1	B7J0398	10/17/2017	10/17/17 16:57	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0280	10/13/2017	10/13/17 15:39	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0280	10/13/2017	*10/13/17 15:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**350**	100	50	B7J0430	10/16/2017	10/17/17 14:21	
ORO	**1200**	100	50	B7J0430	10/16/2017	10/17/17 14:21	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 14:21*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-2.5

Lab ID: 1703641-33

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Arsenic	**3.7**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Barium	**47**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Chromium	**9.3**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Cobalt	**4.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Copper	**6.3**	2.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Lead	**6.3**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Nickel	**7.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Vanadium	**22**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	
Zinc	**31**	1.0	1	B7J0380	10/16/2017	10/17/17 13:17	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 16:59	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 20:53	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 20:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.9**	1.0	1	B7J0430	10/16/2017	10/17/17 13:33	
ORO	**8.4**	1.0	1	B7J0430	10/16/2017	10/17/17 13:33	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-2.5

Lab ID: 1703641-33

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*118 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 13:33*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-5.0

Lab ID: 1703641-34

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Arsenic	**2.8**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Barium	**25**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Chromium	**6.7**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Cobalt	**3.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Copper	**2.0**	2.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Lead	**1.2**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Nickel	**4.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Vanadium	**17**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	
Zinc	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:20	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 17:01	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 21:12	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 21:12*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.7**	1.0	1	B7J0430	10/16/2017	10/17/17 09:40	
ORO	**6.7**	1.0	1	B7J0430	10/16/2017	10/17/17 09:40	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB13-5.0

Lab ID: 1703641-34

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*57.3 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 09:40*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-0.5

Lab ID: 1703641-35

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Arsenic	**5.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Barium	**100**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Chromium	**17**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Cobalt	**6.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Copper	**42**	2.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Lead	**29**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Nickel	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Vanadium	**27**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	
Zinc	**170**	1.0	1	B7J0380	10/16/2017	10/17/17 13:23	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.21**	0.10	1	B7J0398	10/17/2017	10/17/17 17:03	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 21:30	
Surrogate: 4-Bromofluorobenzene	*54.4 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 21:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**180**	50	50	B7J0430	10/16/2017	10/17/17 14:05	
ORO	**580**	50	50	B7J0430	10/16/2017	10/17/17 14:05	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-0.5

Lab ID: 1703641-35

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 14:05*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-2.5

Lab ID: 1703641-36

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Arsenic	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Barium	**34**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Chromium	**6.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Cobalt	**3.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Copper	**3.5**	2.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Lead	**1.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Nickel	**4.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Vanadium	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	
Zinc	**18**	1.0	1	B7J0380	10/16/2017	10/17/17 13:26	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 17:05	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 21:49	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 21:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**4.8**	1.0	1	B7J0430	10/16/2017	10/17/17 10:26	
ORO	**5.0**	1.0	1	B7J0430	10/16/2017	10/17/17 10:26	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-2.5

Lab ID: 1703641-36

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*85.8 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 10:26*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-5.0

Lab ID: 1703641-37

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Arsenic	**2.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Barium	**26**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Chromium	**6.8**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Cobalt	**3.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Copper	**3.1**	2.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Lead	**2.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Nickel	**3.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Vanadium	**19**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	
Zinc	**15**	1.0	1	B7J0380	10/16/2017	10/17/17 13:35	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 17:07	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 22:57	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 22:57*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.7**	1.0	1	B7J0430	10/16/2017	10/17/17 10:41	
ORO	**3.7**	1.0	1	B7J0430	10/16/2017	10/17/17 10:41	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB8-5.0

Lab ID: 1703641-37

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*112 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 10:41*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-0.5

Lab ID: 1703641-38

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Arsenic	**5.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Barium	**140**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Chromium	**18**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Cobalt	**6.3**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Copper	**52**	2.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Lead	**38**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Nickel	**16**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Vanadium	**28**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	
Zinc	**200**	1.0	1	B7J0380	10/16/2017	10/17/17 13:38	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.34**	0.10	1	B7J0398	10/17/2017	10/17/17 17:08	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 22:25	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 22:25*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**180**	100	50	B7J0430	10/16/2017	10/17/17 13:49	
ORO	**420**	100	50	B7J0430	10/16/2017	10/17/17 13:49	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-0.5

Lab ID: 1703641-38

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 13:49*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-2.5

Lab ID: 1703641-39

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Arsenic	**3.4**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Barium	**30**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Chromium	**7.9**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Cobalt	**2.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Copper	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Lead	**1.2**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Nickel	**3.1**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Vanadium	**28**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	
Zinc	**13**	1.0	1	B7J0380	10/16/2017	10/17/17 13:41	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0398	10/17/2017	10/17/17 17:10	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 22:44	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 22:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.7**	1.0	1	B7J0430	10/16/2017	10/17/17 09:55	
ORO	**5.7**	1.0	1	B7J0430	10/16/2017	10/17/17 09:55	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-2.5

Lab ID: 1703641-39

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*94.9 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 09:55*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-5.0

Lab ID: 1703641-40

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Arsenic	**3.7**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Barium	**46**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Beryllium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Cadmium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Chromium	**8.5**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Cobalt	**4.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Copper	**4.7**	2.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Lead	**1.6**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Molybdenum	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Nickel	**6.0**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Selenium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Silver	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Thallium	ND	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Vanadium	**19**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	
Zinc	**23**	1.0	1	B7J0380	10/16/2017	10/17/17 13:45	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.17**	0.10	1	B7J0398	10/17/2017	10/17/17 17:12	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 23:02	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 23:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.4**	1.0	1	B7J0430	10/16/2017	10/17/17 13:17	
ORO	**6.6**	1.0	1	B7J0430	10/16/2017	10/17/17 13:17	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB12-5.0

Lab ID: 1703641-40

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*100 %*	*38 - 145*		B7J0430	10/16/2017	*10/17/17 13:17*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Arsenic	**1.4**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Barium	**75**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Chromium	**14**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Cobalt	**4.0**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Copper	**16**	2.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Lead	**51**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Nickel	**10**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Vanadium	**22**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	
Zinc	**250**	1.0	1	B7J0381	10/16/2017	10/17/17 12:47	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.73**	0.10	1	B7J0399	10/17/2017	10/17/17 17:21	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 17:30	
Surrogate: 4-Bromofluorobenzene	*105 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 17:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1400**	100	50	B7J0491	10/17/2017	10/18/17 14:02	
ORO	**3400**	100	50	B7J0491	10/17/2017	10/18/17 14:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 14:02*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-2.5

Lab ID: 1703641-42

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Arsenic	**1.3**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Barium	**46**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Chromium	**9.1**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Cobalt	**4.9**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Copper	**6.0**	2.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Nickel	**6.7**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Vanadium	**20**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	
Zinc	**24**	1.0	1	B7J0381	10/16/2017	10/17/17 12:50	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0399	10/17/2017	10/17/17 17:29	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 17:49	
Surrogate: 4-Bromofluorobenzene	*80.1 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 17:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**11**	1.0	1	B7J0491	10/17/2017	10/18/17 12:52	
ORO	**9.6**	1.0	1	B7J0491	10/17/2017	10/18/17 12:52	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-2.5

Lab ID: 1703641-42

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*110 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 12:52*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-5.0

Lab ID: 1703641-43

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Arsenic	**1.0**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Barium	**51**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Chromium	**8.5**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Cobalt	**5.1**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Copper	**5.3**	2.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Nickel	**6.6**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Vanadium	**16**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	
Zinc	**24**	1.0	1	B7J0381	10/16/2017	10/17/17 12:58	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.10**	0.10	1	B7J0399	10/17/2017	10/17/17 17:31	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 18:07	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 18:07*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.7**	1.0	1	B7J0491	10/17/2017	10/18/17 11:08	
ORO	**6.2**	1.0	1	B7J0491	10/17/2017	10/18/17 11:08	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB17-5.0

Lab ID: 1703641-43

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*90.7 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 11:08*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-0.5

Lab ID: 1703641-44

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Arsenic	**2.5**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Barium	**99**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Chromium	**35**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Cobalt	**7.3**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Copper	**100**	2.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Lead	**33**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Molybdenum	**3.5**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Nickel	**32**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Vanadium	**23**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	
Zinc	**150**	1.0	1	B7J0381	10/16/2017	10/17/17 12:59	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.23**	0.10	1	B7J0399	10/17/2017	10/17/17 17:33	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 18:25	
Surrogate: 4-Bromofluorobenzene *112 %*		*50 - 138*		B7J0310	10/13/2017	*10/13/17 18:25*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**110**	25	25	B7J0491	10/17/2017	10/18/17 13:27	
ORO	**280**	25	25	B7J0491	10/17/2017	10/18/17 13:27	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-0.5

Lab ID: 1703641-44

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 13:27*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-2.5

Lab ID: 1703641-45

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Arsenic	**2.1**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Barium	**28**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Chromium	**7.0**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Cobalt	**3.3**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Copper	**3.1**	2.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Nickel	**4.5**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Vanadium	**16**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	
Zinc	**16**	1.0	1	B7J0381	10/16/2017	10/17/17 13:00	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0399	10/17/2017	10/17/17 17:35	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 18:44	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 18:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.1**	1.0	1	B7J0491	10/17/2017	10/18/17 11:26	
ORO	**5.9**	1.0	1	B7J0491	10/17/2017	10/18/17 11:26	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-2.5

Lab ID: 1703641-45

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*137 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 11:26*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-5.0

Lab ID: 1703641-46

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Arsenic	**2.2**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Barium	**35**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Chromium	**7.5**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Cobalt	**4.3**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Copper	**3.9**	2.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Nickel	**5.3**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Vanadium	**17**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	
Zinc	**18**	1.0	1	B7J0381	10/16/2017	10/17/17 13:01	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0399	10/17/2017	10/17/17 17:40	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 19:02	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 19:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**11**	1.0	1	B7J0491	10/17/2017	10/18/17 11:43	
ORO	**9.8**	1.0	1	B7J0491	10/17/2017	10/18/17 11:43	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB18-5.0

Lab ID: 1703641-46

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*90.9 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 11:43*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-0.5

Lab ID: 1703641-47

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Arsenic	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Barium	**24**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Chromium	**6.0**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Cobalt	**2.4**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Copper	**2.8**	2.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Nickel	**3.0**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Vanadium	**14**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	
Zinc	**11**	1.0	1	B7J0381	10/16/2017	10/17/17 13:02	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0399	10/17/2017	10/17/17 17:42	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 19:21	
Surrogate: 4-Bromofluorobenzene	*101 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 19:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**14**	1.0	1	B7J0491	10/17/2017	10/18/17 12:00	
ORO	**12**	1.0	1	B7J0491	10/17/2017	10/18/17 12:00	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-0.5

Lab ID: 1703641-47

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*144 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 12:00*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-2.5

Lab ID: 1703641-48

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Arsenic	**1.1**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Barium	**36**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Chromium	**8.4**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Cobalt	**4.2**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Copper	**5.9**	2.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Nickel	**5.7**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Vanadium	**15**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	
Zinc	**20**	1.0	1	B7J0381	10/16/2017	10/17/17 13:03	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.10**	0.10	1	B7J0399	10/17/2017	10/17/17 17:44	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 19:39	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 19:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.3**	1.0	1	B7J0491	10/17/2017	10/18/17 12:17	
ORO	**7.1**	1.0	1	B7J0491	10/17/2017	10/18/17 12:17	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-2.5

Lab ID: 1703641-48

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*141 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 12:17*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-5.0

Lab ID: 1703641-49

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Arsenic	**1.7**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Barium	**28**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Chromium	**5.8**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Cobalt	**2.9**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Copper	**2.6**	2.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Lead	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Nickel	**4.0**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Vanadium	**10**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	
Zinc	**15**	1.0	1	B7J0381	10/16/2017	10/17/17 13:05	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0399	10/17/2017	10/17/17 17:46	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 19:58	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 19:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.7**	1.0	1	B7J0491	10/17/2017	10/18/17 10:51	
ORO	**7.6**	1.0	1	B7J0491	10/17/2017	10/18/17 10:51	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB23-5.0

Lab ID: 1703641-49

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*108 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 10:51*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-2.5

Lab ID: 1703641-50

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Arsenic	**1.7**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Barium	**50**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Cadmium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Chromium	**7.9**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Cobalt	**4.0**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Copper	**5.2**	2.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Lead	**5.8**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Nickel	**5.6**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Vanadium	**15**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	
Zinc	**32**	1.0	1	B7J0381	10/16/2017	10/17/17 13:06	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.16**	0.10	1	B7J0399	10/17/2017	10/17/17 17:48	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 20:16	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 20:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.7**	1.0	1	B7J0491	10/17/2017	10/18/17 13:10	
ORO	**13**	1.0	1	B7J0491	10/17/2017	10/18/17 13:10	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-2.5

Lab ID: 1703641-50

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*75.3 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 13:10*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-5.0

Lab ID: 1703641-51

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Arsenic	**3.5**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Barium	**25**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Beryllium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Cadmium	**1.2**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Chromium	**7.5**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Cobalt	**4.8**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Copper	**4.2**	2.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Lead	**1.7**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Molybdenum	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Nickel	**5.6**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Selenium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Silver	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Thallium	ND	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Vanadium	**15**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	
Zinc	**17**	1.0	1	B7J0381	10/16/2017	10/17/17 13:07	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.11**	0.10	1	B7J0399	10/17/2017	10/17/17 17:50	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0310	10/13/2017	10/13/17 20:35	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0310	10/13/2017	*10/13/17 20:35*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.1**	1.0	1	B7J0491	10/17/2017	10/18/17 12:35	
ORO	**8.3**	1.0	1	B7J0491	10/17/2017	10/18/17 12:35	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Client Sample ID LB2-5.0

Lab ID: 1703641-51

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*73.3 %*	*38 - 145*		B7J0491	10/17/2017	*10/18/17 12:35*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0379 - EPA 3050B_S										
Blank (B7J0379-BLK1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0379-BS1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	46.2293	2.0	0.51	50.0000		92.5	80 - 120			
Arsenic	46.7313	1.0	0.12	50.0000		93.5	80 - 120			
Barium	47.5238	1.0	0.12	50.0000		95.0	80 - 120			
Beryllium	46.0674	1.0	0.03	50.0000		92.1	80 - 120			
Cadmium	45.0805	1.0	0.14	50.0000		90.2	80 - 120			
Chromium	47.4288	1.0	0.26	50.0000		94.9	80 - 120			
Cobalt	47.2101	1.0	0.07	50.0000		94.4	80 - 120			
Copper	46.4091	2.0	0.19	50.0000		92.8	80 - 120			
Lead	47.5108	1.0	0.18	50.0000		95.0	80 - 120			
Molybdenum	47.6868	1.0	0.12	50.0000		95.4	80 - 120			
Nickel	45.6636	1.0	0.18	50.0000		91.3	80 - 120			
Selenium	44.7758	1.0	0.40	50.0000		89.6	80 - 120			
Silver	47.8175	1.0	0.12	50.0000		95.6	80 - 120			
Thallium	47.3894	1.0	0.38	50.0000		94.8	80 - 120			
Vanadium	46.9669	1.0	0.06	50.0000		93.9	80 - 120			
Zinc	45.8814	1.0	0.15	50.0000		91.8	80 - 120			
Matrix Spike (B7J0379-MS1)			**Source: 1703641-01**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	85.5382	2.0	0.51	125.000	ND	68.4	33 - 98			
Arsenic	111.456	1.0	0.12	125.000	2.79076	86.9	48 - 101			
Barium	166.942	1.0	0.12	125.000	72.6816	75.4	25 - 131			
Beryllium	98.3888	1.0	0.03	125.000	ND	78.7	56 - 97			

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0379 - EPA 3050B_S (continued)										
Matrix Spike (B7J0379-MS1) - Continued			**Source: 1703641-01**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Cadmium	95.4847	1.0	0.14	125.000	0.168287	76.3	53 - 94			
Chromium	115.162	1.0	0.26	125.000	13.2773	81.5	45 - 113			
Cobalt	102.452	1.0	0.07	125.000	5.65825	77.4	51 - 97			
Copper	151.283	2.0	0.19	125.000	21.6896	104	51 - 113			
Lead	115.428	1.0	0.18	125.000	13.8384	81.3	33 - 127			
Molybdenum	103.279	1.0	0.12	125.000	ND	82.6	54 - 97			
Nickel	110.949	1.0	0.18	125.000	11.5540	79.5	46 - 102			
Selenium	98.5192	1.0	0.40	125.000	ND	78.8	52 - 93			
Silver	109.077	1.0	0.12	125.000	ND	87.3	58 - 98			
Thallium	91.5100	1.0	0.38	125.000	ND	73.2	46 - 93			
Vanadium	120.486	1.0	0.06	125.000	23.0841	77.9	55 - 104			
Zinc	154.026	1.0	0.15	125.000	50.5551	82.8	26 - 118			
Matrix Spike Dup (B7J0379-MSD1)			**Source: 1703641-01**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	93.2327	2.0	0.51	125.000	ND	74.6	33 - 98	8.61	20	
Arsenic	115.200	1.0	0.12	125.000	2.79076	89.9	48 - 101	3.30	20	
Barium	174.338	1.0	0.12	125.000	72.6816	81.3	25 - 131	4.33	20	
Beryllium	109.215	1.0	0.03	125.000	ND	87.4	56 - 97	10.4	20	
Cadmium	103.559	1.0	0.14	125.000	0.168287	82.7	53 - 94	8.11	20	
Chromium	126.520	1.0	0.26	125.000	13.2773	90.6	45 - 113	9.40	20	
Cobalt	110.255	1.0	0.07	125.000	5.65825	83.7	51 - 97	7.34	20	
Copper	149.962	2.0	0.19	125.000	21.6896	103	51 - 113	0.877	20	
Lead	121.817	1.0	0.18	125.000	13.8384	86.4	33 - 127	5.39	20	
Molybdenum	112.539	1.0	0.12	125.000	ND	90.0	54 - 97	8.58	20	
Nickel	119.986	1.0	0.18	125.000	11.5540	86.7	46 - 102	7.83	20	
Selenium	107.495	1.0	0.40	125.000	ND	86.0	52 - 93	8.71	20	
Silver	119.380	1.0	0.12	125.000	ND	95.5	58 - 98	9.02	20	
Thallium	100.374	1.0	0.38	125.000	ND	80.3	46 - 93	9.24	20	
Vanadium	129.178	1.0	0.06	125.000	23.0841	84.9	55 - 104	6.96	20	
Zinc	157.716	1.0	0.15	125.000	50.5551	85.7	26 - 118	2.37	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0380 - EPA 3050B_S										
Blank (B7J0380-BLK1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0380-BS1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	47.0305	2.0	0.51	50.0000		94.1	80 - 120			
Arsenic	46.2034	1.0	0.12	50.0000		92.4	80 - 120			
Barium	49.0116	1.0	0.12	50.0000		98.0	80 - 120			
Beryllium	50.0874	1.0	0.03	50.0000		100	80 - 120			
Cadmium	47.2200	1.0	0.14	50.0000		94.4	80 - 120			
Chromium	44.5935	1.0	0.26	50.0000		89.2	80 - 120			
Cobalt	48.2842	1.0	0.07	50.0000		96.6	80 - 120			
Copper	47.6718	2.0	0.19	50.0000		95.3	80 - 120			
Lead	47.6816	1.0	0.18	50.0000		95.4	80 - 120			
Molybdenum	47.2341	1.0	0.12	50.0000		94.5	80 - 120			
Nickel	46.7912	1.0	0.18	50.0000		93.6	80 - 120			
Selenium	45.8626	1.0	0.40	50.0000		91.7	80 - 120			
Silver	47.1944	1.0	0.12	50.0000		94.4	80 - 120			
Thallium	45.3317	1.0	0.38	50.0000		90.7	80 - 120			
Vanadium	48.4848	1.0	0.06	50.0000		97.0	80 - 120			
Zinc	47.9056	1.0	0.15	50.0000		95.8	80 - 120			
Matrix Spike (B7J0380-MS1)				**Source: 1703641-21**		Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	103.124	2.0	0.51	125.000	ND	82.5	33 - 98			
Arsenic	111.734	1.0	0.12	125.000	3.34353	86.7	48 - 101			
Barium	134.858	1.0	0.12	125.000	29.6164	84.2	25 - 131			
Beryllium	114.847	1.0	0.03	125.000	0.174839	91.7	56 - 97			
Cadmium	107.073	1.0	0.14	125.000	0.175724	85.5	53 - 94			
Chromium	105.960	1.0	0.26	125.000	6.59702	79.5	45 - 113			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0380 - EPA 3050B_S (continued)										
Matrix Spike (B7J0380-MS1) - Continued			**Source: 1703641-21**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Cobalt	109.839	1.0	0.07	125.000	3.43942	85.1	51 - 97			
Copper	114.968	2.0	0.19	125.000	2.96166	89.6	51 - 113			
Lead	107.460	1.0	0.18	125.000	1.77591	84.5	33 - 127			
Molybdenum	108.756	1.0	0.12	125.000	ND	87.0	54 - 97			
Nickel	109.287	1.0	0.18	125.000	4.54572	83.8	46 - 102			
Selenium	107.408	1.0	0.40	125.000	ND	85.9	52 - 93			
Silver	114.228	1.0	0.12	125.000	ND	91.4	58 - 98			
Thallium	103.067	1.0	0.38	125.000	ND	82.5	46 - 93			
Vanadium	122.976	1.0	0.06	125.000	13.2447	87.8	55 - 104			
Zinc	123.165	1.0	0.15	125.000	17.1458	84.8	26 - 118			
Matrix Spike Dup (B7J0380-MSD1)			**Source: 1703641-21**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	85.2524	2.0	0.51	125.000	ND	68.2	33 - 98	19.0	20	
Arsenic	92.2532	1.0	0.12	125.000	3.34353	71.1	48 - 101	19.1	20	
Barium	112.355	1.0	0.12	125.000	29.6164	66.2	25 - 131	18.2	20	
Beryllium	95.0320	1.0	0.03	125.000	0.174839	75.9	56 - 97	18.9	20	
Cadmium	90.7578	1.0	0.14	125.000	0.175724	72.5	53 - 94	16.5	20	
Chromium	88.4502	1.0	0.26	125.000	6.59702	65.5	45 - 113	18.0	20	
Cobalt	92.1372	1.0	0.07	125.000	3.43942	71.0	51 - 97	17.5	20	
Copper	94.5574	2.0	0.19	125.000	2.96166	73.3	51 - 113	19.5	20	
Lead	90.7600	1.0	0.18	125.000	1.77591	71.2	33 - 127	16.8	20	
Molybdenum	90.4325	1.0	0.12	125.000	ND	72.3	54 - 97	18.4	20	
Nickel	91.8061	1.0	0.18	125.000	4.54572	69.8	46 - 102	17.4	20	
Selenium	88.6278	1.0	0.40	125.000	ND	70.9	52 - 93	19.2	20	
Silver	95.4564	1.0	0.12	125.000	ND	76.4	58 - 98	17.9	20	
Thallium	87.3198	1.0	0.38	125.000	ND	69.9	46 - 93	16.5	20	
Vanadium	102.813	1.0	0.06	125.000	13.2447	71.7	55 - 104	17.9	20	
Zinc	104.554	1.0	0.15	125.000	17.1458	69.9	26 - 118	16.3	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0381 - EPA 3050B_S										
Blank (B7J0381-BLK1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0381-BS1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	47.1490	2.0	0.51	50.0000		94.3	80 - 120			
Arsenic	47.2644	1.0	0.12	50.0000		94.5	80 - 120			
Barium	49.7971	1.0	0.12	50.0000		99.6	80 - 120			
Beryllium	47.0830	1.0	0.03	50.0000		94.2	80 - 120			
Cadmium	47.5536	1.0	0.14	50.0000		95.1	80 - 120			
Chromium	49.6672	1.0	0.26	50.0000		99.3	80 - 120			
Cobalt	49.4810	1.0	0.07	50.0000		99.0	80 - 120			
Copper	48.1640	2.0	0.19	50.0000		96.3	80 - 120			
Lead	48.6745	1.0	0.18	50.0000		97.3	80 - 120			
Molybdenum	48.3511	1.0	0.12	50.0000		96.7	80 - 120			
Nickel	47.7093	1.0	0.18	50.0000		95.4	80 - 120			
Selenium	45.0212	1.0	0.40	50.0000		90.0	80 - 120			
Silver	48.6228	1.0	0.12	50.0000		97.2	80 - 120			
Thallium	48.5925	1.0	0.38	50.0000		97.2	80 - 120			
Vanadium	48.8791	1.0	0.06	50.0000		97.8	80 - 120			
Zinc	48.5428	1.0	0.15	50.0000		97.1	80 - 120			
Matrix Spike (B7J0381-MS1)				**Source: 1703641-41**		Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	82.9204	2.0	0.51	125.000	ND	66.3	33 - 98			
Arsenic	95.2105	1.0	0.12	125.000	1.42955	75.0	48 - 101			
Barium	156.472	1.0	0.12	125.000	74.7185	65.4	25 - 131			
Beryllium	90.3796	1.0	0.03	125.000	ND	72.3	56 - 97			
Cadmium	84.6792	1.0	0.14	125.000	0.273155	67.5	53 - 94			
Chromium	99.3616	1.0	0.26	125.000	13.8810	68.4	45 - 113			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0381 - EPA 3050B_S (continued)										
Matrix Spike (B7J0381-MS1) - Continued			**Source: 1703641-41**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Cobalt	89.9234	1.0	0.07	125.000	3.99737	68.7	51 - 97			
Copper	107.847	2.0	0.19	125.000	15.8790	73.6	51 - 113			
Lead	123.671	1.0	0.18	125.000	50.6071	58.5	33 - 127			
Molybdenum	89.8940	1.0	0.12	125.000	ND	71.9	54 - 97			
Nickel	93.4356	1.0	0.18	125.000	10.4888	66.4	46 - 102			
Selenium	89.7774	1.0	0.40	125.000	ND	71.8	52 - 93			
Silver	97.8449	1.0	0.12	125.000	ND	78.3	58 - 98			
Thallium	80.7193	1.0	0.38	125.000	ND	64.6	46 - 93			
Vanadium	107.243	1.0	0.06	125.000	21.9490	68.2	55 - 104			
Zinc	300.697	1.0	0.15	125.000	252.309	38.7	26 - 118			
Matrix Spike Dup (B7J0381-MSD1)			**Source: 1703641-41**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
Antimony	76.4826	2.0	0.51	125.000	ND	61.2	33 - 98	8.08	20	
Arsenic	87.1824	1.0	0.12	125.000	1.42955	68.6	48 - 101	8.80	20	
Barium	145.655	1.0	0.12	125.000	74.7185	56.7	25 - 131	7.16	20	
Beryllium	83.6556	1.0	0.03	125.000	ND	66.9	56 - 97	7.73	20	
Cadmium	76.7280	1.0	0.14	125.000	0.273155	61.2	53 - 94	9.85	20	
Chromium	89.0623	1.0	0.26	125.000	13.8810	60.1	45 - 113	10.9	20	
Cobalt	81.2796	1.0	0.07	125.000	3.99737	61.8	51 - 97	10.1	20	
Copper	100.785	2.0	0.19	125.000	15.8790	67.9	51 - 113	6.77	20	
Lead	129.823	1.0	0.18	125.000	50.6071	63.4	33 - 127	4.85	20	
Molybdenum	82.4236	1.0	0.12	125.000	ND	65.9	54 - 97	8.67	20	
Nickel	84.9296	1.0	0.18	125.000	10.4888	59.6	46 - 102	9.54	20	
Selenium	82.8578	1.0	0.40	125.000	ND	66.3	52 - 93	8.02	20	
Silver	89.5600	1.0	0.12	125.000	ND	71.6	58 - 98	8.84	20	
Thallium	74.0236	1.0	0.38	125.000	ND	59.2	46 - 93	8.65	20	
Vanadium	98.5222	1.0	0.06	125.000	21.9490	61.3	55 - 104	8.48	20	
Zinc	198.635	1.0	0.15	125.000	252.309	-42.9	26 - 118	40.9	20	M1, R

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0397 - EPA 7471_S										
Blank (B7J0397-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0397-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.916266	0.10	0.005	0.833333		110	80 - 120			
Matrix Spike (B7J0397-MS1)			**Source: 1703641-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	1.06931	0.10	0.005	0.833333	0.047388	123	70 - 130			
Matrix Spike Dup (B7J0397-MSD1)			**Source: 1703641-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	1.05166	0.10	0.005	0.833333	0.047388	121	70 - 130	1.66	20	
Post Spike (B7J0397-PS1)			**Source: 1703641-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.004139			5.00000E-3	0.000569	71.4	85 - 115			M1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0398 - EPA 7471_S										
Blank (B7J0398-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0398-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.879681	0.10	0.005	0.833333		106	80 - 120			
Matrix Spike (B7J0398-MS1)			**Source: 1703641-21**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.985725	0.10	0.005	0.833333	0.080635	109	70 - 130			
Matrix Spike Dup (B7J0398-MSD1)			**Source: 1703641-21**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	1.00107	0.10	0.005	0.833333	0.080635	110	70 - 130	1.54	20	
Post Spike (B7J0398-PS1)			**Source: 1703641-21**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.007328			5.00000E-3	0.000968	127	85 - 115			M1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0399 - EPA 7471_S										
Blank (B7J0399-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0399-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.896462	0.10	0.005	0.833333		108	80 - 120			
Matrix Spike (B7J0399-MS1)			**Source: 1703641-41**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	1.49409	0.10	0.005	0.833333	0.729856	91.7	70 - 130			
Matrix Spike Dup (B7J0399-MSD1)			**Source: 1703641-41**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	1.97079	0.10	0.005	0.833333	0.729856	149	70 - 130	27.5	20	M1, R
Post Spike (B7J0399-PS1)			**Source: 1703641-41**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Mercury	0.014348			5.00000E-3	0.008758	112	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0257 - GCVOA_S										
Blank (B7J0257-BLK1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2121*			*0.200000*		*106*	*50 - 138*			
LCS (B7J0257-BS1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.68900	1.0	0.20	5.00000		93.8	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2074*			*0.200000*		*104*	*50 - 138*			
Duplicate (B7J0257-DUP1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2071*			*0.200000*		*104*	*50 - 138*			
Matrix Spike (B7J0257-MS1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.38500	1.0	0.20	5.00000	ND	87.7	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.1958*			*0.200000*		*97.9*	*50 - 138*			
Matrix Spike Dup (B7J0257-MSD1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.26100	1.0	0.20	5.00000	ND	85.2	17 - 141	2.87	20	
Surrogate: 4-Bromofluorobenzene	*0.2107*			*0.200000*		*105*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0270 - GCVOA_S										
Blank (B7J0270-BLK1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2132*			*0.200000*		*107*	*50 - 138*			
LCS (B7J0270-BS1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.54800	1.0	0.20	5.00000		91.0	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2083*			*0.200000*		*104*	*50 - 138*			
Duplicate (B7J0270-DUP1)			**Source: 1703635-11**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2220*			*0.200000*		*111*	*50 - 138*			
Matrix Spike (B7J0270-MS1)			**Source: 1703635-11**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	3.85900	1.0	0.20	5.00000	ND	77.2	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2110*			*0.200000*		*105*	*50 - 138*			
Matrix Spike Dup (B7J0270-MSD1)			**Source: 1703635-11**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	3.55500	1.0	0.20	5.00000	ND	71.1	17 - 141	8.20	20	
Surrogate: 4-Bromofluorobenzene	*0.2072*			*0.200000*		*104*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0280 - GCVOA_S										
Blank (B7J0280-BLK1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2147*			*0.200000*		*107*	*50 - 138*			
LCS (B7J0280-BS1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Gasoline Range Organics	4.80500	1.0	0.20	5.00000		96.1	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2181*			*0.200000*		*109*	*50 - 138*			
Duplicate (B7J0280-DUP1)			**Source: 1703635-22**		Prepared: 10/13/2017 Analyzed: 10/13/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2195*			*0.200000*		*110*	*50 - 138*			
Matrix Spike (B7J0280-MS1)			**Source: 1703635-22**		Prepared: 10/13/2017 Analyzed: 10/13/2017					
Gasoline Range Organics	4.16100	1.0	0.20	5.00000	ND	83.2	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2140*			*0.200000*		*107*	*50 - 138*			
Matrix Spike Dup (B7J0280-MSD1)			**Source: 1703635-22**		Prepared: 10/13/2017 Analyzed: 10/13/2017					
Gasoline Range Organics	3.37800	1.0	0.20	5.00000	ND	67.6	17 - 141	20.8	20	R
Surrogate: 4-Bromofluorobenzene	*0.2112*			*0.200000*		*106*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0310 - GCVOA_S										
Blank (B7J0310-BLK1)						Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2133*			*0.200000*		*107*	*50 - 138*			
LCS (B7J0310-BS1)						Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	4.56600	1.0	0.20	5.00000		91.3	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2092*			*0.200000*		*105*	*50 - 138*			
Matrix Spike (B7J0310-MS1)			**Source: 1703641-41**			Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	3.24800	1.0	0.20	5.00000	ND	65.0	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2185*			*0.200000*		*109*	*50 - 138*			
Matrix Spike Dup (B7J0310-MSD1)			**Source: 1703641-41**			Prepared: 10/13/2017 Analyzed: 10/13/2017				
Gasoline Range Organics	3.16200	1.0	0.20	5.00000	ND	63.2	17 - 141	2.68	20	
Surrogate: 4-Bromofluorobenzene	*0.2182*			*0.200000*		*109*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0349 - GCVOA_S										
Blank (B7J0349-BLK1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2160*			*0.200000*		*108*	*50 - 138*			
LCS (B7J0349-BS1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	4.44400	1.0	0.20	5.00000		88.9	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2107*			*0.200000*		*105*	*50 - 138*			
Matrix Spike (B7J0349-MS1)			**Source: 1703653-23**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.81800	1.0	0.20	5.00000	ND	76.4	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2287*			*0.200000*		*114*	*50 - 138*			
Matrix Spike Dup (B7J0349-MSD1)			**Source: 1703653-23**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.42900	1.0	0.20	5.00000	ND	68.6	17 - 141	10.7	20	
Surrogate: 4-Bromofluorobenzene	*0.2234*			*0.200000*		*112*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Gasoline Range Organics by EPA 8015B (Modified) (5035) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0257 - GCVOA_S										
Blank (B7J0257-BLK1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2121*			*0.200000*		*106*	*50 - 138*			
LCS (B7J0257-BS1)					Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.68900	1.0	0.20	5.00000		93.8	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2074*			*0.200000*		*104*	*50 - 138*			
Duplicate (B7J0257-DUP1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2071*			*0.200000*		*104*	*50 - 138*			
Matrix Spike (B7J0257-MS1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.38500	1.0	0.20	5.00000	ND	87.7	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.1958*			*0.200000*		*97.9*	*50 - 138*			
Matrix Spike Dup (B7J0257-MSD1)			**Source: 1703635-01**		Prepared: 10/12/2017 Analyzed: 10/12/2017					
Gasoline Range Organics	4.26100	1.0	0.20	5.00000	ND	85.2	17 - 141	2.87	20	
Surrogate: 4-Bromofluorobenzene	*0.2107*			*0.200000*		*105*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0415 - GCSEMI_DRO_LL_S										
Blank (B7J0415-BLK1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*3.853*			*2.66667*		*144*	*38 - 145*			
LCS (B7J0415-BS1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	32.8157	1.0	1.0	33.3333		98.4	33 - 143			
Surrogate: p-Terphenyl	*3.614*			*2.66667*		*136*	*38 - 145*			
Matrix Spike (B7J0415-MS1)			**Source: 1703641-20**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	752.867	100	100	33.3333	717.800	105	20 - 159			
Surrogate: p-Terphenyl	*0.000*			*2.66667*		*NR*	*38 - 145*			S4
Matrix Spike Dup (B7J0415-MSD1)			**Source: 1703641-20**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	751.367	100	100	33.3333	717.800	101	20 - 159	0.199	20	
Surrogate: p-Terphenyl	*0.000*			*2.66667*		*NR*	*38 - 145*			S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0430 - GCSEMI_DRO_LL_S										
Blank (B7J0430-BLK1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*3.691*			*2.66667*		*138*	*38 - 145*			
LCS (B7J0430-BS1)						Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	36.2963	1.0	1.0	33.3333		109	33 - 143			
Surrogate: p-Terphenyl	*3.580*			*2.66667*		*134*	*38 - 145*			
Matrix Spike (B7J0430-MS1)			**Source: 1703641-21**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	26.1577	1.0	1.0	33.3333	3.16467	69.0	20 - 159			
Surrogate: p-Terphenyl	*2.875*			*2.66667*		*108*	*38 - 145*			
Matrix Spike Dup (B7J0430-MSD1)			**Source: 1703641-21**			Prepared: 10/16/2017 Analyzed: 10/17/2017				
DRO	24.4543	1.0	1.0	33.3333	3.16467	63.9	20 - 159	6.73	20	
Surrogate: p-Terphenyl	*2.799*			*2.66667*		*105*	*38 - 145*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0491 - GCSEMI_DRO_LL_S										
Blank (B7J0491-BLK1)						Prepared: 10/17/2017 Analyzed: 10/18/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*3.695*			*2.66667*		*139*	*38 - 145*			
LCS (B7J0491-BS1)						Prepared: 10/17/2017 Analyzed: 10/18/2017				
DRO	26.6803	1.0	1.0	33.3333		80.0	33 - 143			
Surrogate: p-Terphenyl	*4.167*			*5.33333*		*78.1*	*38 - 145*			
Matrix Spike (B7J0491-MS1)			**Source: 1703641-41**			Prepared: 10/17/2017 Analyzed: 10/18/2017				
DRO	972.300	100	100	33.3333	1427.37	-1370	20 - 159			M1
Surrogate: p-Terphenyl	*0.000*			*2.66667*		*NR*	*38 - 145*			S4
Matrix Spike Dup (B7J0491-MSD1)			**Source: 1703641-41**			Prepared: 10/17/2017 Analyzed: 10/18/2017				
DRO	833.367	100	100	33.3333	1427.37	-1780	20 - 159	15.4	20	M1
Surrogate: p-Terphenyl	*0.000*			*2.66667*		*NR*	*38 - 145*			S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0511 - GCSEMI_PCB/PEST_S										
Blank (B7J0511-BLK1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*11.23*			*16.6667*		*67.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.91*			*16.6667*		*95.4*	*30 - 130*			
LCS (B7J0511-BS1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	182.618	16	4.6	166.667		110	73 - 111			
Aroclor 1260	159.355	16	4.6	166.667		95.6	75 - 125			
Surrogate: Decachlorobiphenyl	*12.77*			*16.6667*		*76.6*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*18.82*			*16.6667*		*113*	*30 - 130*			
Duplicate (B7J0511-DUP1)			**Source: 1703681-24**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	ND	16	4.6		ND				20	
Aroclor 1260	ND	16	4.6		ND				20	
Surrogate: Decachlorobiphenyl	*8.908*			*16.6667*		*53.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*12.55*			*16.6667*		*75.3*	*30 - 130*			
Matrix Spike (B7J0511-MS1)			**Source: 1703681-22**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	142.130	16	4.6	166.667	ND	85.3	36 - 127			
Aroclor 1260	115.861	16	4.6	166.667	ND	69.5	31 - 142			
Surrogate: Decachlorobiphenyl	*8.673*			*16.6667*		*52.0*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.25*			*16.6667*		*85.5*	*30 - 130*			
Matrix Spike Dup (B7J0511-MSD1)			**Source: 1703681-22**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	137.276	16	4.6	166.667	ND	82.4	36 - 127	3.47	20	
Aroclor 1260	113.244	16	4.6	166.667	ND	67.9	31 - 142	2.29	20	
Surrogate: Decachlorobiphenyl	*8.437*			*16.6667*		*50.6*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*13.89*			*16.6667*		*83.4*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 10/19/2017

Notes and Definitions

S4	Surrogate was diluted out.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☑ OnTrac ☐ GSO ☐ Other:

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☑
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:	2.6, 2.2	
4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company: Leighton Consulting
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Barth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	8015 TPH g/d/o	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Container Type	Container Material	Preservative	QA/QC	REMARKS
1	1703641 -01	LB5-0.5	10/11/17	1010							X		X	X					5	4					
2	-02	LB5-2.5		1012																					
3	-03	LB5-5.0		1014																					
4	-04	LB9-0.5		1024																					
5	-05	LB9-2.5		1026																					
6	-06	LB9-5.0		1028																					
7	-07	LB14-0.5		1044																					
8	-08	LB14-2.5		1046																					
9	-09	LB14-5.0		1048																					
10	-10	LB20-0.5		1112																					

Encircle or Write Requested Analysis

Encircle Sample Matrix

Container: # | Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister | Material: 1=Glass; 2=Plastic; 3=Metal | Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4AC; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

TERMS & CONDITIONS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformated report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Kevin Hall — Submitter Print Name
Kevin Hall — Signature

CUSTODY

Relinquished by: (Signature and Printed Name) Kevin Hall	Date: 10/11/17	Time: 1618	Received by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1618
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MTR	Date: 10/11/17	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-753-9856 Fax: 949-250-1114

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company: Leighton Consulting Inc.
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. PAyable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits collected

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	TPHg / TPHd 8015M	TPHd 8015M	SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	#	Container Type	Material	Preservative	QA/QC	REMARKS
1	1703C41-11	LB3-0.5	10-11-17	754							X		XX		X					5	4					
2	-12	LB3-2.5		756																						
3	-13	LB3-5.0		758																						
4	-14	LB4-0.5		834																						
5	-15	LB4-2.5		836																						
6	-16	LB4-3.5		838																						
7	-17	LBm1-0.5 KCH		922																						
8	-18	LBm1-2.5 KCH		924																						
9	-19	LBm1-5.0 KCH		926																						
10	-20	LB2-0.5		955																						

Container — Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister
Material: 1=Glass; 2=Plastic; 3=Metal
Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (AcO); 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

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   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Ken C. Hall — Submitter Print Name
K. Hall — Signature

SAMPLE CUSTODY

		Date	Time
Relinquished by: (Signature and Printed Name)	Ken C. Hall	10/11/17	1619
Relinquished by: (Signature and Printed Name)	FPOWN	10/11/17	1704
Relinquished by: (Signature and Printed Name)			
Received by: (Signature and Printed Name)	FPOWN	10/11/17	1618
Received by: (Signature and Printed Name)	MFR	10/11/17	1704
Received by: (Signature and Printed Name)			

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 3 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only				ATLCOC Ver: 20130715
Method of Transport	**Sample Conditions Upon Receipt**			
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BmcCulloch@leightongroup.com
Company: 17781 Cowan Leighton
Address:
City: SAME State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Barth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015 (GRO) TPHg/A; 8015 (DRO) TPHe; 8270 (Semi-volatiles); 8081 (Organochlorine Pesticides); 8082 (PCBs); 6010 / 7000 (Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	TAT	Container #	Container Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1703C41-21	LB20-2.5	10/11/17	1115	5	4				
2	-22	LB20-5.0		1118						
3	-23	LB25-0.5		1142						
4	-24	LB25-2.5		1145						
5	-25	LB25-5.0		1147						
6	-26	LB24-0.5		1252						
7	-27	LB24-2.5		1254						
8	-28	LB24-5.0		1256						
9	-29	LB19-0.5		1305						
10	-30	LB19-2.5		1307						

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

TERMS

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   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformat ed report; $35 per reprocessed EDD.
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11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kevin C. Hall — Signature

CUSTODY

Relinquished by: (Signature and Printed Name) Kevin C. Hall	Date: 10/11/17	Time: 1618	Received by: (Signature and Printed Name) Fedex	Date: 10/11/17	Time: 1618
Relinquished by: (Signature and Printed Name) Fedex	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MFR	Date: 10/11/17	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 4 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only				ATLCOC Ver: 20130715
Method of Transport	Sample Conditions Upon Receipt			
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: POLA Berth 141-143
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5074 Kits

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO) TPHg/d	8015(DRO) TPHd	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container: #	Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container: Material: 1=Glass; 2=Plastic; 3=Metal	Container: Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	MN3641-31	LB19-5.0	10/11/17	1309		X	X				X		X					5	4				
2	-32	LB13-0.5		1340																			
3	-33	LB13-2.5		1342																			
4	-34	LB13-5.0		1344																			
5	-35	LB8-0.5		1402																			
6	-36	LB8-2.5		1404																			
7	-37	LB8-5.0		1406																			
8	-38	LB12-0.5		1423																			
9	-39	LB12-2.5		1425																			
10	-40	LB12-5.0		1427																			

CUSTODY TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
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   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
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   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kenneth Hall — Signature

Relinquished by: (Signature and Printed Name) Kenneth Hall	Date: 10/11/17	Time: 1618	Received by: (Signature and Printed Name) FROM FEDEX	Date: 10/11/17	Time: 1618
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MER	Date: 10/11/17	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 5 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☒	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pole Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits

Encircle or Write Requested Analysis

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015 (GRO) TPHg/d	8015 (DRO) TPHo	8270 (Semi-volatiles)	8081 (Organochlorine Pesticides)	8082 (PCBs)	6010 / 7000 (Title 22 Metals)	TO-15	Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Container Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3	QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV	REMARKS
1	1703641-41	LB17-0.5	10/11/17	1438	X	X					X		X					5	4				
2	-42	LB17-2.5		1440																			
3	-43	LB17-5.0		1442																			
4	-44	LB18-0.5		1453																			
5	-45	LB18-2.5		1455																			
6	-46	LB18-5.0		1457																			
7	-47	LB23-0.5		1515																			
8	-48	LB23-2.5		1518																			
9	-49	LB23-5.0		1520																			
10																							

TERMS

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Submitter Print Name _____ Signature _____

Relinquished by: (Signature and Printed Name)	Date: 10/11/17	Time: 1618	Received by: (Signature and Printed Name) Fedex	Date: 10/11/17	
Relinquished by: (Signature and Printed Name) Fedex	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name)	Date: 10/11/17	
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☑ OnTrac ☐ GSO ☐ Other:

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☑
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
4. SEALED	☐	☐	2.6, 2.2		

CUSTOMER

Company: Leighton Consulting Inc
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-7836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Byron McCulloch Email: BMcculloch@leightongroup.com
Company: Leighton Consulting
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Barth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; 8015 TPHg/BTEX

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

ITEM	Lab No.	Sample ID / Location	Date	Time	TAT	Container #	Container Type	Material	Preservative	QA/QC	REMARKS
1	1703641 -01	LB5-0.5	10/11/17	1010	5	4				☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV	
2	-02	LB5-2.5		1012							
3	-03	LB5-5.0		1014							
4	-04	LB9-0.5		1024							
5	-05	LB9-2.5		1026							
6	-06	LB9-5.0		1028							
7	-07	LB14-0.5		1044							
8	-08	LB14-2.5		1046							
9	-09	LB14-5.0		1048							
10	-10	LB20-0.5		1112							

Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister
Material: 1=Glass; 2=Plastic; 3=Metal
Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

SUBMITTAL TERMS

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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Kevin Hall — Submitter Print Name
Kevin Hall — Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kevin Hall	10/11/17	1618	FPOWA	10/11/17	1618
FPOWA	10/11/17	1704	MFR-ON	10/11/17	1704

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-753-9836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company: Leighton Consulting Inc.
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits collected

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	TPH8015M / TPH8015M	TPH8015M	Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container: #	Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container: Material: 1=Glass; 2=Plastic; 3=Metal	Container: Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1703C41-11	LB3-0.5	10-11-17	754							X	X	X	X	X					5	4			
2	-12	LB3-2.5		756																				
3	-13	LB3-5.0		758																				
4	-14	LB4-0.5		834																				
5	-15	LB4-2.5		836																				
6	-16	LB4-3.5		838																				
7	-17	LBmw1-0.5 KCH		922																				
8	-18	LBmw1-2.5 KCH		924																				
9	-19	LBmw1-5.0 KCH		926																				
10	-20	LB2-0.5		959 KH																				

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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Ken C. Hall — Submitter Print Name
K. Hall — Signature

Relinquished by: (Signature and Printed Name) Ken C. Hall	Date: 10/11/17	Time: 1818	Received by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1818
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MFR	Date: 10/11A	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 3 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: Bmcculloch@leightongroup.com
Company: 17781 Cowan Leighton
Address:
City: SAME State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Bartth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/d; 8015(DRO) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # — Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister — Material: 1=Glass; 2=Plastic; 3=Metal — Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	Soil/Sediment/Sludge	TAT	#	REMARKS
1	1703C41-21	LB20 - 2.5	10/11/17	1115	X	5	4	
2	-22	LB20 - 5.0		1118				
3	-23	LB25 - 0.5		1142				
4	-24	LB25 - 2.5		1145				
5	-25	LB25 - 5.0		1147				
6	-26	LB24 - 0.5		1252				
7	-27	LB24 - 2.5		1254				
8	-28	LB24 - 5.0		1256				
9	-29	LB19 - 0.5		1305				
10	-30	LB19 - 2.5		1307				

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   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
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7. Electronic records maintained for five (5) years from report date.
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9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air Samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kevin C. Hall — Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kevin C. Hall	10/11/17	1618	Brown	10/11/17	1618
Brown	10/11/17	1704	MFR	10/11/17	1704

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 4 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc. Address: 17781 Cowan Tel: 949-253-9836
City: Irvine State: CA Zip: 92614 Fax:

SEND REPORT TO: Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: POLA Berth 141-143
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time
1	M03641-31	LB19-5.0	10/11/17	1309
2	-32	LB13-0.5		1340
3	-33	LB13-2.5		1342
4	-34	LB13-5.0		1344
5	-35	LB8-0.5		1402
6	-36	LB8-2.5		1404
7	-37	LB8-5.0		1406
8	-38	LB12-0.5		1423
9	-39	LB12-2.5		1425
10	-40	LB12-5.0		1427

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/d; 8015(DRO) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

TAT: 5

Container: # 4
Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Ledlar; 7=Canister
Material: 1=Glass; 2=Plastic; 3=Metal
Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

REMARKS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
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   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name — Signature

Relinquished by: (Signature and Printed Name)	Date: 10/11/17	Time: 1618	Received by: (Signature and Printed Name) FROM K	Date: 10/11/17	Time: 1618
Relinquished by: (Signature and Printed Name) FROM K	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MER	Date: 10/11/17	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 5 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015 (~~GRO~~) TPHg/d; 8015 (~~DRO~~) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260	8015 TPHg/d	8015 TPHd	8270	8081	8082	6010/7000	TO-15	SOIL	WATER	TAT	#	REMARKS
1	1703641-41	LB17-0.5	10/11/17	1438		X	X				X		X		5	4	
2	-42	LB17-2.5		1440													
3	-43	LB17-5.0		1442													
4	-44	LB18-0.5		1453													
5	-45	LB18-2.5		1455													
6	-46	LB18-5.0		1457													
7	-47	LB23-0.5		1515													
8	-48	LB23-2.5		1518													
9	-49	LB23-5.0		1520													
10	-50	LB2-2.5	10/11/17	935	KH												
	-51	LB2-5.0	10/11/17	935	KH												

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday, Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name _____ Signature _____

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kenc. Mcl	10/11/17	1618	Fedex	10/11/17	1618
Fedex	10/11/17	1704		10/11/17	1704

SAMPLE RECEIPT

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other: _____

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☑	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☑
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
4. SEALED	☐	☐	2.6, 2.2		

CUSTOMER

Company: Leighton Consulting Inc
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Byron McCulloch Email: BMcculloch@leightongroup.com
Company: Leighton Consulting
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Barth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; 8015 TPHg/BTEX

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

ITEM	Lab No.	Sample ID / Location	Date	Time	TAT	Container #	Container Type	Material	Preservative	REMARKS
1	1703641 -01	LB5-0.5	10/11/17	1010	5	4				
2	-02	LB5-2.5		1012						
3	-03	LB5-5.0		1014						
4	-04	LB9-0.5		1024						
5	-05	LB9-2.5		1026						
6	-06	LB9-5.0		1028						
7	-07	LB14-0.5		1044						
8	-08	LB14-2.5		1046						
9	-09	LB14-5.0		1048						
10	-10	LB20-0.5		1112						

Container: Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister
Material: 1=Glass; 2=Plastic; 3=Metal
Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
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10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Kevin Hall — Submitter Print Name
Kevin Hall — Signature

SAMPLE RECEIPT

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kevin Hall	10/11/17	1618	FPDHL	10/11/17	1618
Relinquished by: (Signature and Printed Name) FPDHL	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name)	Date: 10/11/17	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-753-9836 Fax: 949-250-1114

SEND REPORT TO:
Attn: Bryan McCulloch Email: BMcCulloch@leightongroup.com
Company: Leighton Consulting Inc.
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits collected

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; TPH-g / TPH 8015M; TPH-d 8015M

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	REMARKS
1	1703C41-11	LB3-0.5	10-11-17	754	
2	-12	LB3-2.5		756	
3	-13	LB3-5.0		758	
4	-14	LB4-0.5		834	
5	-15	LB4-2.5		836	
6	-16	LB4-3.5		838	
7	-17	LBrm1-0.5 KCH		922	
8	-18	LBrm1-2.5 KCH		924	
9	-19	LBrm1-5.0 KCH		926	
10	-20	LB2-0.5		959 KCH	

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Ken C. Hall — Submitter Print Name
K. Hall — Signature

Relinquished by: (Signature and Printed Name) Ken C. Hall	Date: 10/11/17	Time: 1818	Received by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1818
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/11/17	Time: 1704	Received by: (Signature and Printed Name) MFR	Date: 10/12	Time: 1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 3 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc. | Address: 17781 Cowan | City: Irvine | State: CA | Zip: 92614 | Tel: 949-253-9836 | Fax:

SEND REPORT TO:
Attn: Brynn McCulloch | Email: Bmcculloch@leightongroup.com
Company: 17781 Cowan Leighton
Address:
City: SAME | State: | Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable | Email:
Company:
Address: SAME
City: | State: | Zip:

PROJECT SAMPLES

Project Name: Pola Bartth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/d; 8015(DRO) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

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QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260	8015(GRO)	8015(DRO)	8270	8081	8082	6010	TO-15	SOIL/SED	SOLIDS	WATER-DRINK	WATER-STORM	AQUEOUS	TAT	#	REMARKS
1	1703C41-21	LB20 - 2.5	10/11/17	1115		X	X				X		X					5	4	
2	-22	LB20 - 5.0		1118																
3	-23	LB25 - 0.5		1142																
4	-24	LB25 - 2.5		1145																
5	-25	LB25 - 5.0		1147																
6	-26	LB24 - 0.5		1252																
7	-27	LB24 - 2.5		1254																
8	-28	LB24 - 5.0		1256																
9	-29	LB19 - 0.5		1305						X										
10	-30	LB19 - 2.5		1307																

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air Samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformat ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kevin C. Hall — Signature

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Kevin C. Hall	10/11/17	1618	Brown	10/11/17	1618
Brown	10/11/17	1704	MFR	10/11/17	1704

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 4 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc. Address: 17781 Cowan Tel: 949-253-9836
City: Irvine State: CA Zip: 92614 Fax:

SEND REPORT TO: Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: POLA Berth 141-143
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time
1	M03641-31	LB19-5.0	10/11/17	1309
2	-32	LB13-0.5		1340
3	-33	LB13-2.5		1342
4	-34	LB13-5.0		1344
5	-35	LB8-0.5		1402
6	-36	LB8-2.5		1404
7	-37	LB8-5.0		1406
8	-38	LB12-0.5		1423
9	-39	LB12-2.5		1425
10	-40	LB12-5.0		1427

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/d; 8015(DRO) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

TAT: 5

Container: # 4; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

REMARKS

SUBMITTAL

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
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7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name — Signature

	Date	Time		Date	Time
Relinquished by: (Signature and Printed Name)	10/11/17	1618	Received by: (Signature and Printed Name)	10/11/17	1618
Relinquished by: (Signature and Printed Name)	10/11/17	1704	Received by: (Signature and Printed Name)	10/11/17	1704
Relinquished by: (Signature and Printed Name)			Received by: (Signature and Printed Name)		

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 5 of 5

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☐ ATL	1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (V0A)	☐	☐	6. PRESERVED	☐	☐
☐ GSO	3. CONTAINER INTACT	☐	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☐			

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KH
Quote No:
PO #:
Special Instructions/Comments: 5035 kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015 (~~GRO~~) TPHg/d; 8015 (~~DRO~~) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE/ FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260	8015 TPHg/d	8015 TPHd	8270	8081	8082	6010/7000	TO-15	SOIL	TAT	#	REMARKS
1	1703641-41	LB17-0.5	10/11/17	1438		X	X				X		X	5	4	
2	-42	LB17-2.5		1440												
3	-43	LB17-5.0		1442												
4	-44	LB18-0.5		1453												
5	-45	LB18-2.5		1455												
6	-46	LB18-5.0		1457												
7	-47	LB23-0.5		1515												
8	-48	LB23-2.5		1518												
9	-49	LB23-5.0		1520												
10	-50	LB2-2.5	10/11/17	935	KH											
	-51	LB2-5.0	10/11/17	935	KH											

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday, Saturday 8:00 AM to 12:00 PM.
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As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name _____ Signature _____

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kenc. Mcl	10/11/17	1618	Fedex	10/11/17	1618
Fedex	10/11/17	1704		10/11/17	1704
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

SWITCH

ADVANCED TECHNOLOGY LABORATORIES

November 08, 2017

Brynn McCulloch
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 394-2306
Fax:(949) 250-1114

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703641
Client Reference : POLA Berth 191-193, 11618.005

Enclosed are the results for sample(s) received on October 11, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB5-0.5	1703641-01	Soil	10/11/17 10:10	10/11/17 16:18
LB5-2.5	1703641-02	Soil	10/11/17 10:12	10/11/17 16:18
LB9-0.5	1703641-04	Soil	10/11/17 10:24	10/11/17 16:18
LB9-2.5	1703641-05	Soil	10/11/17 10:26	10/11/17 16:18
LB4-0.5	1703641-14	Soil	10/11/17 8:34	10/11/17 16:18
LB4-2.5	1703641-15	Soil	10/11/17 8:36	10/11/17 16:18
LB4-3.5	1703641-16	Soil	10/11/17 8:38	10/11/17 16:18
LB2-0.5	1703641-20	Soil	10/11/17 9:59	10/11/17 16:18
LB19-0.5	1703641-29	Soil	10/11/17 13:05	10/11/17 16:18
LB13-0.5	1703641-32	Soil	10/11/17 13:40	10/11/17 16:18
LB13-2.5	1703641-33	Soil	10/11/17 13:42	10/11/17 16:18
LB17-0.5	1703641-41	Soil	10/11/17 14:38	10/11/17 16:18
LB17-2.5	1703641-42	Soil	10/11/17 14:40	10/11/17 16:18
LB2-2.5	1703641-50	Soil	10/11/17 9:57	10/11/17 16:18

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1260	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 15:54	
Surrogate: Decachlorobiphenyl	*32.4 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 15:54*	
Surrogate: Tetrachloro-m-xylene	*50.2 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 15:54*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1,1-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1,2-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,1-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2,3-Trichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2,3-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2,4-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2,4-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2-Dibromo-3-chloropropane	ND	9.1	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2-Dibromoethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,3,5-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,3-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,3-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
1,4-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
2,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
4-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
4-Isopropyltoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Benzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Bromobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Bromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Bromodichloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Bromoform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Bromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Carbon disulfide	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Carbon tetrachloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Chlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Chloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Chloroform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Chloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
cis-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
cis-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Di-isopropyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Dibromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Dibromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Dichlorodifluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Ethyl Acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 10:53	
Ethyl Ether	ND	46	1	B7J0750	10/25/2017	10/25/17 10:53	
Ethyl tert-butyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Ethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Freon-113	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Hexachlorobutadiene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Isopropylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
m,p-Xylene	ND	9.1	1	B7J0750	10/25/2017	10/25/17 10:53	
Methylene chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
MTBE	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
n-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
n-Propylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Naphthalene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
o-Xylene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
sec-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Styrene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Amyl methyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
tert-Butanol	ND	91	1	B7J0750	10/25/2017	10/25/17 10:53	
tert-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Tetrachloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Toluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
trans-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
trans-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Trichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Trichlorofluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Vinyl acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 10:53	
Vinyl chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 10:53	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 10:53*	
Surrogate: 4-Bromofluorobenzene	*97.0 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 10:53*	
Surrogate: Dibromofluoromethane	*101 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 10:53*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 10:53*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Acenaphthene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Acenaphthylene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Benzo(a)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Benzo(a)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Benzo(b)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Benzo(g,h,i)perylene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Benzo(k)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Chrysene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Dibenz(a,h)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Fluorene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Indeno(1,2,3-cd)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Naphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Phenanthrene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1
Pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 17:37	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-0.5

Lab ID: 1703641-01

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0757	10/25/2017	*10/25/17 17:37*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0757	10/25/2017	*10/25/17 17:37*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0757	10/25/2017	*10/25/17 17:37*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0757	10/25/2017	*10/25/17 17:37*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-2.5

Lab ID: 1703641-02

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**5.8**	1.0	20	B7J0849	10/30/2017	10/30/17 12:10	D1

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1,1-Trichloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1,2-Trichloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1-Dichloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1-Dichloroethene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,1-Dichloropropene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2,3-Trichloropropane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2,3-Trichlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2,4-Trichlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2,4-Trimethylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2-Dibromo-3-chloropropane	ND	10	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2-Dibromoethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2-Dichlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2-Dichloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,2-Dichloropropane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,3,5-Trimethylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,3-Dichlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,3-Dichloropropane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
1,4-Dichlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
2,2-Dichloropropane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
2-Chlorotoluene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
4-Chlorotoluene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
4-Isopropyltoluene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Benzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Bromobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Bromochloromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Bromodichloromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Bromoform	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Bromomethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Carbon disulfide	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-2.5

Lab ID: 1703641-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Chlorobenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Chloroethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Chloroform	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Chloromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
cis-1,2-Dichloroethene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
cis-1,3-Dichloropropene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Di-isopropyl ether	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Dibromochloromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Dibromomethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Dichlorodifluoromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Ethyl Acetate	ND	52	1	B7J0750	10/25/2017	10/25/17 11:12	
Ethyl Ether	ND	52	1	B7J0750	10/25/2017	10/25/17 11:12	
Ethyl tert-butyl ether	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Ethylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Freon-113	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Hexachlorobutadiene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Isopropylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
m,p-Xylene	ND	10	1	B7J0750	10/25/2017	10/25/17 11:12	
Methylene chloride	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
MTBE	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
n-Butylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
n-Propylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Naphthalene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
o-Xylene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
sec-Butylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Styrene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
tert-Amyl methyl ether	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
tert-Butanol	ND	100	1	B7J0750	10/25/2017	10/25/17 11:12	
tert-Butylbenzene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Tetrachloroethene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Toluene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
trans-1,2-Dichloroethene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
trans-1,3-Dichloropropene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Trichloroethene	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Trichlorofluoromethane	ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Vinyl acetate	ND	52	1	B7J0750	10/25/2017	10/25/17 11:12	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB5-2.5

Lab ID: 1703641-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.2	1	B7J0750	10/25/2017	10/25/17 11:12	
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*32 - 140*		B7J0750	10/25/2017	*10/25/17 11:12*	
Surrogate: 4-Bromofluorobenzene	*96.5 %*		*68 - 131*		B7J0750	10/25/2017	*10/25/17 11:12*	
Surrogate: Dibromofluoromethane	*94.4 %*		*49 - 134*		B7J0750	10/25/2017	*10/25/17 11:12*	
Surrogate: Toluene-d8	*105 %*		*75 - 132*		B7J0750	10/25/2017	*10/25/17 11:12*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Acenaphthene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Acenaphthylene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Anthracene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Benzo(a)anthracene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Benzo(a)pyrene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Benzo(b)fluoranthene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Benzo(g,h,i)perylene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Benzo(k)fluoranthene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Chrysene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Dibenz(a,h)anthracene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Fluoranthene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Fluorene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Indeno(1,2,3-cd)pyrene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Naphthalene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Phenanthrene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Pyrene		ND	25	5	B7J0757	10/25/2017	10/25/17 18:07	
Surrogate: 1,2-Dichlorobenzene-d4	*58.6 %*		*29 - 109*		B7J0757	10/25/2017	*10/25/17 18:07*	
Surrogate: 2-Fluorobiphenyl	*77.0 %*		*39 - 108*		B7J0757	10/25/2017	*10/25/17 18:07*	
Surrogate: Nitrobenzene-d5	*52.2 %*		*0 - 146*		B7J0757	10/25/2017	*10/25/17 18:07*	
Surrogate: 4-Terphenyl-d14	*74.9 %*		*39 - 123*		B7J0757	10/25/2017	*10/25/17 18:07*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1260	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 16:12	
Surrogate: Decachlorobiphenyl	*36.6 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 16:12*	
Surrogate: Tetrachloro-m-xylene	*54.5 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 16:12*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1,1-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1,2-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,1-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2,3-Trichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2,3-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2,4-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2,4-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2-Dibromo-3-chloropropane	ND	9.3	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2-Dibromoethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,3,5-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,3-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,3-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
1,4-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
2,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
4-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
4-Isopropyltoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Benzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Bromobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Bromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Bromodichloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Bromoform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Bromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Carbon disulfide	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Carbon tetrachloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Chlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Chloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Chloroform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Chloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
cis-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
cis-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Di-isopropyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Dibromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Dibromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Dichlorodifluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Ethyl Acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 11:30	
Ethyl Ether	ND	46	1	B7J0750	10/25/2017	10/25/17 11:30	
Ethyl tert-butyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Ethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Freon-113	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Hexachlorobutadiene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Isopropylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
m,p-Xylene	ND	9.3	1	B7J0750	10/25/2017	10/25/17 11:30	
Methylene chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
MTBE	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
n-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
n-Propylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Naphthalene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
o-Xylene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
sec-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Styrene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Amyl methyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
tert-Butanol	ND	93	1	B7J0750	10/25/2017	10/25/17 11:30	
tert-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Tetrachloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Toluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
trans-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
trans-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Trichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Trichlorofluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Vinyl acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 11:30	
Vinyl chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 11:30	
Surrogate: 1,2-Dichloroethane-d4	*102 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 11:30*	
Surrogate: 4-Bromofluorobenzene	*100 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 11:30*	
Surrogate: Dibromofluoromethane	*94.3 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 11:30*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 11:30*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Acenaphthene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Acenaphthylene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Benzo(a)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Benzo(a)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Benzo(b)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Benzo(g,h,i)perylene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Benzo(k)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Chrysene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Dibenz(a,h)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Fluorene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Indeno(1,2,3-cd)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Naphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Phenanthrene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1
Pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 18:36	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-0.5

Lab ID: 1703641-04

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 18:36*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 18:36*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 18:36*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 18:36*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-2.5

Lab ID: 1703641-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1,1-Trichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1,2,2-Tetrachloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1,2-Trichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1-Dichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,1-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2,3-Trichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2,3-Trichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2,4-Trichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2,4-Trimethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2-Dibromoethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2-Dichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,2-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,3,5-Trimethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,3-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,3-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
1,4-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
2,2-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
2-Chlorotoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
4-Chlorotoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
4-Isopropyltoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Benzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Bromobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Bromochloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Bromodichloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Bromoform	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Bromomethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Carbon disulfide	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Carbon tetrachloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Chlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Chloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Chloroform	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Chloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
cis-1,2-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-2.5

Lab ID: 1703641-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Di-isopropyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Dibromochloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Dibromomethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Dichlorodifluoromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Ethyl Acetate	ND	53	1	B7J0750	10/25/2017	10/25/17 11:49	
Ethyl Ether	ND	53	1	B7J0750	10/25/2017	10/25/17 11:49	
Ethyl tert-butyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Ethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Freon-113	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Hexachlorobutadiene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Isopropylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
m,p-Xylene	ND	11	1	B7J0750	10/25/2017	10/25/17 11:49	
Methylene chloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
MTBE	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
n-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
n-Propylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Naphthalene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
o-Xylene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
sec-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Styrene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
tert-Amyl methyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
tert-Butanol	ND	110	1	B7J0750	10/25/2017	10/25/17 11:49	
tert-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Tetrachloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Toluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
trans-1,2-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
trans-1,3-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Trichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Trichlorofluoromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Vinyl acetate	ND	53	1	B7J0750	10/25/2017	10/25/17 11:49	
Vinyl chloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 11:49	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 11:49*	
Surrogate: 4-Bromofluorobenzene	*99.9 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 11:49*	
Surrogate: Dibromofluoromethane	*95.8 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 11:49*	
Surrogate: Toluene-d8	*110 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 11:49*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB9-2.5

Lab ID: 1703641-05

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Acenaphthene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Acenaphthylene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Benzo(a)anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Benzo(a)pyrene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Benzo(b)fluoranthene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Benzo(g,h,i)perylene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Benzo(k)fluoranthene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Chrysene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Dibenz(a,h)anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Fluoranthene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Fluorene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Indeno(1,2,3-cd)pyrene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Naphthalene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Phenanthrene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Pyrene	ND	250	50	B7J0757	10/25/2017	10/25/17 19:05	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 19:05*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 19:05*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 19:05*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 19:05*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7J0818	10/27/2017	10/27/17 17:51	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**3.7**	1.0	20	B7J0849	10/30/2017	10/30/17 12:14	D1

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1260	**79**	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 16:31	
Surrogate: Decachlorobiphenyl	*29.8 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 16:31*	
Surrogate: Tetrachloro-m-xylene	*47.5 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 16:31*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1,1-Trichloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1,2,2-Tetrachloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1,2-Trichloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1-Dichloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1-Dichloroethene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,1-Dichloropropene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2,3-Trichloropropane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2,3-Trichlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2,4-Trimethylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2-Dibromo-3-chloropropane	ND	9.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2-Dibromoethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2-Dichlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2-Dichloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,2-Dichloropropane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,3,5-Trimethylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,3-Dichlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,3-Dichloropropane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
1,4-Dichlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
2,2-Dichloropropane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
2-Chlorotoluene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
4-Chlorotoluene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
4-Isopropyltoluene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Benzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Bromobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Bromochloromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Bromodichloromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Bromoform	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Bromomethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Carbon disulfide	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Carbon tetrachloride	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Chlorobenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Chloroethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Chloroform	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Chloromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
cis-1,2-Dichloroethene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
cis-1,3-Dichloropropene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Di-isopropyl ether	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Dibromochloromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Dibromomethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Dichlorodifluoromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Ethyl Acetate	ND	49	1	B7J0750	10/25/2017	10/25/17 12:08	
Ethyl Ether	ND	49	1	B7J0750	10/25/2017	10/25/17 12:08	
Ethyl tert-butyl ether	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Ethylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Freon-113	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Hexachlorobutadiene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Isopropylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
m,p-Xylene	ND	9.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Methylene chloride	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
MTBE	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
n-Butylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
n-Propylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Naphthalene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
o-Xylene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
sec-Butylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Styrene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
tert-Amyl methyl ether	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
tert-Butanol	ND	99	1	B7J0750	10/25/2017	10/25/17 12:08	
tert-Butylbenzene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Tetrachloroethene	**27**	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Toluene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
trans-1,2-Dichloroethene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
trans-1,3-Dichloropropene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Trichloroethene	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Trichlorofluoromethane	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Vinyl acetate	ND	49	1	B7J0750	10/25/2017	10/25/17 12:08	
Vinyl chloride	ND	4.9	1	B7J0750	10/25/2017	10/25/17 12:08	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 12:08*	
Surrogate: 4-Bromofluorobenzene	*97.3 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 12:08*	
Surrogate: Dibromofluoromethane	*96.0 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 12:08*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 12:08*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-0.5

Lab ID: 1703641-14

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Acenaphthene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Acenaphthylene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Benzo(a)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Benzo(a)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Benzo(b)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Benzo(g,h,i)perylene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Benzo(k)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Chrysene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Dibenz(a,h)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Fluorene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Indeno(1,2,3-cd)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Naphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Phenanthrene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 19:34	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 19:34*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 19:34*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 19:34*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 19:34*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-2.5

Lab ID: 1703641-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1,1-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1,2,2-Tetrachloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1,2-Trichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,1-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2,3-Trichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2,3-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2,4-Trichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2,4-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2-Dibromo-3-chloropropane	ND	9.2	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2-Dibromoethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2-Dichloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,3,5-Trimethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,3-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,3-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
1,4-Dichlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
2,2-Dichloropropane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
2-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
4-Chlorotoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
4-Isopropyltoluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Benzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Bromobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Bromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Bromodichloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Bromoform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Bromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Carbon disulfide	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Carbon tetrachloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Chlorobenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Chloroethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Chloroform	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Chloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
cis-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-2.5

Lab ID: 1703641-15

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Di-isopropyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Dibromochloromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Dibromomethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Dichlorodifluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Ethyl Acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 12:26	
Ethyl Ether	ND	46	1	B7J0750	10/25/2017	10/25/17 12:26	
Ethyl tert-butyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Ethylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Freon-113	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Hexachlorobutadiene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Isopropylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
m,p-Xylene	ND	9.2	1	B7J0750	10/25/2017	10/25/17 12:26	
Methylene chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
MTBE	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
n-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
n-Propylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Naphthalene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
o-Xylene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
sec-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Styrene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
tert-Amyl methyl ether	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
tert-Butanol	ND	92	1	B7J0750	10/25/2017	10/25/17 12:26	
tert-Butylbenzene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Tetrachloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Toluene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
trans-1,2-Dichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
trans-1,3-Dichloropropene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Trichloroethene	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Trichlorofluoromethane	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Vinyl acetate	ND	46	1	B7J0750	10/25/2017	10/25/17 12:26	
Vinyl chloride	ND	4.6	1	B7J0750	10/25/2017	10/25/17 12:26	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 12:26*	
Surrogate: 4-Bromofluorobenzene	*88.7 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 12:26*	
Surrogate: Dibromofluoromethane	*97.9 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 12:26*	
Surrogate: Toluene-d8	*101 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 12:26*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-2.5

Lab ID: 1703641-15

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Acenaphthene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Acenaphthylene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Benzo(a)anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Benzo(a)pyrene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Benzo(b)fluoranthene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Benzo(g,h,i)perylene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Benzo(k)fluoranthene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Chrysene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Dibenz(a,h)anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Fluoranthene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Fluorene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Indeno(1,2,3-cd)pyrene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Naphthalene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Phenanthrene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Pyrene	ND	100	20	B7J0757	10/25/2017	10/25/17 20:03	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 20:03*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 20:03*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 20:03*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 20:03*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB4-3.5

Lab ID: 1703641-16

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Copper	**18**	1.0	20	B7J0849	10/30/2017	10/30/17 12:16	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.50	10	B7J0818	10/27/2017	10/27/17 18:17	D5

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Copper	**2.6**	1.0	20	B7J0849	10/30/2017	10/30/17 12:17	D1
Lead	**2.5**	1.0	20	B7J0849	10/30/2017	10/30/17 12:17	D1

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1260	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 16:50	
Surrogate: Decachlorobiphenyl	*27.9 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 16:50*	
Surrogate: Tetrachloro-m-xylene	*35.9 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 16:50*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1,1-Trichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1,2-Trichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1-Dichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,1-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2,3-Trichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2-Dibromo-3-chloropropane	ND	9.3	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2-Dibromoethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2-Dichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,2-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,3-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,3-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
1,4-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
2,2-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
2-Chlorotoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
4-Chlorotoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
4-Isopropyltoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Benzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Bromobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Bromochloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Bromodichloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Bromoform	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Bromomethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Carbon disulfide	**5.3**	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Carbon tetrachloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Chlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Chloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Chloroform	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Chloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Di-isopropyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Dibromochloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Dibromomethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Dichlorodifluoromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Ethyl Acetate	ND	47	1	B7J0750	10/25/2017	10/25/17 12:45	
Ethyl Ether	ND	47	1	B7J0750	10/25/2017	10/25/17 12:45	
Ethyl tert-butyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Freon-113	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Hexachlorobutadiene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Isopropylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
m,p-Xylene	ND	9.3	1	B7J0750	10/25/2017	10/25/17 12:45	
Methylene chloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
MTBE	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
n-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
n-Propylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Naphthalene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
o-Xylene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
sec-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Styrene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
tert-Amyl methyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
tert-Butanol	ND	93	1	B7J0750	10/25/2017	10/25/17 12:45	
tert-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Tetrachloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Toluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Trichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Trichlorofluoromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Vinyl acetate	ND	47	1	B7J0750	10/25/2017	10/25/17 12:45	
Vinyl chloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 12:45	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 12:45*	
Surrogate: 4-Bromofluorobenzene	*99.1 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 12:45*	
Surrogate: Dibromofluoromethane	*95.0 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 12:45*	
Surrogate: Toluene-d8	*104 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 12:45*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-0.5

Lab ID: 1703641-20

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Acenaphthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Acenaphthylene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Benzo(a)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Benzo(a)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Benzo(b)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Benzo(g,h,i)perylene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Benzo(k)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Chrysene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Dibenz(a,h)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Fluorene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Indeno(1,2,3-cd)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Naphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Phenanthrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:31	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 20:31*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 20:31*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 20:31*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 20:31*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB19-0.5

Lab ID: 1703641-29

Polychlorinated Biphenyls by EPA 8082 **Analyst: CO**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1221		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1232		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1242		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1248		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1254		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1260		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1262		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Aroclor 1268		ND	16	1	B7J0511	10/18/2017	10/18/17 13:43	
Surrogate: Decachlorobiphenyl	*52.8 %*		*18 - 136*		B7J0511	10/18/2017	*10/18/17 13:43*	
Surrogate: Tetrachloro-m-xylene	*80.2 %*		*30 - 130*		B7J0511	10/18/2017	*10/18/17 13:43*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Polychlorinated Biphenyls by EPA 8082 **Analyst: CO/**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1260	**21**	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 17:09	
Surrogate: Decachlorobiphenyl	*36.3 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 17:09*	
Surrogate: Tetrachloro-m-xylene	*52.8 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 17:09*	

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1,1-Trichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1,2-Trichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1-Dichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,1-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2,3-Trichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2-Dibromo-3-chloropropane	ND	9.4	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2-Dibromoethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2-Dichloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,2-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,3-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,3-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
1,4-Dichlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
2,2-Dichloropropane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Chlorotoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
4-Chlorotoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
4-Isopropyltoluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Benzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Bromobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Bromochloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Bromodichloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Bromoform	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Bromomethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Carbon disulfide	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Carbon tetrachloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Chlorobenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Chloroethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Chloroform	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Chloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Di-isopropyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Dibromochloromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Dibromomethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Dichlorodifluoromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Ethyl Acetate	ND	47	1	B7J0750	10/25/2017	10/25/17 13:23	
Ethyl Ether	ND	47	1	B7J0750	10/25/2017	10/25/17 13:23	
Ethyl tert-butyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Ethylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Freon-113	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Hexachlorobutadiene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Isopropylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
m,p-Xylene	ND	9.4	1	B7J0750	10/25/2017	10/25/17 13:23	
Methylene chloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
MTBE	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
n-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
n-Propylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Naphthalene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
o-Xylene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
sec-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Styrene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Amyl methyl ether	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
tert-Butanol	ND	94	1	B7J0750	10/25/2017	10/25/17 13:23	
tert-Butylbenzene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Tetrachloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Toluene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Trichloroethene	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Trichlorofluoromethane	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Vinyl acetate	ND	47	1	B7J0750	10/25/2017	10/25/17 13:23	
Vinyl chloride	ND	4.7	1	B7J0750	10/25/2017	10/25/17 13:23	
Surrogate: 1,2-Dichloroethane-d4	*102 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 13:23*	
Surrogate: 4-Bromofluorobenzene	*99.8 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 13:23*	
Surrogate: Dibromofluoromethane	*95.1 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 13:23*	
Surrogate: Toluene-d8	*101 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 13:23*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Acenaphthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Acenaphthylene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Benzo(a)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Benzo(a)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Benzo(b)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Benzo(g,h,i)perylene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Benzo(k)fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Chrysene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Dibenz(a,h)anthracene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Fluoranthene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Fluorene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Indeno(1,2,3-cd)pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Naphthalene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Phenanthrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1
Pyrene	ND	500	100	B7J0757	10/25/2017	10/25/17 20:59	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-0.5

Lab ID: 1703641-32

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0757	10/25/2017	*10/25/17 20:59*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0757	10/25/2017	*10/25/17 20:59*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0757	10/25/2017	*10/25/17 20:59*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0757	10/25/2017	*10/25/17 20:59*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-2.5

Lab ID: 1703641-33

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1,1-Trichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1,2,2-Tetrachloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1,2-Trichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1-Dichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,1-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2,3-Trichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2,3-Trichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2,4-Trichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2,4-Trimethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2-Dibromoethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2-Dichloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,2-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,3,5-Trimethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,3-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,3-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
1,4-Dichlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
2,2-Dichloropropane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
2-Chlorotoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
4-Chlorotoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
4-Isopropyltoluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Benzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Bromobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Bromochloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Bromodichloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Bromoform	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Bromomethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Carbon disulfide	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Carbon tetrachloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Chlorobenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Chloroethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Chloroform	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Chloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
cis-1,2-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-2.5

Lab ID: 1703641-33

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Di-isopropyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Dibromochloromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Dibromomethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Dichlorodifluoromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Ethyl Acetate	ND	53	1	B7J0750	10/25/2017	10/25/17 13:41	
Ethyl Ether	ND	53	1	B7J0750	10/25/2017	10/25/17 13:41	
Ethyl tert-butyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Ethylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Freon-113	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Hexachlorobutadiene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Isopropylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
m,p-Xylene	ND	11	1	B7J0750	10/25/2017	10/25/17 13:41	
Methylene chloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
MTBE	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
n-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
n-Propylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Naphthalene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
o-Xylene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
sec-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Styrene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
tert-Amyl methyl ether	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
tert-Butanol	ND	110	1	B7J0750	10/25/2017	10/25/17 13:41	
tert-Butylbenzene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Tetrachloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Toluene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
trans-1,2-Dichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
trans-1,3-Dichloropropene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Trichloroethene	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Trichlorofluoromethane	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Vinyl acetate	ND	53	1	B7J0750	10/25/2017	10/25/17 13:41	
Vinyl chloride	ND	5.3	1	B7J0750	10/25/2017	10/25/17 13:41	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 13:41*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 13:41*	
Surrogate: Dibromofluoromethane	*93.7 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 13:41*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 13:41*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB13-2.5

Lab ID: 1703641-33

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Acenaphthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Acenaphthylene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Benzo(a)anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Benzo(a)pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Benzo(b)fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Benzo(g,h,i)perylene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Benzo(k)fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Chrysene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Dibenz(a,h)anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Fluorene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Indeno(1,2,3-cd)pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Naphthalene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Phenanthrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 13:31	
Surrogate: 1,2-Dichlorobenzene-d4	*63.8 %*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 13:31*	
Surrogate: 2-Fluorobiphenyl	*83.4 %*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 13:31*	
Surrogate: Nitrobenzene-d5	*52.4 %*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 13:31*	
Surrogate: 4-Terphenyl-d14	*82.8 %*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 13:31*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**7.0**	1.0	20	B7J0849	10/30/2017	10/30/17 12:19	D1

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1260	**32**	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 17:28	
Surrogate: Decachlorobiphenyl	*39.4 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 17:28*	
Surrogate: Tetrachloro-m-xylene	*66.5 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 17:28*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1,1-Trichloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1,2,2-Tetrachloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1,2-Trichloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1-Dichloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1-Dichloroethene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,1-Dichloropropene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2,3-Trichloropropane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2,3-Trichlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2,4-Trichlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2,4-Trimethylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2-Dibromo-3-chloropropane	ND	10	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2-Dibromoethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2-Dichlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,2-Dichloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,3,5-Trimethylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,3-Dichlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,3-Dichloropropane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
1,4-Dichlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
2,2-Dichloropropane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
2-Chlorotoluene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
4-Chlorotoluene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
4-Isopropyltoluene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Benzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Bromobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Bromochloromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Bromodichloromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Bromoform	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Bromomethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Carbon disulfide	**12**	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Carbon tetrachloride	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Chlorobenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Chloroethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Chloroform	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Chloromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
cis-1,2-Dichloroethene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
cis-1,3-Dichloropropene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Di-isopropyl ether	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Dibromochloromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Dibromomethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Dichlorodifluoromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Ethyl Acetate	ND	51	1	B7J0750	10/25/2017	10/25/17 14:00	
Ethyl Ether	ND	51	1	B7J0750	10/25/2017	10/25/17 14:00	
Ethyl tert-butyl ether	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Ethylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Freon-113	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Hexachlorobutadiene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Isopropylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
m,p-Xylene	ND	10	1	B7J0750	10/25/2017	10/25/17 14:00	
Methylene chloride	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
MTBE	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
n-Propylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Naphthalene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
o-Xylene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
sec-Butylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Styrene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
tert-Amyl methyl ether	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
tert-Butanol	ND	100	1	B7J0750	10/25/2017	10/25/17 14:00	
tert-Butylbenzene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Tetrachloroethene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Toluene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
trans-1,2-Dichloroethene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
trans-1,3-Dichloropropene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Trichloroethene	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Trichlorofluoromethane	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Vinyl acetate	ND	51	1	B7J0750	10/25/2017	10/25/17 14:00	
Vinyl chloride	ND	5.1	1	B7J0750	10/25/2017	10/25/17 14:00	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 14:00*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 14:00*	
Surrogate: Dibromofluoromethane	*98.6 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 14:00*	
Surrogate: Toluene-d8	*105 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 14:00*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Acenaphthene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Acenaphthylene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Benzo(a)anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Benzo(a)pyrene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Benzo(b)fluoranthene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Benzo(g,h,i)perylene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Benzo(k)fluoranthene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Chrysene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Dibenz(a,h)anthracene	ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-0.5

Lab ID: 1703641-41

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Fluorene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Indeno(1,2,3-cd)pyrene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Naphthalene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Phenanthrene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Pyrene		ND	250	50	B7J0757	10/25/2017	10/25/17 21:28	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0757	10/25/2017	*10/25/17 21:28*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0757	10/25/2017	*10/25/17 21:28*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0757	10/25/2017	*10/25/17 21:28*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0757	10/25/2017	*10/25/17 21:28*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-2.5

Lab ID: 1703641-42

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1,1-Trichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1,2-Trichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1-Dichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,1-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2,3-Trichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2,3-Trichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2,4-Trichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2,4-Trimethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2-Dibromoethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2-Dichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,2-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,3,5-Trimethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,3-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,3-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
1,4-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
2,2-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
2-Chlorotoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
4-Chlorotoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
4-Isopropyltoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Benzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Bromobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Bromochloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Bromodichloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Bromoform	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Bromomethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Carbon disulfide	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Carbon tetrachloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Chlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Chloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Chloroform	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Chloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
cis-1,2-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-2.5

Lab ID: 1703641-42

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Di-isopropyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Dibromochloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Dibromomethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Dichlorodifluoromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Ethyl Acetate	ND	55	1	B7J0750	10/25/2017	10/25/17 14:18	
Ethyl Ether	ND	55	1	B7J0750	10/25/2017	10/25/17 14:18	
Ethyl tert-butyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Ethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Freon-113	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Hexachlorobutadiene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Isopropylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
m,p-Xylene	ND	11	1	B7J0750	10/25/2017	10/25/17 14:18	
Methylene chloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
MTBE	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
n-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
n-Propylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Naphthalene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
o-Xylene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
sec-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Styrene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
tert-Amyl methyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
tert-Butanol	ND	110	1	B7J0750	10/25/2017	10/25/17 14:18	
tert-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Tetrachloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Toluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
trans-1,2-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
trans-1,3-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Trichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Trichlorofluoromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Vinyl acetate	ND	55	1	B7J0750	10/25/2017	10/25/17 14:18	
Vinyl chloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:18	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 14:18*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 14:18*	
Surrogate: Dibromofluoromethane	*97.7 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 14:18*	
Surrogate: Toluene-d8	*108 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 14:18*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB17-2.5

Lab ID: 1703641-42

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Acenaphthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Acenaphthylene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Benzo(a)anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Benzo(a)pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Benzo(b)fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Benzo(g,h,i)perylene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Benzo(k)fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Chrysene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Dibenz(a,h)anthracene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Fluoranthene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Fluorene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Indeno(1,2,3-cd)pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Naphthalene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Phenanthrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Pyrene	ND	5.0	1	B7J0757	10/25/2017	10/25/17 17:07	
Surrogate: 1,2-Dichlorobenzene-d4	*59.9 %*	*29 - 109*		B7J0757	10/25/2017	*10/25/17 17:07*	
Surrogate: 2-Fluorobiphenyl	*82.2 %*	*39 - 108*		B7J0757	10/25/2017	*10/25/17 17:07*	
Surrogate: Nitrobenzene-d5	*54.1 %*	*0 - 146*		B7J0757	10/25/2017	*10/25/17 17:07*	
Surrogate: 4-Terphenyl-d14	*79.9 %*	*39 - 123*		B7J0757	10/25/2017	*10/25/17 17:07*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-2.5

Lab ID: 1703641-50

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1,1-Trichloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1,2,2-Tetrachloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1,2-Trichloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1-Dichloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1-Dichloroethene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,1-Dichloropropene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2,3-Trichloropropane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2,3-Trichlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2,4-Trichlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2,4-Trimethylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2-Dibromo-3-chloropropane	ND	8.6	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2-Dibromoethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2-Dichlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2-Dichloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,2-Dichloropropane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,3,5-Trimethylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,3-Dichlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,3-Dichloropropane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
1,4-Dichlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
2,2-Dichloropropane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
2-Chlorotoluene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
4-Chlorotoluene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
4-Isopropyltoluene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Benzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Bromobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Bromochloromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Bromodichloromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Bromoform	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Bromomethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Carbon disulfide	**7.4**	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Carbon tetrachloride	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Chlorobenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Chloroethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Chloroform	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Chloromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
cis-1,2-Dichloroethene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-2.5

Lab ID: 1703641-50

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: VW**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Di-isopropyl ether	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Dibromochloromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Dibromomethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Dichlorodifluoromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Ethyl Acetate	ND	43	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Ethyl Ether	ND	43	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Ethyl tert-butyl ether	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Ethylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Freon-113	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Hexachlorobutadiene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Isopropylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
m,p-Xylene	ND	8.6	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Methylene chloride	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
MTBE	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
n-Butylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
n-Propylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Naphthalene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
o-Xylene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
sec-Butylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Styrene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
tert-Amyl methyl ether	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
tert-Butanol	ND	86	1	B7K0166	11/07/2017	11/07/17 17:07	H7
tert-Butylbenzene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Tetrachloroethene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Toluene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
trans-1,2-Dichloroethene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
trans-1,3-Dichloropropene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Trichloroethene	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Trichlorofluoromethane	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Vinyl acetate	ND	43	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Vinyl chloride	ND	4.3	1	B7K0166	11/07/2017	11/07/17 17:07	H7
Surrogate: 1,2-Dichloroethane-d4	*120 %*	*32 - 140*		B7K0166	11/07/2017	*11/07/17 17:07*	
Surrogate: 4-Bromofluorobenzene	*105 %*	*68 - 131*		B7K0166	11/07/2017	*11/07/17 17:07*	
Surrogate: Dibromofluoromethane	*106 %*	*49 - 134*		B7K0166	11/07/2017	*11/07/17 17:07*	
Surrogate: Toluene-d8	*104 %*	*75 - 132*		B7K0166	11/07/2017	*11/07/17 17:07*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Client Sample ID LB2-2.5

Lab ID: 1703641-50

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Acenaphthene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Acenaphthylene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Anthracene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Benzo(a)anthracene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Benzo(a)pyrene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Benzo(b)fluoranthene	**10**	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Benzo(g,h,i)perylene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Benzo(k)fluoranthene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Chrysene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Dibenz(a,h)anthracene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Fluoranthene	**12**	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Fluorene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Indeno(1,2,3-cd)pyrene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Naphthalene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Phenanthrene	ND	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Pyrene	**11**	10	2	B7K0185	11/07/2017	11/07/17 17:12	H4
Surrogate: 1,2-Dichlorobenzene-d4	*50.8 %*	*29 - 109*		B7K0185	11/07/2017	*11/07/17 17:12*	
Surrogate: 2-Fluorobiphenyl	*70.0 %*	*39 - 108*		B7K0185	11/07/2017	*11/07/17 17:12*	
Surrogate: Nitrobenzene-d5	*46.3 %*	*0 - 146*		B7K0185	11/07/2017	*11/07/17 17:12*	
Surrogate: 4-Terphenyl-d14	*66.6 %*	*39 - 123*		B7K0185	11/07/2017	*11/07/17 17:12*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

QUALITY CONTROL SECTION

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0818 - EPA 3010A_S										
Blank (B7J0818-BLK1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.050	0.0047							
Blank (B7J0818-BLK2)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.050	0.0047							
LCS (B7J0818-BS1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	0.937282	0.050	0.0047	1.00000		93.7	80 - 120			
Duplicate (B7J0818-DUP1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.50	0.047		0.055943			NR	20	
Duplicate (B7J0818-DUP2)			**Source: 1703720-02**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	0.913033	0.62	0.059		0.821568			10.5	20	
Matrix Spike (B7J0818-MS1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	2.32879	0.50	0.047	2.50000	0.055943	90.9	78 - 109			
Matrix Spike (B7J0818-MS2)			**Source: 1703653-04**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	11.7478	0.25	0.024	2.50000	0.040223	468	78 - 109			M1
Matrix Spike Dup (B7J0818-MSD1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	2.28561	0.50	0.047	2.50000	0.055943	89.2	78 - 109	1.87	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0849 - STLC_S Extraction										
Blank (B7J0849-BLK1)						Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	ND	1.0	0.076							
Lead	ND	1.0	0.094							
LCS (B7J0849-BS1)						Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	1.82832			2.00000		91.4	80 - 120			
Lead	1.94441			2.00000		97.2	80 - 120			
Matrix Spike (B7J0849-MS1)			**Source: 1703641-02**			Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	4.54437			2.50000	2.49998	81.8	62 - 129			
Lead	7.43540			2.50000	5.75609	67.2	44 - 130			
Matrix Spike Dup (B7J0849-MSD1)			**Source: 1703641-02**			Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	4.56573			2.50000	2.49998	82.6	62 - 129	0.469	20	
Lead	7.68783			2.50000	5.75609	77.3	44 - 130	3.34	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0820 - EPA 7471_S										
Blank (B7J0820-BLK1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0820-BS1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	0.871909	0.10	0.005	0.833333		105	80 - 120			
Duplicate (B7J0820-DUP1)			**Source: 1703641-46RE1**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	0.470609	0.10	0.005		0.140500			108	20	R
Matrix Spike (B7J0820-MS1)			**Source: 1703641-46RE1**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	0.995021	0.10	0.005	0.833333	0.140500	103	70 - 130			
Matrix Spike Dup (B7J0820-MSD1)			**Source: 1703641-46RE1**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	0.975706	0.10	0.005	0.833333	0.140500	100	70 - 130	1.96	20	
Post Spike (B7J0820-PS1)			**Source: 1703641-46RE1**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Mercury	0.007902			5.00000E-3	0.001686	124	85 - 115			M1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0511 - GCSEMI_PCB/PEST_S										
Blank (B7J0511-BLK1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*11.23*			*16.6667*		*67.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.91*			*16.6667*		*95.4*	*30 - 130*			
LCS (B7J0511-BS1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	182.618	16	4.6	166.667		110	73 - 111			
Aroclor 1260	159.355	16	4.6	166.667		95.6	75 - 125			
Surrogate: Decachlorobiphenyl	*12.77*			*16.6667*		*76.6*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*18.82*			*16.6667*		*113*	*30 - 130*			
Duplicate (B7J0511-DUP1)			**Source: 1703681-24**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	ND	16	4.6		ND				20	
Aroclor 1260	ND	16	4.6		ND				20	
Surrogate: Decachlorobiphenyl	*8.908*			*16.6667*		*53.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*12.55*			*16.6667*		*75.3*	*30 - 130*			
Matrix Spike (B7J0511-MS1)			**Source: 1703681-22**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	142.130	16	4.6	166.667	ND	85.3	36 - 127			
Aroclor 1260	115.861	16	4.6	166.667	ND	69.5	31 - 142			
Surrogate: Decachlorobiphenyl	*8.673*			*16.6667*		*52.0*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.25*			*16.6667*		*85.5*	*30 - 130*			
Matrix Spike Dup (B7J0511-MSD1)			**Source: 1703681-22**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Aroclor 1016	137.276	16	4.6	166.667	ND	82.4	36 - 127	3.47	20	
Aroclor 1260	113.244	16	4.6	166.667	ND	67.9	31 - 142	2.29	20	
Surrogate: Decachlorobiphenyl	*8.437*			*16.6667*		*50.6*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*13.89*			*16.6667*		*83.4*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0724 - GCSEMI_PCB/PEST_S										
Blank (B7J0724-BLK2)						Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*13.23*			*16.6667*		*79.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.64*			*16.6667*		*87.8*	*30 - 130*			
LCS (B7J0724-BS2)						Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	149.223	16	4.6	166.667		89.5	73 - 111			
Aroclor 1260	155.316	16	4.6	166.667		93.2	75 - 125			
Surrogate: Decachlorobiphenyl	*13.98*			*16.6667*		*83.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.23*			*16.6667*		*91.4*	*30 - 130*			
Matrix Spike (B7J0724-MS3)			**Source: 1703770-02**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	77.6048	16	4.6	166.667	ND	46.6	36 - 127			
Aroclor 1260	86.5117	16	4.6	166.667	ND	51.9	31 - 142			
Surrogate: Decachlorobiphenyl	*7.514*			*16.6667*		*45.1*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*6.630*			*16.6667*		*39.8*	*30 - 130*			
Matrix Spike (B7J0724-MS4)			**Source: 1703770-03**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	89.5710	16	4.6	166.667	ND	53.7	36 - 127			
Aroclor 1260	95.6437	16	4.6	166.667	ND	57.4	31 - 142			
Surrogate: Decachlorobiphenyl	*8.150*			*16.6667*		*48.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*8.857*			*16.6667*		*53.1*	*30 - 130*			
Matrix Spike Dup (B7J0724-MSD3)			**Source: 1703770-02**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	87.3318	16	4.6	166.667	ND	52.4	36 - 127	11.8	20	
Aroclor 1260	82.0210	16	4.6	166.667	ND	49.2	31 - 142	5.33	20	
Surrogate: Decachlorobiphenyl	*6.951*			*16.6667*		*41.7*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*6.484*			*16.6667*		*38.9*	*30 - 130*			
Matrix Spike Dup (B7J0724-MSD4)			**Source: 1703770-03**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	100.878	16	4.6	166.667	ND	60.5	36 - 127	11.9	20	
Aroclor 1260	102.184	16	4.6	166.667	ND	61.3	31 - 142	6.61	20	
Surrogate: Decachlorobiphenyl	*9.008*			*16.6667*		*54.0*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*9.429*			*16.6667*		*56.6*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S										
Blank (B7J0750-BLK1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618.005
Report To : Brynn McCulloch
Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
Blank (B7J0750-BLK1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*42.17*			*50.0000*		*84.3*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.38*			*50.0000*		*101*	*68 - 131*			
Surrogate: Dibromofluoromethan	*43.07*			*50.0000*		*86.1*	*49 - 134*			
Surrogate: Toluene-d8	*49.82*			*50.0000*		*99.6*	*75 - 132*			
LCS (B7J0750-BS1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	45.3800	5.0	0.96	50.0000		90.8	80 - 117			
1,1,1-Trichloroethane	46.3500	5.0	1.1	50.0000		92.7	70 - 122			
1,1,2,2-Tetrachloroethane	47.1400	5.0	0.62	50.0000		94.3	69 - 115			
1,1,2-Trichloroethane	48.3600	5.0	1.6	50.0000		96.7	74 - 120			
1,1-Dichloroethane	47.7700	5.0	0.81	50.0000		95.5	72 - 118			
1,1-Dichloroethene	48.1100	5.0	2.6	50.0000		96.2	61 - 124			
1,1-Dichloropropene	48.2400	5.0	2.3	50.0000		96.5	74 - 128			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS (B7J0750-BS1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,2,3-Trichloropropane	44.5200	5.0	0.54	50.0000		89.0	67 - 116			
1,2,3-Trichlorobenzene	45.7500	5.0	1.2	50.0000		91.5	86 - 127			
1,2,4-Trichlorobenzene	47.7100	5.0	1.1	50.0000		95.4	88 - 137			
1,2,4-Trimethylbenzene	49.0700	5.0	1.5	50.0000		98.1	78 - 125			
1,2-Dibromo-3-chloropropane	47.0900	10	1.6	50.0000		94.2	70 - 134			
1,2-Dibromoethane	46.9600	5.0	3.2	50.0000		93.9	73 - 127			
1,2-Dichlorobenzene	47.6300	5.0	1.1	50.0000		95.3	85 - 116			
1,2-Dichloroethane	47.2900	5.0	1.2	50.0000		94.6	65 - 120			
1,2-Dichloropropane	48.6000	5.0	1.8	50.0000		97.2	81 - 114			
1,3,5-Trimethylbenzene	48.7800	5.0	1.7	50.0000		97.6	76 - 125			
1,3-Dichlorobenzene	47.6100	5.0	1.3	50.0000		95.2	83 - 117			
1,3-Dichloropropane	48.4200	5.0	1.1	50.0000		96.8	79 - 119			
1,4-Dichlorobenzene	48.7500	5.0	1.2	50.0000		97.5	84 - 115			
2,2-Dichloropropane	47.6000	5.0	1.2	50.0000		95.2	72 - 121			
2-Chlorotoluene	47.5000	5.0	1.6	50.0000		95.0	76 - 120			
4-Chlorotoluene	48.5700	5.0	1.5	50.0000		97.1	77 - 122			
4-Isopropyltoluene	50.1100	5.0	2.3	50.0000		100	77 - 131			
Benzene	95.0900	5.0	0.64	100.000		95.1	78 - 115			
Bromobenzene	46.0900	5.0	1.1	50.0000		92.2	79 - 113			
Bromochloromethane	44.1200	5.0	0.64	50.0000		88.2	66 - 123			
Bromodichloromethane	45.6800	5.0	1.2	50.0000		91.4	79 - 112			
Bromoform	45.0000	5.0	0.80	50.0000		90.0	67 - 125			
Bromomethane	66.9100	5.0	2.5	50.0000		134	49 - 150			
Carbon disulfide	52.1500	5.0	3.5	50.0000		104	61 - 146			
Carbon tetrachloride	46.3700	5.0	1.2	50.0000		92.7	65 - 133			
Chlorobenzene	47.2400	5.0	1.0	50.0000		94.5	82 - 113			
Chloroethane	54.5300	5.0	1.1	50.0000		109	46 - 146			
Chloroform	45.6600	5.0	0.82	50.0000		91.3	73 - 116			
Chloromethane	51.3500	5.0	1.4	50.0000		103	46 - 158			
cis-1,2-Dichloroethene	47.0800	5.0	0.67	50.0000		94.2	72 - 121			
cis-1,3-Dichloropropene	47.3000	5.0	1.9	50.0000		94.6	79 - 123			
Di-isopropyl ether	48.6600	5.0	0.55	50.0000		97.3	67 - 125			
Dibromochloromethane	46.2500	5.0	1.0	50.0000		92.5	79 - 116			
Dibromomethane	46.6700	5.0	1.6	50.0000		93.3	72 - 117			
Dichlorodifluoromethane	52.6200	5.0	2.2	50.0000		105	38 - 168			
Ethyl Acetate	526.690	50	8.1	500.000		105	55 - 144			
Ethyl Ether	475.190	50	6.1	500.000		95.0	52 - 133			
Ethyl tert-butyl ether	49.5600	5.0	0.67	50.0000		99.1	68 - 126			
Ethylbenzene	95.7800	5.0	0.91	100.000		95.8	79 - 116			
Freon-113	49.7500	5.0	2.8	50.0000		99.5	66 - 134			
Hexachlorobutadiene	47.3300	5.0	2.5	50.0000		94.7	84 - 133			
Isopropylbenzene	48.0100	5.0	1.8	50.0000		96.0	67 - 134			

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS (B7J0750-BS1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
m,p-Xylene	99.6700	10	1.5	100.000		99.7	78 - 126			
Methylene chloride	49.8300	5.0	2.3	50.0000		99.7	31 - 148			
MTBE	46.4700	5.0	0.63	50.0000		92.9	59 - 131			
n-Butylbenzene	50.8900	5.0	2.4	50.0000		102	75 - 141			
n-Propylbenzene	48.5700	5.0	2.2	50.0000		97.1	73 - 127			
Naphthalene	47.2300	5.0	0.97	50.0000		94.5	78 - 129			
o-Xylene	91.8500	5.0	0.87	100.000		91.8	81 - 113			
sec-Butylbenzene	48.9100	5.0	2.3	50.0000		97.8	73 - 129			
Styrene	50.1800	5.0	1.5	50.0000		100	88 - 118			
tert-Amyl methyl ether	47.2700	5.0	0.59	50.0000		94.5	62 - 122			
tert-Butanol	235.130	100	19	250.000		94.1	36 - 142			
tert-Butylbenzene	48.3000	5.0	2.0	50.0000		96.6	74 - 126			
Tetrachloroethene	47.3700	5.0	1.6	50.0000		94.7	74 - 127			
Toluene	96.5300	5.0	0.94	100.000		96.5	79 - 119			
trans-1,2-Dichloroethene	39.2100	5.0	0.59	50.0000		78.4	61 - 128			
trans-1,3-Dichloropropene	48.4800	5.0	2.1	50.0000		97.0	75 - 116			
Trichloroethene	46.7000	5.0	3.1	50.0000		93.4	76 - 123			
Trichlorofluoromethane	50.2600	5.0	1.4	50.0000		101	58 - 134			
Vinyl acetate	526.560	50	9.8	500.000		105	63 - 143			
Vinyl chloride	53.9100	5.0	1.7	50.0000		108	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*52.52*			*50.0000*		*105*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.88*			*50.0000*		*99.8*	*68 - 131*			
Surrogate: Dibromofluoromethan	*49.24*			*50.0000*		*98.5*	*49 - 134*			
Surrogate: Toluene-d8	*52.12*			*50.0000*		*104*	*75 - 132*			
LCS Dup (B7J0750-BSD1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	45.1500	5.0	0.96	50.0000		90.3	80 - 117	0.508	20	
1,1,1-Trichloroethane	44.5900	5.0	1.1	50.0000		89.2	70 - 122	3.87	20	
1,1,2,2-Tetrachloroethane	45.8800	5.0	0.62	50.0000		91.8	69 - 115	2.71	20	
1,1,2-Trichloroethane	46.7000	5.0	1.6	50.0000		93.4	74 - 120	3.49	20	
1,1-Dichloroethane	45.7000	5.0	0.81	50.0000		91.4	72 - 118	4.43	20	
1,1-Dichloroethene	44.3500	5.0	2.6	50.0000		88.7	61 - 124	8.13	20	
1,1-Dichloropropene	45.6500	5.0	2.3	50.0000		91.3	74 - 128	5.52	20	
1,2,3-Trichloropropane	42.5900	5.0	0.54	50.0000		85.2	67 - 116	4.43	20	
1,2,3-Trichlorobenzene	47.6400	5.0	1.2	50.0000		95.3	86 - 127	4.05	20	
1,2,4-Trichlorobenzene	50.2200	5.0	1.1	50.0000		100	88 - 137	5.13	20	
1,2,4-Trimethylbenzene	48.2600	5.0	1.5	50.0000		96.5	78 - 125	1.66	20	
1,2-Dibromo-3-chloropropane	52.0400	10	1.6	50.0000		104	70 - 134	9.99	20	
1,2-Dibromoethane	50.4600	5.0	3.2	50.0000		101	73 - 127	7.19	20	
1,2-Dichlorobenzene	47.6800	5.0	1.1	50.0000		95.4	85 - 116	0.105	20	
1,2-Dichloroethane	48.0600	5.0	1.2	50.0000		96.1	65 - 120	1.62	20	

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17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618.005
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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS Dup (B7J0750-BSD1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,2-Dichloropropane	47.9800	5.0	1.8	50.0000		96.0	81 - 114	1.28	20	
1,3,5-Trimethylbenzene	47.8300	5.0	1.7	50.0000		95.7	76 - 125	1.97	20	
1,3-Dichlorobenzene	47.3400	5.0	1.3	50.0000		94.7	83 - 117	0.569	20	
1,3-Dichloropropane	47.8600	5.0	1.1	50.0000		95.7	79 - 119	1.16	20	
1,4-Dichlorobenzene	47.8100	5.0	1.2	50.0000		95.6	84 - 115	1.95	20	
2,2-Dichloropropane	45.3600	5.0	1.2	50.0000		90.7	72 - 121	4.82	20	
2-Chlorotoluene	46.8100	5.0	1.6	50.0000		93.6	76 - 120	1.46	20	
4-Chlorotoluene	46.8400	5.0	1.5	50.0000		93.7	77 - 122	3.63	20	
4-Isopropyltoluene	48.8600	5.0	2.3	50.0000		97.7	77 - 131	2.53	20	
Benzene	92.7300	5.0	0.64	100.000		92.7	78 - 115	2.51	20	
Bromobenzene	45.4600	5.0	1.1	50.0000		90.9	79 - 113	1.38	20	
Bromochloromethane	43.8600	5.0	0.64	50.0000		87.7	66 - 123	0.591	20	
Bromodichloromethane	45.2700	5.0	1.2	50.0000		90.5	79 - 112	0.902	20	
Bromoform	45.1200	5.0	0.80	50.0000		90.2	67 - 125	0.266	20	
Bromomethane	61.8300	5.0	2.5	50.0000		124	49 - 150	7.89	20	
Carbon disulfide	48.8400	5.0	3.5	50.0000		97.7	61 - 146	6.56	20	
Carbon tetrachloride	44.7600	5.0	1.2	50.0000		89.5	65 - 133	3.53	20	
Chlorobenzene	46.6700	5.0	1.0	50.0000		93.3	82 - 113	1.21	20	
Chloroethane	54.5900	5.0	1.1	50.0000		109	46 - 146	0.110	20	
Chloroform	44.7800	5.0	0.82	50.0000		89.6	73 - 116	1.95	20	
Chloromethane	49.2800	5.0	1.4	50.0000		98.6	46 - 158	4.11	20	
cis-1,2-Dichloroethene	46.4800	5.0	0.67	50.0000		93.0	72 - 121	1.28	20	
cis-1,3-Dichloropropene	48.6300	5.0	1.9	50.0000		97.3	79 - 123	2.77	20	
Di-isopropyl ether	47.0800	5.0	0.55	50.0000		94.2	67 - 125	3.30	20	
Dibromochloromethane	45.0900	5.0	1.0	50.0000		90.2	79 - 116	2.54	20	
Dibromomethane	46.6500	5.0	1.6	50.0000		93.3	72 - 117	0.0429	20	
Dichlorodifluoromethane	48.9500	5.0	2.2	50.0000		97.9	38 - 168	7.23	20	
Ethyl Acetate	520.010	50	8.1	500.000		104	55 - 144	1.28	20	
Ethyl Ether	450.520	50	6.1	500.000		90.1	52 - 133	5.33	20	
Ethyl tert-butyl ether	47.9700	5.0	0.67	50.0000		95.9	68 - 126	3.26	20	
Ethylbenzene	93.3400	5.0	0.91	100.000		93.3	79 - 116	2.58	20	
Freon-113	46.9800	5.0	2.8	50.0000		94.0	66 - 134	5.73	20	
Hexachlorobutadiene	49.9500	5.0	2.5	50.0000		99.9	84 - 133	5.39	20	
Isopropylbenzene	46.5300	5.0	1.8	50.0000		93.1	67 - 134	3.13	20	
m,p-Xylene	98.2100	10	1.5	100.000		98.2	78 - 126	1.48	20	
Methylene chloride	63.3200	5.0	2.3	50.0000		127	31 - 148	23.8	20	R
MTBE	46.3500	5.0	0.63	50.0000		92.7	59 - 131	0.259	20	
n-Butylbenzene	50.1400	5.0	2.4	50.0000		100	75 - 141	1.48	20	
n-Propylbenzene	46.8400	5.0	2.2	50.0000		93.7	73 - 127	3.63	20	
Naphthalene	47.9900	5.0	0.97	50.0000		96.0	78 - 129	1.60	20	
o-Xylene	91.2700	5.0	0.87	100.000		91.3	81 - 113	0.633	20	
sec-Butylbenzene	48.1200	5.0	2.3	50.0000		96.2	73 - 129	1.63	20	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS Dup (B7J0750-BSD1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
Styrene	49.8200	5.0	1.5	50.0000		99.6	88 - 118	0.720	20	
tert-Amyl methyl ether	45.3500	5.0	0.59	50.0000		90.7	62 - 122	4.15	20	
tert-Butanol	224.480	100	19	250.000		89.8	36 - 142	4.63	20	
tert-Butylbenzene	46.7200	5.0	2.0	50.0000		93.4	74 - 126	3.33	20	
Tetrachloroethene	45.8800	5.0	1.6	50.0000		91.8	74 - 127	3.20	20	
Toluene	94.2800	5.0	0.94	100.000		94.3	79 - 119	2.36	20	
trans-1,2-Dichloroethene	44.9700	5.0	0.59	50.0000		89.9	61 - 128	13.7	20	
trans-1,3-Dichloropropene	48.0700	5.0	2.1	50.0000		96.1	75 - 116	0.849	20	
Trichloroethene	46.3600	5.0	3.1	50.0000		92.7	76 - 123	0.731	20	
Trichlorofluoromethane	44.9000	5.0	1.4	50.0000		89.8	58 - 134	11.3	20	
Vinyl acetate	493.040	50	9.8	500.000		98.6	63 - 143	6.58	20	
Vinyl chloride	50.5400	5.0	1.7	50.0000		101	51 - 145	6.45	20	
Surrogate: 1,2-Dichloroethane-d4	*51.52*			*50.0000*		*103*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.20*			*50.0000*		*100*	*68 - 131*			
Surrogate: Dibromofluoromethan	*47.79*			*50.0000*		*95.6*	*49 - 134*			
Surrogate: Toluene-d8	*51.39*			*50.0000*		*103*	*75 - 132*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S										
Blank (B7K0166-BLK1)					Prepared: 11/7/2017 Analyzed: 11/7/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S (continued)										
Blank (B7K0166-BLK1) - Continued						Prepared: 11/7/2017 Analyzed: 11/7/2017				
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*47.81*			*50.0000*		*95.6*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*52.27*			*50.0000*		*105*	*68 - 131*			
Surrogate: Dibromofluoromethan	*46.03*			*50.0000*		*92.1*	*49 - 134*			
Surrogate: Toluene-d8	*53.18*			*50.0000*		*106*	*75 - 132*			
LCS (B7K0166-BS1)						Prepared: 11/7/2017 Analyzed: 11/7/2017				
1,1,1,2-Tetrachloroethane	53.7000	5.0	0.96	50.0000		107	80 - 117			
1,1,1-Trichloroethane	51.8000	5.0	1.1	50.0000		104	70 - 122			
1,1,2,2-Tetrachloroethane	52.3700	5.0	0.62	50.0000		105	69 - 115			
1,1,2-Trichloroethane	51.2700	5.0	1.6	50.0000		103	74 - 120			
1,1-Dichloroethane	49.9700	5.0	0.81	50.0000		99.9	72 - 118			
1,1-Dichloroethene	45.0600	5.0	2.6	50.0000		90.1	61 - 124			
1,1-Dichloropropene	50.0200	5.0	2.3	50.0000		100	74 - 128			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S (continued)										
LCS (B7K0166-BS1) - Continued					Prepared: 11/7/2017 Analyzed: 11/7/2017					
1,2,3-Trichloropropane	52.9300	5.0	0.54	50.0000		106	67 - 116			
1,2,3-Trichlorobenzene	51.6600	5.0	1.2	50.0000		103	86 - 127			
1,2,4-Trichlorobenzene	55.4000	5.0	1.1	50.0000		111	88 - 137			
1,2,4-Trimethylbenzene	58.5800	5.0	1.5	50.0000		117	78 - 125			
1,2-Dibromo-3-chloropropane	58.2100	10	1.6	50.0000		116	70 - 134			
1,2-Dibromoethane	55.5400	5.0	3.2	50.0000		111	73 - 127			
1,2-Dichlorobenzene	55.2600	5.0	1.1	50.0000		111	85 - 116			
1,2-Dichloroethane	54.2900	5.0	1.2	50.0000		109	65 - 120			
1,2-Dichloropropane	52.3600	5.0	1.8	50.0000		105	81 - 114			
1,3,5-Trimethylbenzene	58.5900	5.0	1.7	50.0000		117	76 - 125			
1,3-Dichlorobenzene	56.0300	5.0	1.3	50.0000		112	83 - 117			
1,3-Dichloropropane	53.6900	5.0	1.1	50.0000		107	79 - 119			
1,4-Dichlorobenzene	56.0100	5.0	1.2	50.0000		112	84 - 115			
2,2-Dichloropropane	54.4900	5.0	1.2	50.0000		109	72 - 121			
2-Chlorotoluene	56.7100	5.0	1.6	50.0000		113	76 - 120			
4-Chlorotoluene	57.4700	5.0	1.5	50.0000		115	77 - 122			
4-Isopropyltoluene	60.3700	5.0	2.3	50.0000		121	77 - 131			
Benzene	98.1500	5.0	0.64	100.000		98.2	78 - 115			
Bromobenzene	53.2700	5.0	1.1	50.0000		107	79 - 113			
Bromochloromethane	46.1400	5.0	0.64	50.0000		92.3	66 - 123			
Bromodichloromethane	51.7700	5.0	1.2	50.0000		104	79 - 112			
Bromoform	50.5800	5.0	0.80	50.0000		101	67 - 125			
Bromomethane	61.2400	5.0	2.5	50.0000		122	49 - 150			
Carbon disulfide	49.4900	5.0	3.5	50.0000		99.0	61 - 146			
Carbon tetrachloride	51.5400	5.0	1.2	50.0000		103	65 - 133			
Chlorobenzene	53.3800	5.0	1.0	50.0000		107	82 - 113			
Chloroethane	53.7300	5.0	1.1	50.0000		107	46 - 146			
Chloroform	50.1200	5.0	0.82	50.0000		100	73 - 116			
Chloromethane	51.3900	5.0	1.4	50.0000		103	46 - 158			
cis-1,2-Dichloroethene	47.4300	5.0	0.67	50.0000		94.9	72 - 121			
cis-1,3-Dichloropropene	49.4400	5.0	1.9	50.0000		98.9	79 - 123			
Di-isopropyl ether	51.8300	5.0	0.55	50.0000		104	67 - 125			
Dibromochloromethane	51.8400	5.0	1.0	50.0000		104	79 - 116			
Dibromomethane	49.7700	5.0	1.6	50.0000		99.5	72 - 117			
Dichlorodifluoromethane	51.8500	5.0	2.2	50.0000		104	38 - 168			
Ethyl Acetate	562.800	50	8.1	500.000		113	55 - 144			
Ethyl Ether	471.550	50	6.1	500.000		94.3	52 - 133			
Ethyl tert-butyl ether	52.4800	5.0	0.67	50.0000		105	68 - 126			
Ethylbenzene	109.560	5.0	0.91	100.000		110	79 - 116			
Freon-113	50.4900	5.0	2.8	50.0000		101	66 - 134			
Hexachlorobutadiene	59.2600	5.0	2.5	50.0000		119	84 - 133			
Isopropylbenzene	55.9600	5.0	1.8	50.0000		112	67 - 134			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S (continued)										
LCS (B7K0166-BS1) - Continued					Prepared: 11/7/2017 Analyzed: 11/7/2017					
m,p-Xylene	116.320	10	1.5	100.000		116	78 - 126			
Methylene chloride	58.6900	5.0	2.3	50.0000		117	31 - 148			
MTBE	48.2200	5.0	0.63	50.0000		96.4	59 - 131			
n-Butylbenzene	62.7600	5.0	2.4	50.0000		126	75 - 141			
n-Propylbenzene	57.4700	5.0	2.2	50.0000		115	73 - 127			
Naphthalene	50.4600	5.0	0.97	50.0000		101	78 - 129			
o-Xylene	106.770	5.0	0.87	100.000		107	81 - 113			
sec-Butylbenzene	59.4800	5.0	2.3	50.0000		119	73 - 129			
Styrene	56.8500	5.0	1.5	50.0000		114	88 - 118			
tert-Amyl methyl ether	50.4400	5.0	0.59	50.0000		101	62 - 122			
tert-Butanol	91.8600	100	19	250.000		36.7	36 - 142			
tert-Butylbenzene	57.3500	5.0	2.0	50.0000		115	74 - 126			
Tetrachloroethene	51.4800	5.0	1.6	50.0000		103	74 - 127			
Toluene	112.860	5.0	0.94	100.000		113	79 - 119			
trans-1,2-Dichloroethene	46.0800	5.0	0.59	50.0000		92.2	61 - 128			
trans-1,3-Dichloropropene	56.7000	5.0	2.1	50.0000		113	75 - 116			
Trichloroethene	48.5600	5.0	3.1	50.0000		97.1	76 - 123			
Trichlorofluoromethane	51.6300	5.0	1.4	50.0000		103	58 - 134			
Vinyl acetate	547.720	50	9.8	500.000		110	63 - 143			
Vinyl chloride	52.0400	5.0	1.7	50.0000		104	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*57.29*			*50.0000*		*115*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*52.94*			*50.0000*		*106*	*68 - 131*			
Surrogate: Dibromofluoromethan	*48.70*			*50.0000*		*97.4*	*49 - 134*			
Surrogate: Toluene-d8	*52.52*			*50.0000*		*105*	*75 - 132*			
LCS Dup (B7K0166-BSD1)					Prepared: 11/7/2017 Analyzed: 11/7/2017					
1,1,1,2-Tetrachloroethane	48.6600	5.0	0.96	50.0000		97.3	80 - 117	9.85	20	
1,1,1-Trichloroethane	48.9800	5.0	1.1	50.0000		98.0	70 - 122	5.60	20	
1,1,2,2-Tetrachloroethane	49.8200	5.0	0.62	50.0000		99.6	69 - 115	4.99	20	
1,1,2-Trichloroethane	51.8300	5.0	1.6	50.0000		104	74 - 120	1.09	20	
1,1-Dichloroethane	47.7500	5.0	0.81	50.0000		95.5	72 - 118	4.54	20	
1,1-Dichloroethene	45.4500	5.0	2.6	50.0000		90.9	61 - 124	0.862	20	
1,1-Dichloropropene	46.1400	5.0	2.3	50.0000		92.3	74 - 128	8.07	20	
1,2,3-Trichloropropane	48.1700	5.0	0.54	50.0000		96.3	67 - 116	9.42	20	
1,2,3-Trichlorobenzene	51.0800	5.0	1.2	50.0000		102	86 - 127	1.13	20	
1,2,4-Trichlorobenzene	53.6400	5.0	1.1	50.0000		107	88 - 137	3.23	20	
1,2,4-Trimethylbenzene	51.6100	5.0	1.5	50.0000		103	78 - 125	12.7	20	
1,2-Dibromo-3-chloropropane	56.9000	10	1.6	50.0000		114	70 - 134	2.28	20	
1,2-Dibromoethane	50.9400	5.0	3.2	50.0000		102	73 - 127	8.64	20	
1,2-Dichlorobenzene	51.0600	5.0	1.1	50.0000		102	85 - 116	7.90	20	
1,2-Dichloroethane	50.5900	5.0	1.2	50.0000		101	65 - 120	7.06	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S (continued)										
LCS Dup (B7K0166-BSD1) - Continued					Prepared: 11/7/2017 Analyzed: 11/7/2017					
1,2-Dichloropropane	50.0400	5.0	1.8	50.0000		100	81 - 114	4.53	20	
1,3,5-Trimethylbenzene	50.9300	5.0	1.7	50.0000		102	76 - 125	14.0	20	
1,3-Dichlorobenzene	50.3600	5.0	1.3	50.0000		101	83 - 117	10.7	20	
1,3-Dichloropropane	49.8800	5.0	1.1	50.0000		99.8	79 - 119	7.36	20	
1,4-Dichlorobenzene	50.5400	5.0	1.2	50.0000		101	84 - 115	10.3	20	
2,2-Dichloropropane	50.0800	5.0	1.2	50.0000		100	72 - 121	8.43	20	
2-Chlorotoluene	50.9800	5.0	1.6	50.0000		102	76 - 120	10.6	20	
4-Chlorotoluene	50.3100	5.0	1.5	50.0000		101	77 - 122	13.3	20	
4-Isopropyltoluene	51.9200	5.0	2.3	50.0000		104	77 - 131	15.1	20	
Benzene	93.5800	5.0	0.64	100.000		93.6	78 - 115	4.77	20	
Bromobenzene	48.4100	5.0	1.1	50.0000		96.8	79 - 113	9.56	20	
Bromochloromethane	47.8700	5.0	0.64	50.0000		95.7	66 - 123	3.68	20	
Bromodichloromethane	48.8900	5.0	1.2	50.0000		97.8	79 - 112	5.72	20	
Bromoform	49.0000	5.0	0.80	50.0000		98.0	67 - 125	3.17	20	
Bromomethane	66.2700	5.0	2.5	50.0000		133	49 - 150	7.89	20	
Carbon disulfide	47.5100	5.0	3.5	50.0000		95.0	61 - 146	4.08	20	
Carbon tetrachloride	46.6800	5.0	1.2	50.0000		93.4	65 - 133	9.90	20	
Chlorobenzene	48.2800	5.0	1.0	50.0000		96.6	82 - 113	10.0	20	
Chloroethane	50.4700	5.0	1.1	50.0000		101	46 - 146	6.26	20	
Chloroform	49.7900	5.0	0.82	50.0000		99.6	73 - 116	0.661	20	
Chloromethane	48.4000	5.0	1.4	50.0000		96.8	46 - 158	5.99	20	
cis-1,2-Dichloroethene	48.5700	5.0	0.67	50.0000		97.1	72 - 121	2.37	20	
cis-1,3-Dichloropropene	48.0800	5.0	1.9	50.0000		96.2	79 - 123	2.79	20	
Di-isopropyl ether	51.1300	5.0	0.55	50.0000		102	67 - 125	1.36	20	
Dibromochloromethane	47.8600	5.0	1.0	50.0000		95.7	79 - 116	7.98	20	
Dibromomethane	48.4300	5.0	1.6	50.0000		96.9	72 - 117	2.73	20	
Dichlorodifluoromethane	46.5800	5.0	2.2	50.0000		93.2	38 - 168	10.7	20	
Ethyl Acetate	565.940	50	8.1	500.000		113	55 - 144	0.556	20	
Ethyl Ether	487.780	50	6.1	500.000		97.6	52 - 133	3.38	20	
Ethyl tert-butyl ether	52.4500	5.0	0.67	50.0000		105	68 - 126	0.0572	20	
Ethylbenzene	98.1800	5.0	0.91	100.000		98.2	79 - 116	11.0	20	
Freon-113	47.9300	5.0	2.8	50.0000		95.9	66 - 134	5.20	20	
Hexachlorobutadiene	53.5400	5.0	2.5	50.0000		107	84 - 133	10.1	20	
Isopropylbenzene	48.8500	5.0	1.8	50.0000		97.7	67 - 134	13.6	20	
m,p-Xylene	101.840	10	1.5	100.000		102	78 - 126	13.3	20	
Methylene chloride	57.8700	5.0	2.3	50.0000		116	31 - 148	1.41	20	
MTBE	48.9900	5.0	0.63	50.0000		98.0	59 - 131	1.58	20	
n-Butylbenzene	53.5800	5.0	2.4	50.0000		107	75 - 141	15.8	20	
n-Propylbenzene	50.3100	5.0	2.2	50.0000		101	73 - 127	13.3	20	
Naphthalene	50.4500	5.0	0.97	50.0000		101	78 - 129	0.0198	20	
o-Xylene	96.2600	5.0	0.87	100.000		96.3	81 - 113	10.4	20	
sec-Butylbenzene	50.5600	5.0	2.3	50.0000		101	73 - 129	16.2	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0166 - MSVOA_S (continued)										
LCS Dup (B7K0166-BSD1) - Continued					Prepared: 11/7/2017 Analyzed: 11/7/2017					
Styrene	51.4400	5.0	1.5	50.0000		103	88 - 118	9.99	20	
tert-Amyl methyl ether	50.3000	5.0	0.59	50.0000		101	62 - 122	0.278	20	
tert-Butanol	99.6600	100	19	250.000		39.9	36 - 142	8.15	20	
tert-Butylbenzene	50.1400	5.0	2.0	50.0000		100	74 - 126	13.4	20	
Tetrachloroethene	46.0700	5.0	1.6	50.0000		92.1	74 - 127	11.1	20	
Toluene	106.450	5.0	0.94	100.000		106	79 - 119	5.85	20	
trans-1,2-Dichloroethene	44.8300	5.0	0.59	50.0000		89.7	61 - 128	2.75	20	
trans-1,3-Dichloropropene	55.4200	5.0	2.1	50.0000		111	75 - 116	2.28	20	
Trichloroethene	45.9700	5.0	3.1	50.0000		91.9	76 - 123	5.48	20	
Trichlorofluoromethane	47.2200	5.0	1.4	50.0000		94.4	58 - 134	8.92	20	
Vinyl acetate	545.980	50	9.8	500.000		109	63 - 143	0.318	20	
Vinyl chloride	49.0600	5.0	1.7	50.0000		98.1	51 - 145	5.90	20	
Surrogate: 1,2-Dichloroethane-d4	*57.05*			*50.0000*		*114*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.76*			*50.0000*		*99.5*	*68 - 131*			
Surrogate: Dibromofluoromethan	*51.58*			*50.0000*		*103*	*49 - 134*			
Surrogate: Toluene-d8	*52.18*			*50.0000*		*104*	*75 - 132*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S										
Blank (B7J0757-BLK1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
2-Methylnaphthalene	ND	5.0	0.60							
Acenaphthene	ND	5.0	0.41							
Acenaphthylene	ND	5.0	0.41							
Anthracene	ND	5.0	0.56							
Benzo(a)anthracene	ND	5.0	0.56							
Benzo(a)pyrene	ND	5.0	0.69							
Benzo(b)fluoranthene	ND	5.0	2.2							
Benzo(g,h,i)perylene	ND	5.0	0.80							
Benzo(k)fluoranthene	ND	5.0	0.70							
Chrysene	ND	5.0	0.61							
Dibenz(a,h)anthracene	ND	5.0	0.88							
Fluoranthene	ND	5.0	0.45							
Fluorene	ND	5.0	0.35							
Indeno(1,2,3-cd)pyrene	ND	5.0	0.82							
Naphthalene	ND	5.0	0.56							
Phenanthrene	ND	5.0	0.34							
Pyrene	ND	5.0	0.51							
Surrogate: 1,2-Dichlorobenzene-d	*21.72*			*33.3333*		*65.2*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*26.50*			*33.3333*		*79.5*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.05*			*33.3333*		*51.1*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*31.30*			*33.3333*		*93.9*	*39 - 123*			
LCS (B7J0757-BS1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
2-Methylnaphthalene	15.4713	5.0	0.60	33.3333		46.4	23 - 127			
Acenaphthene	17.9283	5.0	0.41	33.3333		53.8	35 - 91			
Acenaphthylene	18.3447	5.0	0.41	33.3333		55.0	35 - 92			
Anthracene	19.9567	5.0	0.56	33.3333		59.9	43 - 109			
Benzo(a)anthracene	24.4347	5.0	0.56	33.3333		73.3	46 - 121			
Benzo(a)pyrene	21.8650	5.0	0.69	33.3333		65.6	49 - 126			
Benzo(b)fluoranthene	28.0460	5.0	2.2	33.3333		84.1	34 - 137			
Benzo(g,h,i)perylene	28.6290	5.0	0.80	33.3333		85.9	40 - 124			
Benzo(k)fluoranthene	23.0450	5.0	0.70	33.3333		69.1	21 - 132			
Chrysene	21.9727	5.0	0.61	33.3333		65.9	51 - 124			
Dibenz(a,h)anthracene	30.3893	5.0	0.88	33.3333		91.2	38 - 123			
Fluoranthene	23.2743	5.0	0.45	33.3333		69.8	47 - 105			
Fluorene	20.2763	5.0	0.35	33.3333		60.8	34 - 95			
Indeno(1,2,3-cd)pyrene	28.1337	5.0	0.82	33.3333		84.4	45 - 124			
Naphthalene	21.1413	5.0	0.56	33.3333		63.4	26 - 110			
Phenanthrene	20.3483	5.0	0.34	33.3333		61.0	39 - 108			
Pyrene	22.9497	5.0	0.51	33.3333		68.8	47 - 107			
Surrogate: 1,2-Dichlorobenzene-d	*21.74*			*33.3333*		*65.2*	*29 - 109*			

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618.005
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Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S (continued)										
LCS (B7J0757-BS1) - Continued						Prepared: 10/25/2017 Analyzed: 10/25/2017				
Surrogate: 2-Fluorobiphenyl	*25.54*			*33.3333*		*76.6*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.26*			*33.3333*		*51.8*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*30.92*			*33.3333*		*92.8*	*39 - 123*			
Matrix Spike (B7J0757-MS1)			**Source: 1703641-33**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
2-Methylnaphthalene	16.0677	5.0	0.60	33.3333	ND	48.2	30 - 141			
Acenaphthene	18.3313	5.0	0.41	33.3333	ND	55.0	9 - 155			
Acenaphthylene	19.1713	5.0	0.41	33.3333	ND	57.5	43 - 110			
Anthracene	19.6413	5.0	0.56	33.3333	ND	58.9	33 - 146			
Benzo(a)anthracene	24.1603	5.0	0.56	33.3333	0.886000	69.8	49 - 130			
Benzo(a)pyrene	22.4533	5.0	0.69	33.3333	0.972000	64.4	36 - 134			
Benzo(b)fluoranthene	28.1877	5.0	2.2	33.3333	ND	84.6	26 - 148			
Benzo(g,h,i)perylene	27.3003	5.0	0.80	33.3333	1.07733	78.7	16 - 156			
Benzo(k)fluoranthene	21.5640	5.0	0.70	33.3333	ND	64.7	29 - 132			
Chrysene	21.7687	5.0	0.61	33.3333	0.950333	62.5	0 - 184			
Dibenz(a,h)anthracene	26.4073	5.0	0.88	33.3333	ND	79.2	29 - 149			
Fluoranthene	24.6230	5.0	0.45	33.3333	1.39000	69.7	14 - 162			
Fluorene	20.6440	5.0	0.35	33.3333	ND	61.9	48 - 111			
Indeno(1,2,3-cd)pyrene	26.3657	5.0	0.82	33.3333	ND	79.1	37 - 135			
Naphthalene	21.3907	5.0	0.56	33.3333	ND	64.2	34 - 126			
Phenanthrene	21.0370	5.0	0.34	33.3333	0.683333	61.1	19 - 155			
Pyrene	24.2550	5.0	0.51	33.3333	1.37100	68.7	13 - 162			
Surrogate: 1,2-Dichlorobenzene-d	*20.75*			*33.3333*		*62.3*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*26.44*			*33.3333*		*79.3*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.07*			*33.3333*		*51.2*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*26.58*			*33.3333*		*79.7*	*39 - 123*			
Matrix Spike Dup (B7J0757-MSD1)			**Source: 1703641-33**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
2-Methylnaphthalene	14.5860	5.0	0.60	33.3333	ND	43.8	30 - 141	9.67	20	
Acenaphthene	17.5750	5.0	0.41	33.3333	ND	52.7	9 - 155	4.21	20	
Acenaphthylene	18.6233	5.0	0.41	33.3333	ND	55.9	43 - 110	2.90	20	
Anthracene	18.6273	5.0	0.56	33.3333	ND	55.9	33 - 146	5.30	20	
Benzo(a)anthracene	22.8487	5.0	0.56	33.3333	0.886000	65.9	49 - 130	5.58	20	
Benzo(a)pyrene	20.7357	5.0	0.69	33.3333	0.972000	59.3	36 - 134	7.95	20	
Benzo(b)fluoranthene	24.9090	5.0	2.2	33.3333	ND	74.7	26 - 148	12.3	20	
Benzo(g,h,i)perylene	25.5220	5.0	0.80	33.3333	1.07733	73.3	16 - 156	6.73	20	
Benzo(k)fluoranthene	21.3153	5.0	0.70	33.3333	ND	63.9	29 - 132	1.16	20	
Chrysene	20.3623	5.0	0.61	33.3333	0.950333	58.2	0 - 184	6.68	20	
Dibenz(a,h)anthracene	25.4717	5.0	0.88	33.3333	ND	76.4	29 - 149	3.61	20	
Fluoranthene	23.2487	5.0	0.45	33.3333	1.39000	65.6	14 - 162	5.74	20	
Fluorene	19.7670	5.0	0.35	33.3333	ND	59.3	48 - 111	4.34	20	
Indeno(1,2,3-cd)pyrene	25.2027	5.0	0.82	33.3333	ND	75.6	37 - 135	4.51	20	

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Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S (continued)										
Matrix Spike Dup (B7J0757-MSD1) - Continued			**Source: 1703641-33**		Prepared: 10/25/2017 Analyzed: 10/25/2017					
Naphthalene	19.5670	5.0	0.56	33.3333	ND	58.7	34 - 126	8.91	20	
Phenanthrene	19.8897	5.0	0.34	33.3333	0.683333	57.6	19 - 155	5.61	20	
Pyrene	22.3383	5.0	0.51	33.3333	1.37100	62.9	13 - 162	8.23	20	
Surrogate: 1,2-Dichlorobenzene-d	*18.94*			*33.3333*		*56.8*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*25.06*			*33.3333*		*75.2*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*16.15*			*33.3333*		*48.5*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*25.38*			*33.3333*		*76.1*	*39 - 123*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0185 - MSSEMI_S										
Blank (B7K0185-BLK1)					Prepared: 11/7/2017 Analyzed: 11/7/2017					
2-Methylnaphthalene	ND	5.0	0.60							
Acenaphthene	ND	5.0	0.41							
Acenaphthylene	ND	5.0	0.41							
Anthracene	ND	5.0	0.56							
Benzo(a)anthracene	ND	5.0	0.56							
Benzo(a)pyrene	ND	5.0	0.69							
Benzo(b)fluoranthene	ND	5.0	2.2							
Benzo(g,h,i)perylene	ND	5.0	0.80							
Benzo(k)fluoranthene	ND	5.0	0.70							
Chrysene	ND	5.0	0.61							
Dibenz(a,h)anthracene	ND	5.0	0.88							
Fluoranthene	ND	5.0	0.45							
Fluorene	ND	5.0	0.35							
Indeno(1,2,3-cd)pyrene	ND	5.0	0.82							
Naphthalene	ND	5.0	0.56							
Phenanthrene	ND	5.0	0.34							
Pyrene	ND	5.0	0.51							
Surrogate: 1,2-Dichlorobenzene-d	*27.25*			*33.3333*		*81.8*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*34.29*			*33.3333*		*103*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*24.62*			*33.3333*		*73.9*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*33.84*			*33.3333*		*102*	*39 - 123*			
LCS (B7K0185-BS1)					Prepared: 11/7/2017 Analyzed: 11/7/2017					
2-Methylnaphthalene	20.1087	5.0	0.60	33.3333		60.3	23 - 127			
Acenaphthene	19.6647	5.0	0.41	33.3333		59.0	35 - 91			
Acenaphthylene	20.9243	5.0	0.41	33.3333		62.8	35 - 92			
Anthracene	23.4547	5.0	0.56	33.3333		70.4	43 - 109			
Benzo(a)anthracene	23.4143	5.0	0.56	33.3333		70.2	46 - 121			
Benzo(a)pyrene	20.3937	5.0	0.69	33.3333		61.2	49 - 126			
Benzo(b)fluoranthene	24.8267	5.0	2.2	33.3333		74.5	34 - 137			
Benzo(g,h,i)perylene	26.5013	5.0	0.80	33.3333		79.5	40 - 124			
Benzo(k)fluoranthene	21.3610	5.0	0.70	33.3333		64.1	21 - 132			
Chrysene	21.0713	5.0	0.61	33.3333		63.2	51 - 124			
Dibenz(a,h)anthracene	28.1980	5.0	0.88	33.3333		84.6	38 - 123			
Fluoranthene	21.9470	5.0	0.45	33.3333		65.8	47 - 105			
Fluorene	21.3553	5.0	0.35	33.3333		64.1	34 - 95			
Indeno(1,2,3-cd)pyrene	26.7523	5.0	0.82	33.3333		80.3	45 - 124			
Naphthalene	26.7567	5.0	0.56	33.3333		80.3	26 - 110			
Phenanthrene	23.8837	5.0	0.34	33.3333		71.7	39 - 108			
Pyrene	21.2220	5.0	0.51	33.3333		63.7	47 - 107			
Surrogate: 1,2-Dichlorobenzene-d	*23.78*			*33.3333*		*71.3*	*29 - 109*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/08/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0185 - MSSEMI_S (continued)										
LCS (B7K0185-BS1) - Continued						Prepared: 11/7/2017 Analyzed: 11/7/2017				
Surrogate: 2-Fluorobiphenyl	*29.51*			*33.3333*		*88.5*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*22.01*			*33.3333*		*66.0*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*35.70*			*33.3333*		*107*	*39 - 123*			
Matrix Spike (B7K0185-MS1)			**Source: 1703641-50**			Prepared: 11/7/2017 Analyzed: 11/7/2017				
2-Methylnaphthalene	18.9647	10	1.2	33.3333	ND	56.9	30 - 141			
Acenaphthene	19.3413	10	0.81	33.3333	ND	58.0	9 - 155			
Acenaphthylene	19.8833	10	0.82	33.3333	ND	59.6	43 - 110			
Anthracene	20.7007	10	1.1	33.3333	ND	62.1	33 - 146			
Benzo(a)anthracene	21.0707	10	1.1	33.3333	7.46467	40.8	49 - 130			M2
Benzo(a)pyrene	18.6480	10	1.4	33.3333	6.18400	37.4	36 - 134			
Benzo(b)fluoranthene	22.2553	10	4.3	33.3333	10.4213	35.5	26 - 148			
Benzo(g,h,i)perylene	23.8513	10	1.6	33.3333	6.74933	51.3	16 - 156			
Benzo(k)fluoranthene	19.1973	10	1.4	33.3333	3.38667	47.4	29 - 132			
Chrysene	19.5920	10	1.2	33.3333	7.70800	35.7	0 - 184			
Dibenz(a,h)anthracene	23.9493	10	1.8	33.3333	1.83333	66.3	29 - 149			
Fluoranthene	21.0953	10	0.90	33.3333	12.0507	27.1	14 - 162			
Fluorene	20.4567	10	0.70	33.3333	ND	61.4	48 - 111			
Indeno(1,2,3-cd)pyrene	23.8653	10	1.6	33.3333	5.13200	56.2	37 - 135			
Naphthalene	24.7907	10	1.1	33.3333	ND	74.4	34 - 126			
Phenanthrene	22.4720	10	0.68	33.3333	2.67733	59.4	19 - 155			
Pyrene	20.7007	10	1.0	33.3333	11.3913	27.9	13 - 162			
Surrogate: 1,2-Dichlorobenzene-d	*21.05*			*33.3333*		*63.2*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*29.50*			*33.3333*		*88.5*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*19.02*			*33.3333*		*57.1*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*30.92*			*33.3333*		*92.8*	*39 - 123*			
Matrix Spike Dup (B7K0185-MSD1)			**Source: 1703641-50**			Prepared: 11/7/2017 Analyzed: 11/7/2017				
2-Methylnaphthalene	18.6940	10	1.2	33.3333	ND	56.1	30 - 141	1.44	20	
Acenaphthene	18.8967	10	0.81	33.3333	ND	56.7	9 - 155	2.33	20	
Acenaphthylene	20.0773	10	0.82	33.3333	ND	60.2	43 - 110	0.971	20	
Anthracene	22.3647	10	1.1	33.3333	ND	67.1	33 - 146	7.73	20	
Benzo(a)anthracene	22.6600	10	1.1	33.3333	7.46467	45.6	49 - 130	7.27	20	M2
Benzo(a)pyrene	19.1027	10	1.4	33.3333	6.18400	38.8	36 - 134	2.41	20	
Benzo(b)fluoranthene	23.3067	10	4.3	33.3333	10.4213	38.7	26 - 148	4.61	20	
Benzo(g,h,i)perylene	28.8453	10	1.6	33.3333	6.74933	66.3	16 - 156	19.0	20	
Benzo(k)fluoranthene	18.7720	10	1.4	33.3333	3.38667	46.2	29 - 132	2.24	20	
Chrysene	22.0927	10	1.2	33.3333	7.70800	43.2	0 - 184	12.0	20	
Dibenz(a,h)anthracene	23.8720	10	1.8	33.3333	1.83333	66.1	29 - 149	0.323	20	
Fluoranthene	22.2113	10	0.90	33.3333	12.0507	30.5	14 - 162	5.15	20	
Fluorene	20.2513	10	0.70	33.3333	ND	60.8	48 - 111	1.01	20	
Indeno(1,2,3-cd)pyrene	24.7347	10	1.6	33.3333	5.13200	58.8	37 - 135	3.58	20	

Certificate of Analysis

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Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0185 - MSSEMI_S (continued)										
Matrix Spike Dup (B7K0185-MSD1) - Continued			**Source: 1703641-50**		Prepared: 11/7/2017 Analyzed: 11/7/2017					
Naphthalene	24.6073	10	1.1	33.3333	ND	73.8	34 - 126	0.742	20	
Phenanthrene	23.2120	10	0.68	33.3333	2.67733	61.6	19 - 155	3.24	20	
Pyrene	22.2207	10	1.0	33.3333	11.3913	32.5	13 - 162	7.08	20	
Surrogate: 1,2-Dichlorobenzene-d	*21.01*			*33.3333*		*63.0*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*29.74*			*33.3333*		*89.2*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*19.37*			*33.3333*		*58.1*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*28.87*			*33.3333*		*86.6*	*39 - 123*			

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Notes and Definitions

S4	Surrogate was diluted out.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
H7	The sample was logged past hold time.
H4	Change order analysis requested past the sample holding time.
D5	Sample diluted due to failing internal standard in the original run.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

October 30, 2017 Ceres ID: 11677

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755

The following report contains the results for the one soil sample received on October 25, 2017. This sample was analyzed for tetra through octa chlorinated dioxins and dibenzofurans by EPA method 8290A. Routine turn-around time was provided for this work.

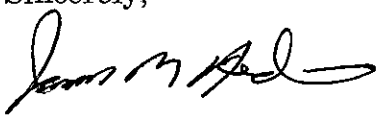
Sample results are reported on a dry weight basis.

This work was authorized under Advanced Technology Laboratories' Work Order # 1703641 and P.O. # SC12135.

The report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII). Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V) are available in a full report (.pdf format) upon request.

If you have any questions regarding this report, please feel free to contact me at (916)932-5011.

Sincerely,



James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

Ceres Sample ID:	Sample ID	Date Received	Collection Date	&Time
11677-001	1703641-41 / LB17-0.5	10/25/2017	10/11/2017	14:38

Section II: Data Summary

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 8290A

Quality Assurance Sample **Method Blank**	**QC Batch #:** 1677 **Matrix:** Soil	**Date Received:** NA **Date Extracted:** 10/26/2017 **ZB-5MS Analysis:** 10/27/2017
Project ID: 1703641	**Sample Size:** 10.00 g	

Analyte	Conc. (pg/g)	MDL	Qualifiers	Labeled Standards	% R	LCL-UCL (a)	Qualifiers
2,3,7,8-TCDD	DL= 0.487	0.172		13C-2378-TCDD	92.3	40-135	
12378-PeCDD	DL= 0.985	0.327		13C-12378-PeCDD	82.0	40-135	
123478-HxCDD	DL= 1.14	0.327		13C-123478-HxCDD	101	40-135	
123678-HxCDD	DL= 1.29	0.655		13C-123678-HxCDD	108	40-135	
123789-HxCDD	DL= 1.17	0.315		13C-1234678-HpCDD	90.0	40-135	
1234678-HpCDD	DL= 1.73	0.409		13C-OCDD	99.9	40-135	
OCDD	DL= 1.64	1.01		13C-2378-TCDF	118	40-135	
2,3,7,8-TCDF	DL= 0.458	0.0886		13C-12378-PeCDF	94.5	40-135	
12378-PeCDF	DL= 0.684	0.412		13C-23478-PeCDF	105	40-135	
23478-PeCDF	DL= 0.627	0.422		13C-123478-HxCDF	109	40-135	
123478-HxCDF	DL= 0.710	0.518		13C-123678-HxCDF	125	40-135	
123678-HxCDF	DL= 0.606	0.533		13C-234678-HxCDF	118	40-135	
234678-HxCDF	DL= 0.705	0.319		13C-123789-HxCDF	107	40-135	
123789-HxCDF	DL= 0.964	0.425		13C-1234678-HpCDF	112	40-135	
1234678-HpCDF	DL= 0.794	0.279		13C-1234789-HpCDF	112	40-135	
1234789-HpCDF	DL= 1.09	0.378					
OCDF	DL= 1.84	0.461					

Totals	Conc. (pg/g)	EMPC
Total TCDD	DL= 0.487	
Total PeCDD	DL= 0.985	
Total HxCDD	DL= 1.29	
Total HpCDD	DL= 1.73	
Total TCDF	DL= 0.458	
Total PeCDF	DL= 0.684	
Total HxCDF	DL= 0.964	
Total HpCDF	DL= 1.09	

CRS

37Cl4-2378-TCDD	115	40-135

DL - Signifies Non-Detect (ND) at sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 0.0 pg/g

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr. Suite 1, El Dorado Hills, CA 95762

EPA Method 8290A

Quality Assurance Samples Laboratory Control Samples		Date Received: NA
	QC Batch #: 1677	Date Extracted: 10/26/2017
	Matrix: Soil	ZB-5MS Analysis: 10/27/2017
Project ID: 1703641	Sample Size: 10.00 g	

Analyte	LCS1 % Rec.	LCS2 % Rec.	%RSD
2,3,7,8-TCDD	109	114	3.17
12378-PeCDD	119	113	3.66
123478-HxCDD	114	121	4.21
123678-HxCDD	117	115	1.22
123789-HxCDD	117	113	2.46
1234678-HpCDD	123	122	0.58
OCDD	119	124	2.91
2,3,7,8-TCDF	122	117	2.96
12378-PeCDF	117	118	0.60
23478-PeCDF	112	102	6.61
123478-HxCDF	109	112	1.92
123678-HxCDF	111	113	1.26
234678-HxCDF	114	114	0.00
123789-HxCDF	116	119	1.81
1234678-HpCDF	106	107	0.66
1234789-HpCDF	104	103	0.68
OCDF	121	127	3.42

Labeled Standards	LCS1 % Rec.	LCS2 % Rec	Limits (a)
13C-2378-TCDD	81.5	89.3	40-135
13C-12378-PeCDD	73.6	79.9	40-135
13C-123478-HxCDD	98.2	93.0	40-135
13C-123678-HxCDD	107	105	40-135
13C-1234678-HpCDD	97.1	89.6	40-135
13C-OCDD	104	86.2	40-135
13C-2378-TCDF	99.1	92.6	40-135
13C-12378-PeCDF	90.8	90.8	40-135
13C-23478-PeCDF	94.9	101	40-135
13C-123478-HxCDF	113	113	40-135
13C-123678-HxCDF	124	123	40-135
13C-234678-HxCDF	118	108	40-135
13C-123789-HxCDF	101	96.8	40-135
13C-1234678-HpCDF	113	103	40-135
13C-1234789-HpCDF	117	108	40-135
CRS			
37Cl4-2378-TCDD	101	114	40-135

(a) Limits based on method acceptance criteria.

Analyst: JMH **Reviewed by: BS**

CERES Analytical Laboratory, Inc.
4919 Windplay Dr Suite 1, El Dorado Hills, CA 95762

EPA Method 8290A

Client Sample ID: 1703641-41 / LB17-0.5		
Project ID: 1703641	**Ceres Sample ID:** 11677-001	**Date Received:** 10/25/2017
	QC Batch #: 1677	**Date Extracted:** 10/26/2017
Date Collected: 10/11/2017	**Matrix:** Soil	**ZB-5MS Analysis:** 10/27/2017
Time Collected: 2:38 PM	**Sample Size:** 10.02 g **% Solids:** 100	**Q-225 Analysis:** NA

Analyte	Conc. (pg/g)	MDL	Qualifiers
2,3,7,8-TCDD	DL= 0.480	0.172	
12378-PeCDD	DL= 0.988	0.327	
123478-HxCDD	DL= 1.67	0.327	
123678-HxCDD	7.34	0.655	
123789-HxCDD	DL= 1.62	0.315	
1234678-HpCDD	245	0.409	
OCDD	2,150	1.01	
2,3,7,8-TCDF	DL= 0.424	0.0886	
12378-PeCDF	DL= 0.781	0.412	
23478-PeCDF	2.82	0.422	J
123478-HxCDF	DL= 1.38	0.518	
123678-HxCDF	3.47	0.533	J
234678-HxCDF	DL= 1.30	0.319	
123789-HxCDF	DL= 2.37	0.425	
1234678-HpCDF	22.6	0.279	
1234789-HpCDF	DL= 2.05	0.378	
OCDF	86.7	0.461	

Totals	Conc. (pg/g)	EMPC
Total TCDD	DL= 0.480	
Total PeCDD	8.34	
Total HxCDD	80.9	
Total HpCDD	564	
Total TCDF	26.8	
Total PeCDF	44.1	50.5
Total HxCDF	48.1	
Total HpCDF	66.7	

Labeled Standards	% R	LCL-UCL (a)	Qualifiers
13C-2378-TCDD	59.4	40-135	
13C-12378-PeCDD	70.4	40-135	
13C-123478-HxCDD	79.7	40-135	
13C-123678-HxCDD	87.1	40-135	
13C-1234678-HpCDD	69.5	40-135	
13C-OCDD	61.2	40-135	
13C-2378-TCDF	71.5	40-135	
13C-12378-PeCDF	74.3	40-135	
13C-23478-PeCDF	75.5	40-135	
13C-123478-HxCDF	93.8	40-135	
13C-123678-HxCDF	94.9	40-135	
13C-234678-HxCDF	92.5	40-135	
13C-123789-HxCDF	73.7	40-135	
13C-1234678-HpCDF	87.6	40-135	
13C-1234789-HpCDF	104	40-135	

CRS

37Cl4-2378-TCDD	69.7	40-135

DL - Signifies Non-Detect (ND) at sample specific detection limit.
EMPC - Estimated Maximum Possible Concentration due to ion abundance ratio failure.
(a) - Lower control limit - Upper control limit
(b) - TEQ based on (2005) World Health Organization (WHO) Toxic Equivalent Factors.

Total Toxic Equivalency (TEQ min.) (b)**:** 5.27 pg/g

Analyst: JMH **Reviewed by: BS**

Section VI: Sample Tracking

ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 1703641

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Project Manager: Rachelle Arada (Rachelle@atlglobal.com)
Sampler: KCH

RECEIVING LABORATORY:

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762
Phone :(916) 932-5011
Fax: (888) 932-5011
PO#: SC12135- STANDARD TAT

IMPORTANT : Please include Work Order # and PO # in your invoice.

Analysis	Due	Expires	Sampled	Comments
ATL Lab#: 1703641-41 / LB17-0.5		**Soil**	**10/11/17 14:38**	**Dioxins/Furan**
8290_SUB	**11/08/17 17:00**	11/10/17 14:38		PLEASE NOTE HOLDING TIME
[Dioxins and Dibenzofurans]				
1-Glass Jar - 4 oz				

Released By	10/24/17 Date	ONTRAC D10011183853368 Received By	10/24/17 Date
DM Trac Released By	Date	Received By	10/25/17 10:50 Date

Sample Receipt Check List

Ceres ID: 11677	Date/Time: 10/25/17 10:50
Client Project ID: 1703641	Received Temp: 2.3 °C Acceptable: (Y) / N
Chain of Custody Relinquished by signed?	(Y) / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	(NA)
Unlabeled / Illegible Samples	Y / (N)
Proper Containers:	(Y) / N
Preservation Acceptable (Chemical or Temperature)?	(Y) / N
Drinking Water, Sodium Thiosulfate present?	Y / N / (NA)
Residual Cl?	Y / N
Aqueous sample pH: NA	
List COC discrepancies:	
List Damaged Samples:	

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*****	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Tuesday, October 24, 2017 4:50 PM
To: Dominic Mata
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Hi Dominic,

Please run the STLC and TCLP tests as shown below.

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Tuesday, October 24, 2017 10:48 AM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Good morning Brynn,

I received your request for additional analyses below. There are no delays with soils so they will not need to be subbed out. Also, we will make sure the groundwater sample gets ran before the hold time is up. It has 14 days from the sampled date giving us until Friday but we plan to run before that. If I can further assist, please let me know.

Thanks,
Dominic

From: Brynn McCulloch [mailto:bmcculloch@leightongroup.com]
Sent: Monday, October 23, 2017 9:27 PM
To: Dominic Mata
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Hi Dominic,

For the groundwater 8260, I'm fine with waiting as long as hold times are met.

For the soil samples, we need the following additional analyses for the samples listed below. If we need to sub out the soil samples for 8260 to meet hold times, please do.

VOCs (8260B) and PAHs (8270SIM)
LB2-0.5, LB2-2.5
LB4-0.5, LB4-2.5
LB5-0.5, LB5-2.5
LB9-0.5, LB9-2.5
LB13-0.5, LB13-2.5
LB17-0.5, LB17-2.5
LB28-5.0

PCBs (8082)
LB2-0.5
LB4-0.5
LB5-0.5
LB9-0.5
LB13-0.5
LB17-0.5
LB28-5.0

Dioxins/Furans
LB17-0.5

Please run the above analyses on normal turnaround time.

The list below is the potential samples requiring STLC and TCLP, I will confirm tomorrow if we need to proceed with these tests, but I wanted to give you a heads up in case we have limited sample recovery.

STLCs
LB2-0.5 – Lead and Copper
LB4-0.5 – Lead
LB4-3.5 – Copper
LB5-2.5 – Lead
LB11-0.5 – Lead, Copper, and Mercury
LB17-0.5 – Lead
LB27-0.5 – Lead
LB28-0.5 – Lead
LB28-2.5 – Lead
LB30-2.5 – Lead
LB31-0.5 – Lead
LB33-2.5 – Lead

TCLPs
LB2-0.5 – Lead
LB4-0.5 – Lead
LB11-0.5 – Lead and Mercury
LB27-0.5 – Lead
LB30-2.5 – Lead

LB31-0.5 – Lead
LB33-2.5 – Lead

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Monday, October 23, 2017 4:16 PM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Good afternoon Brynn,

Here's an update for your two work orders due today:

- DRO in 1703653 will be done tomorrow
- 8260 water sample - our instrument has been down for several days and is now running but due to the back log, samples with hold times expiring are being prioritized. Would you like to have this sample sub contracted out or keep it in house and looking to have it run Wed (10/25) or Thurs (10/26)? Also, I can provided an updated partial report that includes the DRO for this work order.

Thanks,
Dominic

From: Brynn McCulloch [mailto:bmcculloch@leightongroup.com]
Sent: Monday, October 23, 2017 11:47 AM
To: Dominic Mata
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Any partial results would be helpful, thank you!

Brynn McCulloch, PG 8798

ADVANCED TECHNOLOGY LABORATORIES

November 02, 2017

Brynn McCulloch
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 394-2306
Fax:(949) 250-1114

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703653
Client Reference : POLA Berth 191-193, 11618.005

Enclosed are the results for sample(s) received on October 12, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB7-0.5	1703653-01	Soil	10/12/17 7:26	10/12/17 15:41
LB7-2.5	1703653-02	Soil	10/12/17 7:28	10/12/17 15:41
LB7-5.0	1703653-03	Soil	10/12/17 7:30	10/12/17 15:41
LB11-0.5	1703653-04	Soil	10/12/17 7:50	10/12/17 15:41
LB11-2.5	1703653-05	Soil	10/12/17 7:52	10/12/17 15:41
LB11-5.0	1703653-06	Soil	10/12/17 7:54	10/12/17 15:41
LB16-0.5	1703653-07	Soil	10/12/17 8:10	10/12/17 15:41
LB16-2.5	1703653-08	Soil	10/12/17 8:12	10/12/17 15:41
LB16-5.0	1703653-09	Soil	10/12/17 8:14	10/12/17 15:41
LB22-0.5	1703653-10	Soil	10/12/17 8:26	10/12/17 15:41
LB22-2.5	1703653-11	Soil	10/12/17 8:28	10/12/17 15:41
LB22-5.0	1703653-12	Soil	10/12/17 8:30	10/12/17 15:41
LB27-0.5	1703653-13	Soil	10/12/17 8:56	10/12/17 15:41
LB27-2.5	1703653-14	Soil	10/12/17 8:58	10/12/17 15:41
LB27-5.0	1703653-15	Soil	10/12/17 9:00	10/12/17 15:41
LB30-0.5	1703653-16	Soil	10/12/17 9:30	10/12/17 15:41
LB30-2.5	1703653-17	Soil	10/12/17 9:32	10/12/17 15:41
LB30-5.0	1703653-18	Soil	10/12/17 9:34	10/12/17 15:41
LB32-0.5	1703653-23	Soil	10/12/17 9:50	10/12/17 15:41
LB32-2.5	1703653-24	Soil	10/12/17 9:52	10/12/17 15:41
LB32-5.0	1703653-25	Soil	10/12/17 9:55	10/12/17 15:41
LB33-0.5	1703653-26	Soil	10/12/17 10:06	10/12/17 15:41
LB33-2.5	1703653-27	Soil	10/12/17 10:08	10/12/17 15:41
LB33-5.0	1703653-28	Soil	10/12/17 10:10	10/12/17 15:41
LB31-0.5	1703653-29	Soil	10/12/17 10:38	10/12/17 15:41
LB31-2.5	1703653-30	Soil	10/12/17 10:40	10/12/17 15:41
LB31-5.0	1703653-31	Soil	10/12/17 10:42	10/12/17 15:41
LB29-0.5	1703653-32	Soil	10/12/17 11:20	10/12/17 15:41
LB29-2.5	1703653-33	Soil	10/12/17 11:22	10/12/17 15:41
LB29-5.0	1703653-34	Soil	10/12/17 11:24	10/12/17 15:41
LB28-0.5	1703653-35	Soil	10/12/17 11:46	10/12/17 15:41
LB28-2.5	1703653-36	Soil	10/12/17 11:48	10/12/17 15:41
LB28-5.0	1703653-37	Soil	10/12/17 11:50	10/12/17 15:41
LB26-0.5	1703653-38	Soil	10/12/17 12:02	10/12/17 15:41
LB26-2.5	1703653-39	Soil	10/12/17 12:04	10/12/17 15:41
LB26-5.0	1703653-40	Soil	10/12/17 12:06	10/12/17 15:41
LB21-0.5	1703653-41	Soil	10/12/17 12:22	10/12/17 15:41

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

LB21-2.5	1703653-42	Soil	10/12/17 12:24	10/12/17 15:41
LB21-5.0	1703653-43	Soil	10/12/17 12:26	10/12/17 15:41
LB15-0.5	1703653-44	Soil	10/12/17 12:40	10/12/17 15:41
LB15-2.5	1703653-45	Soil	10/12/17 12:42	10/12/17 15:41
LB15-5.0	1703653-46	Soil	10/12/17 12:44	10/12/17 15:41
LB10-0.5	1703653-47	Soil	10/12/17 12:56	10/12/17 15:41
LB10-2.5	1703653-48	Soil	10/12/17 12:58	10/12/17 15:41
LB10-5.0	1703653-49	Soil	10/12/17 13:00	10/12/17 15:41
LB6-0.5	1703653-50	Soil	10/12/17 13:15	10/12/17 15:41
LB6-2.5	1703653-51	Soil	10/12/17 13:17	10/12/17 15:41
LB6-5.0	1703653-52	Soil	10/12/17 13:19	10/12/17 15:41
LB6-GW	1703653-53	Groundwater	10/12/17 13:22	10/12/17 15:41
LB27-GW	1703653-54	Groundwater	10/12/17 9:02	10/12/17 15:41
LB31-GW	1703653-55	Groundwater	10/12/17 10:44	10/12/17 15:41

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB7-0.5

Lab ID: 1703653-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Arsenic	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Barium	**110**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Chromium	**12**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Cobalt	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Copper	**27**	2.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Lead	**16**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Nickel	**12**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Vanadium	**36**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	
Zinc	**71**	1.0	1	B7J0512	10/18/2017	10/19/17 09:22	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:10	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 09:44	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 09:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**270**	25	25	B7J0525	10/18/2017	10/19/17 06:45	
ORO	**630**	25	25	B7J0525	10/18/2017	10/19/17 06:45	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB7-0.5

Lab ID: 1703653-01

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 06:45*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB7-2.5

Lab ID: 1703653-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Arsenic	**1.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Barium	**52**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Chromium	**9.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Cobalt	**4.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Copper	**50**	2.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Lead	**49**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Nickel	**14**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Silver	**1.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Vanadium	**16**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	
Zinc	**89**	1.0	1	B7J0512	10/18/2017	10/19/17 09:25	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.25**	0.10	1	B7J0517	10/18/2017	10/19/17 12:17	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 10:03	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 10:03*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**92**	1.0	1	B7J0525	10/18/2017	10/19/17 07:19	
ORO	**130**	1.0	1	B7J0525	10/18/2017	10/19/17 07:19	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
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Client Sample ID LB7-2.5

Lab ID: 1703653-02

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*82.4 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 07:19*	

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB7-5.0

Lab ID: 1703653-03

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Arsenic	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Barium	**29**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Chromium	**6.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Cobalt	**3.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Copper	**4.1**	2.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Lead	**1.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Nickel	**5.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Vanadium	**13**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	
Zinc	**19**	1.0	1	B7J0512	10/18/2017	10/19/17 09:27	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:19	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 10:21	
Surrogate: 4-Bromofluorobenzene	*108 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 10:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**10**	1.0	1	B7J0525	10/18/2017	10/19/17 02:45	
ORO	**11**	1.0	1	B7J0525	10/18/2017	10/19/17 02:45	

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Client Sample ID LB7-5.0

Lab ID: 1703653-03

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*106 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 02:45*	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Arsenic	**12**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Barium	**61**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Chromium	**25**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Cobalt	**5.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Copper	**890**	2.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Lead	**150**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Nickel	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Vanadium	**17**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	
Zinc	**780**	1.0	1	B7J0512	10/18/2017	10/19/17 09:28	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Copper	**0.77**	0.25	5	B7J0818	10/27/2017	10/27/17 17:54	
Lead	ND	0.25	5	B7J0818	10/27/2017	10/27/17 17:54	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Copper	**25**	1.0	20	B7J0849	10/30/2017	10/30/17 12:20	D1
Lead	**2.2**	1.0	20	B7J0849	10/30/2017	10/30/17 12:20	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**2.2**	0.10	1	B7J0517	10/18/2017	10/19/17 12:21	

STLC Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	1.0	1	B7J0854	10/30/2017	10/30/17 14:28	

TCLP Mercury by AA (Cold Vapor) by EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0833	10/27/2017	10/30/17 10:27	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 10:39	
Surrogate: 4-Bromofluorobenzene *106 %*		*50 - 138*		B7J0337	10/14/2017	*10/14/17 10:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**310**	25	25	B7J0525	10/18/2017	10/19/17 06:11	
ORO	**730**	25	25	B7J0525	10/18/2017	10/19/17 06:11	
Surrogate: p-Terphenyl *0%*		*38 - 145*		B7J0525	10/18/2017	*10/19/17 06:11*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1221	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1232	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1242	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1248	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1254	**870**	160	10	B7J0770	10/25/2017	10/30/17 17:12	
Aroclor 1260	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1262	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Aroclor 1268	ND	16	1	B7J0770	10/25/2017	10/25/17 22:48	
Surrogate: Decachlorobiphenyl	*42.5 %*	*18 - 136*		B7J0770	10/25/2017	*10/25/17 22:48*	
Surrogate: Decachlorobiphenyl	*85.8 %*	*18 - 136*		B7J0770	10/25/2017	*10/30/17 17:12*	
Surrogate: Tetrachloro-m-xylene	*86.5 %*	*30 - 130*		B7J0770	10/25/2017	*10/30/17 17:12*	
Surrogate: Tetrachloro-m-xylene	*69.6 %*	*30 - 130*		B7J0770	10/25/2017	*10/25/17 22:48*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1,1-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1,2-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,1-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2,3-Trichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2-Dibromo-3-chloropropane	ND	9.5	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2-Dibromoethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,3-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,3-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
1,4-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
2,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
2-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
4-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
4-Isopropyltoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Benzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Bromobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Bromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Bromodichloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Bromoform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Bromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Carbon disulfide	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Carbon tetrachloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Chlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Chloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Chloroform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Chloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Di-isopropyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Dibromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Dibromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Dichlorodifluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Ethyl Acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 15:11	
Ethyl Ether	ND	47	1	B7J0791	10/26/2017	10/26/17 15:11	
Ethyl tert-butyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Ethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Freon-113	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Hexachlorobutadiene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Isopropylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
m,p-Xylene	ND	9.5	1	B7J0791	10/26/2017	10/26/17 15:11	
Methylene chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
MTBE	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
n-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
n-Propylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Naphthalene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
o-Xylene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
sec-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Styrene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
tert-Amyl methyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
tert-Butanol	ND	95	1	B7J0791	10/26/2017	10/26/17 15:11	
tert-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Tetrachloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Toluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Trichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Trichlorofluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Vinyl acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 15:11	
Vinyl chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:11	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 15:11*	
Surrogate: 4-Bromofluorobenzene	*102 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 15:11*	
Surrogate: Dibromofluoromethane	*97.3 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 15:11*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 15:11*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Acenaphthene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Acenaphthylene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Anthracene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Benzo(a)anthracene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Benzo(a)pyrene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Benzo(b)fluoranthene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Benzo(g,h,i)perylene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Benzo(k)fluoranthene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Chrysene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Dibenz(a,h)anthracene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Fluoranthene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Fluorene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Indeno(1,2,3-cd)pyrene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Naphthalene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Phenanthrene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Pyrene	ND	100	20	B7J0764	10/25/2017	10/27/17 13:31	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 13:31*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-0.5

Lab ID: 1703653-04

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 13:31*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 13:31*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 13:31*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-2.5

Lab ID: 1703653-05

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Arsenic	**5.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Barium	**79**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Chromium	**14**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Cobalt	**9.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Copper	**16**	2.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Lead	**3.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Nickel	**13**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Vanadium	**32**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	
Zinc	**38**	1.0	1	B7J0512	10/18/2017	10/19/17 09:29	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:23	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 10:58	
Surrogate: 4-Bromofluorobenzene	*85.6 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 10:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.6**	1.0	1	B7J0525	10/18/2017	10/19/17 01:20	
ORO	**7.9**	1.0	1	B7J0525	10/18/2017	10/19/17 01:20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-2.5
Lab ID: 1703653-05

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*73.3 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 01:20*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1,1-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1,2-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,1-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2,3-Trichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2-Dibromo-3-chloropropane	ND	9.5	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2-Dibromoethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,3-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,3-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
1,4-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
2,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
2-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
4-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
4-Isopropyltoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Benzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Bromobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Bromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Bromodichloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Bromoform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Bromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Carbon disulfide	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-2.5

Lab ID: 1703653-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Chlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Chloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Chloroform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Chloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Di-isopropyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Dibromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Dibromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Dichlorodifluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Ethyl Acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 15:29	
Ethyl Ether	ND	47	1	B7J0791	10/26/2017	10/26/17 15:29	
Ethyl tert-butyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Ethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Freon-113	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Hexachlorobutadiene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Isopropylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
m,p-Xylene	ND	9.5	1	B7J0791	10/26/2017	10/26/17 15:29	
Methylene chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
MTBE	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
n-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
n-Propylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Naphthalene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
o-Xylene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
sec-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Styrene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
tert-Amyl methyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
tert-Butanol	ND	95	1	B7J0791	10/26/2017	10/26/17 15:29	
tert-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Tetrachloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Toluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Trichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Trichlorofluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Vinyl acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 15:29	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-2.5

Lab ID: 1703653-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	4.7	1	B7J0791	10/26/2017	10/26/17 15:29	
Surrogate: 1,2-Dichloroethane-d4	*99.3 %*		*32 - 140*		B7J0791	10/26/2017	*10/26/17 15:29*	
Surrogate: 4-Bromofluorobenzene	*105 %*		*68 - 131*		B7J0791	10/26/2017	*10/26/17 15:29*	
Surrogate: Dibromofluoromethane	*94.9 %*		*49 - 134*		B7J0791	10/26/2017	*10/26/17 15:29*	
Surrogate: Toluene-d8	*108 %*		*75 - 132*		B7J0791	10/26/2017	*10/26/17 15:29*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Acenaphthene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Acenaphthylene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Anthracene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Benzo(a)anthracene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Benzo(a)pyrene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Benzo(b)fluoranthene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Benzo(g,h,i)perylene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Benzo(k)fluoranthene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Chrysene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Dibenz(a,h)anthracene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Fluoranthene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Fluorene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Indeno(1,2,3-cd)pyrene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Naphthalene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Phenanthrene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Pyrene		ND	5.0	1	B7J0764	10/25/2017	10/27/17 10:55	
Surrogate: 1,2-Dichlorobenzene-d4	*74.6 %*		*29 - 109*		B7J0764	10/25/2017	*10/27/17 10:55*	
Surrogate: 2-Fluorobiphenyl	*99.6 %*		*39 - 108*		B7J0764	10/25/2017	*10/27/17 10:55*	
Surrogate: Nitrobenzene-d5	*71.6 %*		*0 - 146*		B7J0764	10/25/2017	*10/27/17 10:55*	
Surrogate: 4-Terphenyl-d14	*102 %*		*39 - 123*		B7J0764	10/25/2017	*10/27/17 10:55*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-5.0

Lab ID: 1703653-06

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Arsenic	**2.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Barium	**110**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Chromium	**19**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Cobalt	**9.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Copper	**19**	2.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Lead	**3.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Nickel	**14**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Vanadium	**33**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	
Zinc	**46**	1.0	1	B7J0512	10/18/2017	10/19/17 09:30	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:33	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 11:16	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 11:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**12**	1.0	1	B7J0525	10/18/2017	10/19/17 01:37	
ORO	**9.3**	1.0	1	B7J0525	10/18/2017	10/19/17 01:37	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB11-5.0

Lab ID: 1703653-06

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*128 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 01:37*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-0.5

Lab ID: 1703653-07

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Arsenic	**2.2**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Barium	**74**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Chromium	**6.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Cobalt	**6.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Copper	**27**	2.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Lead	**5.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Nickel	**7.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Vanadium	**17**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	
Zinc	**180**	1.0	1	B7J0512	10/18/2017	10/19/17 09:34	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:35	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 11:35	
Surrogate: 4-Bromofluorobenzene	*115 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 11:35*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**7.7**	1.0	1	B7J0525	10/18/2017	10/19/17 03:03	
ORO	**10**	1.0	1	B7J0525	10/18/2017	10/19/17 03:03	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-0.5

Lab ID: 1703653-07

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*144 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 03:03*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-2.5
Lab ID: 1703653-08

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Arsenic	**2.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Barium	**78**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Chromium	**10**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Cobalt	**5.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Copper	**19**	2.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Lead	**33**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Nickel	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Vanadium	**18**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	
Zinc	**160**	1.0	1	B7J0512	10/18/2017	10/19/17 09:35	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:37	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 11:53	
Surrogate: 4-Bromofluorobenzene	*104 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 11:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**390**	50	50	B7J0525	10/18/2017	10/19/17 07:02	
ORO	**1100**	50	50	B7J0525	10/18/2017	10/19/17 07:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-2.5
Lab ID: 1703653-08

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 07:02*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1221	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1232	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1242	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1248	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1254	**110**	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1260	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1262	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Aroclor 1268	ND	16	1	B7J0770	10/25/2017	10/25/17 23:07	
Surrogate: Decachlorobiphenyl	*41.9 %*	*18 - 136*		B7J0770	10/25/2017	*10/25/17 23:07*	
Surrogate: Tetrachloro-m-xylene	*76.1 %*	*30 - 130*		B7J0770	10/25/2017	*10/25/17 23:07*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1,1-Trichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1,2,2-Tetrachloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1,2-Trichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1-Dichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,1-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2,3-Trichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2,3-Trichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2,4-Trichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2,4-Trimethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2-Dibromo-3-chloropropane	ND	9.7	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2-Dibromoethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,2-Dichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-2.5

Lab ID: 1703653-08

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,3,5-Trimethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,3-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,3-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
1,4-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
2,2-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
2-Chlorotoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
4-Chlorotoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
4-Isopropyltoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Benzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Bromobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Bromochloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Bromodichloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Bromoform	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Bromomethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Carbon disulfide	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Carbon tetrachloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Chlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Chloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Chloroform	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Chloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
cis-1,2-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
cis-1,3-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Di-isopropyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Dibromochloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Dibromomethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Dichlorodifluoromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Ethyl Acetate	ND	49	1	B7J0791	10/26/2017	10/26/17 15:48	
Ethyl Ether	ND	49	1	B7J0791	10/26/2017	10/26/17 15:48	
Ethyl tert-butyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Ethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Freon-113	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Hexachlorobutadiene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Isopropylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
m,p-Xylene	ND	9.7	1	B7J0791	10/26/2017	10/26/17 15:48	
Methylene chloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
MTBE	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-2.5

Lab ID: 1703653-08

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
n-Propylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Naphthalene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
o-Xylene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
sec-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Styrene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
tert-Amyl methyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
tert-Butanol	ND	97	1	B7J0791	10/26/2017	10/26/17 15:48	
tert-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Tetrachloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Toluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
trans-1,2-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
trans-1,3-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Trichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Trichlorofluoromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Vinyl acetate	ND	49	1	B7J0791	10/26/2017	10/26/17 15:48	
Vinyl chloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 15:48	
Surrogate: 1,2-Dichloroethane-d4	*106 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 15:48*	
Surrogate: 4-Bromofluorobenzene	*103 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 15:48*	
Surrogate: Dibromofluoromethane	*96.8 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 15:48*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 15:48*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Acenaphthene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Acenaphthylene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Anthracene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Benzo(a)anthracene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Benzo(a)pyrene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Benzo(b)fluoranthene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Benzo(g,h,i)perylene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Benzo(k)fluoranthene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Chrysene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Dibenz(a,h)anthracene	ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-2.5

Lab ID: 1703653-08

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Fluorene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Indeno(1,2,3-cd)pyrene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Naphthalene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Phenanthrene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Pyrene		ND	250	50	B7J0764	10/25/2017	10/30/17 11:32	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0764	10/25/2017	*10/30/17 11:32*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0764	10/25/2017	*10/30/17 11:32*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0764	10/25/2017	*10/30/17 11:32*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0764	10/25/2017	*10/30/17 11:32*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-5.0

Lab ID: 1703653-09

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Arsenic	**2.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Barium	**65**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Chromium	**7.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Cobalt	**3.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Copper	**12**	2.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Lead	**4.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Nickel	**6.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Vanadium	**14**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	
Zinc	**39**	1.0	1	B7J0512	10/18/2017	10/19/17 09:36	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:39	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 12:12	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 12:12*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**63**	10	10	B7J0525	10/18/2017	10/19/17 05:36	
ORO	**130**	10	10	B7J0525	10/18/2017	10/19/17 05:36	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-5.0

Lab ID: 1703653-09

Diesel Range Organics by EPA 8015B — **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 05:36*	S4

Volatile Organic Compounds by EPA 5035/EPA 8260B — **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1,1-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1,2-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,1-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2,3-Trichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2-Dibromo-3-chloropropane	ND	9.4	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2-Dibromoethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,3-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,3-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
1,4-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
2,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
2-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
4-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
4-Isopropyltoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Benzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Bromobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Bromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Bromodichloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Bromoform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Bromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Carbon disulfide	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-5.0

Lab ID: 1703653-09

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Chlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Chloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Chloroform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Chloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Di-isopropyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Dibromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Dibromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Dichlorodifluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Ethyl Acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 16:06	
Ethyl Ether	ND	47	1	B7J0791	10/26/2017	10/26/17 16:06	
Ethyl tert-butyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Ethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Freon-113	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Hexachlorobutadiene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Isopropylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
m,p-Xylene	ND	9.4	1	B7J0791	10/26/2017	10/26/17 16:06	
Methylene chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
MTBE	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
n-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
n-Propylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Naphthalene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
o-Xylene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
sec-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Styrene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
tert-Amyl methyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
tert-Butanol	ND	94	1	B7J0791	10/26/2017	10/26/17 16:06	
tert-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Tetrachloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Toluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Trichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Trichlorofluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Vinyl acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 16:06	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB16-5.0

Lab ID: 1703653-09

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:06	
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*32 - 140*		B7J0791	10/26/2017	*10/26/17 16:06*	
Surrogate: 4-Bromofluorobenzene	*102 %*		*68 - 131*		B7J0791	10/26/2017	*10/26/17 16:06*	
Surrogate: Dibromofluoromethane	*96.9 %*		*49 - 134*		B7J0791	10/26/2017	*10/26/17 16:06*	
Surrogate: Toluene-d8	*107 %*		*75 - 132*		B7J0791	10/26/2017	*10/26/17 16:06*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Acenaphthene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Acenaphthylene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Anthracene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Benzo(a)anthracene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Benzo(a)pyrene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Benzo(b)fluoranthene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Benzo(g,h,i)perylene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Benzo(k)fluoranthene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Chrysene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Dibenz(a,h)anthracene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Fluoranthene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Fluorene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Indeno(1,2,3-cd)pyrene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Naphthalene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Phenanthrene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Pyrene		ND	250	50	B7J0764	10/25/2017	10/27/17 13:59	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0764	10/25/2017	*10/27/17 13:59*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0764	10/25/2017	*10/27/17 13:59*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0764	10/25/2017	*10/27/17 13:59*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0764	10/25/2017	*10/27/17 13:59*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-0.5

Lab ID: 1703653-10

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Arsenic	**2.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Barium	**50**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Chromium	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Cobalt	**5.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Copper	**9.8**	2.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Lead	**5.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Nickel	**8.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Vanadium	**19**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	
Zinc	**97**	1.0	1	B7J0512	10/18/2017	10/19/17 09:37	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:41	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 12:30	
Surrogate: 4-Bromofluorobenzene	*115 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 12:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**11**	1.0	1	B7J0525	10/18/2017	10/19/17 05:54	
ORO	**21**	1.0	1	B7J0525	10/18/2017	10/19/17 05:54	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-0.5

Lab ID: 1703653-10

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*91.8 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 05:54*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-2.5

Lab ID: 1703653-11

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Arsenic	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Barium	**69**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Chromium	**15**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Cobalt	**7.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Copper	**12**	2.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Lead	**1.3**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Nickel	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Vanadium	**23**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	
Zinc	**40**	1.0	1	B7J0512	10/18/2017	10/19/17 09:38	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.17**	0.10	1	B7J0517	10/18/2017	10/19/17 12:43	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 12:49	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 12:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.6**	1.0	1	B7J0525	10/18/2017	10/19/17 03:20	
ORO	**10**	1.0	1	B7J0525	10/18/2017	10/19/17 03:20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-2.5

Lab ID: 1703653-11

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*133 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 03:20*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-5.0

Lab ID: 1703653-12

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Arsenic	**1.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Barium	**19**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Chromium	**4.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Cobalt	**2.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Copper	**2.5**	2.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Lead	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Nickel	**2.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Vanadium	**7.2**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	
Zinc	**10**	1.0	1	B7J0512	10/18/2017	10/19/17 09:39	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:44	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 13:07	
Surrogate: 4-Bromofluorobenzene	*107 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 13:07*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.6**	1.0	1	B7J0525	10/18/2017	10/19/17 01:54	
ORO	**9.2**	1.0	1	B7J0525	10/18/2017	10/19/17 01:54	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB22-5.0

Lab ID: 1703653-12

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*90.8 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 01:54*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-0.5

Lab ID: 1703653-13

Title 22 Metals by ICP-AES EPA 6010B

Analyst: PT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Arsenic	**4.0**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Barium	**98**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Beryllium	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Cadmium	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Chromium	**18**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Cobalt	**8.7**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Copper	**28**	2.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Lead	**130**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Molybdenum	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Nickel	**15**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Selenium	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Silver	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Thallium	ND	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Vanadium	**32**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	
Zinc	**120**	1.0	1	B7J0914	10/31/2017	11/01/17 13:07	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**0.33**	0.25	5	B7J0818	10/27/2017	10/27/17 17:56	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**1.9**	1.0	20	B7K0042	11/02/2017	11/02/17 11:37	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:46	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-0.5

Lab ID: 1703653-13

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7J0337	10/14/2017	10/14/17 13:26	
Surrogate: 4-Bromofluorobenzene	*108 %*		*50 - 138*		B7J0337	10/14/2017	*10/14/17 13:26*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**41**	5.0	5	B7J0525	10/18/2017	10/19/17 05:19	
ORO		**80**	5.0	5	B7J0525	10/18/2017	10/19/17 05:19	
Surrogate: p-Terphenyl	*132 %*		*38 - 145*		B7J0525	10/18/2017	*10/19/17 05:19*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-2.5

Lab ID: 1703653-14

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Arsenic	**2.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Barium	**43**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Chromium	**9.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Cobalt	**5.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Copper	**6.5**	2.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Lead	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Nickel	**7.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Vanadium	**16**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	
Zinc	**26**	1.0	1	B7J0512	10/18/2017	10/19/17 09:42	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:48	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 13:44	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 13:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.5**	1.0	1	B7J0525	10/18/2017	10/19/17 03:37	
ORO	**11**	1.0	1	B7J0525	10/18/2017	10/19/17 03:37	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-2.5

Lab ID: 1703653-14

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*144 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 03:37*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-5.0

Lab ID: 1703653-15

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Arsenic	**1.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Barium	**16**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Chromium	**3.8**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Cobalt	**1.8**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Copper	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Lead	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Nickel	**2.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Vanadium	**6.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	
Zinc	**9.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:43	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:50	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 14:02	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 14:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.1**	1.0	1	B7J0525	10/18/2017	10/19/17 02:11	
ORO	**8.4**	1.0	1	B7J0525	10/18/2017	10/19/17 02:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-5.0

Lab ID: 1703653-15

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*116 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 02:11*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-0.5

Lab ID: 1703653-16

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Arsenic	**1.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Barium	**48**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Chromium	**10**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Cobalt	**4.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Copper	**8.3**	2.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Lead	**5.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Nickel	**6.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Vanadium	**18**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	
Zinc	**26**	1.0	1	B7J0512	10/18/2017	10/19/17 09:44	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:56	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 14:21	
Surrogate: 4-Bromofluorobenzene	*115 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 14:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**32**	1.0	1	B7J0525	10/18/2017	10/19/17 04:11	
ORO	**36**	1.0	1	B7J0525	10/18/2017	10/19/17 04:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-0.5

Lab ID: 1703653-16

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*96.0 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 04:11*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-2.5

Lab ID: 1703653-17

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Arsenic	**1.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Barium	**82**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Chromium	**16**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Cobalt	**5.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Copper	**91**	2.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Lead	**180**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Nickel	**24**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Vanadium	**38**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	
Zinc	**130**	1.0	1	B7J0512	10/18/2017	10/19/17 09:48	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7J0818	10/27/2017	10/27/17 18:01	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**2.2**	1.0	20	B7J0849	10/30/2017	10/30/17 14:32	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.25**	0.10	1	B7J0517	10/18/2017	10/19/17 12:58	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-2.5

Lab ID: 1703653-17

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7J0337	10/14/2017	10/14/17 14:39	
Surrogate: 4-Bromofluorobenzene	*69.8 %*		*50 - 138*		B7J0337	10/14/2017	*10/14/17 14:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**220**	5.0	5	B7J0525	10/18/2017	10/19/17 06:28	
ORO		**450**	5.0	5	B7J0525	10/18/2017	10/19/17 06:28	
Surrogate: p-Terphenyl	*138 %*		*38 - 145*		B7J0525	10/18/2017	*10/19/17 06:28*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-5.0

Lab ID: 1703653-18

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Arsenic	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Barium	**44**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Chromium	**10**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Cobalt	**7.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Copper	**8.1**	2.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Lead	**3.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Nickel	**7.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Vanadium	**18**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	
Zinc	**29**	1.0	1	B7J0512	10/18/2017	10/19/17 09:49	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 12:59	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0337	10/14/2017	10/14/17 14:58	
Surrogate: 4-Bromofluorobenzene	*105 %*	*50 - 138*		B7J0337	10/14/2017	*10/14/17 14:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.2**	1.0	1	B7J0525	10/18/2017	10/19/17 02:28	
ORO	**13**	1.0	1	B7J0525	10/18/2017	10/19/17 02:28	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB30-5.0

Lab ID: 1703653-18

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*118 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 02:28*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-0.5

Lab ID: 1703653-23

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Arsenic	**3.7**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Barium	**60**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Chromium	**13**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Cobalt	**6.1**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Copper	**29**	2.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Lead	**7.5**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Nickel	**11**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Vanadium	**22**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	
Zinc	**48**	1.0	1	B7J0512	10/18/2017	10/19/17 09:50	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 13:01	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 17:44	
Surrogate: 4-Bromofluorobenzene	*117 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 17:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**170**	25	25	B7J0525	10/18/2017	10/19/17 05:02	
ORO	**360**	25	25	B7J0525	10/18/2017	10/19/17 05:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-0.5

Lab ID: 1703653-23

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 05:02*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-2.5

Lab ID: 1703653-24

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Arsenic	**1.6**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Barium	**28**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Beryllium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Cadmium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Chromium	**5.9**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Cobalt	**3.0**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Copper	**3.3**	2.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Lead	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Molybdenum	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Nickel	**4.4**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Selenium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Silver	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Thallium	ND	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Vanadium	**10**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	
Zinc	**19**	1.0	1	B7J0512	10/18/2017	10/19/17 09:51	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0517	10/18/2017	10/19/17 13:03	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 18:02	
Surrogate: 4-Bromofluorobenzene	*117 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 18:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.8**	1.0	1	B7J0525	10/18/2017	10/19/17 03:54	
ORO	**9.5**	1.0	1	B7J0525	10/18/2017	10/19/17 03:54	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-2.5

Lab ID: 1703653-24

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*129 %*	*38 - 145*		B7J0525	10/18/2017	*10/19/17 03:54*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-5.0

Lab ID: 1703653-25

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Arsenic	**1.7**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Barium	**63**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Chromium	**11**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Cobalt	**6.6**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Copper	**9.7**	2.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Nickel	**9.1**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Vanadium	**20**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	
Zinc	**32**	1.0	1	B7J0513	10/18/2017	10/19/17 09:55	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:09	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 18:21	
Surrogate: 4-Bromofluorobenzene	*89.0 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 18:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**13**	1.0	1	B7J0547	10/18/2017	10/19/17 11:46	
ORO	**12**	1.0	1	B7J0547	10/18/2017	10/19/17 11:46	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB32-5.0

Lab ID: 1703653-25

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*119 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 11:46*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-0.5

Lab ID: 1703653-26

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Arsenic	**1.7**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Barium	**44**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Chromium	**13**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Cobalt	**6.2**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Copper	**6.1**	2.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Lead	**1.5**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Nickel	**9.3**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Vanadium	**22**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	
Zinc	**34**	1.0	1	B7J0513	10/18/2017	10/19/17 09:58	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:20	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 18:39	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 18:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**78**	10	10	B7J0547	10/18/2017	10/19/17 15:15	
ORO	**160**	10	10	B7J0547	10/18/2017	10/19/17 15:15	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-0.5

Lab ID: 1703653-26

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 15:15*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-2.5

Lab ID: 1703653-27

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Arsenic	**6.9**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Barium	**73**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Chromium	**14**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Cobalt	**9.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Copper	**230**	2.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Lead	**110**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Nickel	**20**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Vanadium	**22**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	
Zinc	**790**	1.0	1	B7J0513	10/18/2017	10/19/17 10:02	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B7J0818	10/27/2017	10/27/17 18:02	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**11**	1.0	20	B7J0849	10/30/2017	10/30/17 12:27	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.23**	0.10	1	B7J0518	10/18/2017	10/19/17 13:22	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-2.5

Lab ID: 1703653-27

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7J0349	10/14/2017	10/14/17 18:58	
Surrogate: 4-Bromofluorobenzene	*109 %*		*50 - 138*		B7J0349	10/14/2017	*10/14/17 18:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**2500**	200	100	B7J0547	10/18/2017	10/19/17 16:25	
ORO		**6800**	200	100	B7J0547	10/18/2017	10/19/17 16:25	
Surrogate: p-Terphenyl	*0%*		*38 - 145*		B7J0547	10/18/2017	*10/19/17 16:25*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1221		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1232		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1242		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1248		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1254		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1260		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1262		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Aroclor 1268		ND	32	2	B7J0770	10/25/2017	10/25/17 23:26	
Surrogate: Decachlorobiphenyl	*29.5 %*		*18 - 136*		B7J0770	10/25/2017	*10/25/17 23:26*	
Surrogate: Tetrachloro-m-xylene	*58.9 %*		*30 - 130*		B7J0770	10/25/2017	*10/25/17 23:26*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,1,1-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,1,2-Trichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,1-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-2.5

Lab ID: 1703653-27

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,1-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2,3-Trichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2,3-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2,4-Trichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2,4-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2-Dibromo-3-chloropropane	ND	9.4	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2-Dibromoethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2-Dichloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,3,5-Trimethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,3-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,3-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
1,4-Dichlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
2,2-Dichloropropane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
2-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
4-Chlorotoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
4-Isopropyltoluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Benzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Bromobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Bromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Bromodichloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Bromoform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Bromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Carbon disulfide	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Carbon tetrachloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Chlorobenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Chloroethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Chloroform	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Chloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
cis-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
cis-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Di-isopropyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Dibromochloromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Dibromomethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Dichlorodifluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-2.5

Lab ID: 1703653-27

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethyl Acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 16:25	
Ethyl Ether	ND	47	1	B7J0791	10/26/2017	10/26/17 16:25	
Ethyl tert-butyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Ethylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Freon-113	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Hexachlorobutadiene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Isopropylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
m,p-Xylene	ND	9.4	1	B7J0791	10/26/2017	10/26/17 16:25	
Methylene chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
MTBE	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
n-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
n-Propylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Naphthalene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
o-Xylene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
sec-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Styrene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
tert-Amyl methyl ether	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
tert-Butanol	ND	94	1	B7J0791	10/26/2017	10/26/17 16:25	
tert-Butylbenzene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Tetrachloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Toluene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
trans-1,2-Dichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
trans-1,3-Dichloropropene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Trichloroethene	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Trichlorofluoromethane	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Vinyl acetate	ND	47	1	B7J0791	10/26/2017	10/26/17 16:25	
Vinyl chloride	ND	4.7	1	B7J0791	10/26/2017	10/26/17 16:25	
Surrogate: 1,2-Dichloroethane-d4	*103 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 16:25*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 16:25*	
Surrogate: Dibromofluoromethane	*94.4 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 16:25*	
Surrogate: Toluene-d8	*103 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 16:25*	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-2.5

Lab ID: 1703653-27

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Acenaphthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Acenaphthylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Benzo(a)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Benzo(a)pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Benzo(b)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Benzo(g,h,i)perylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Benzo(k)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Chrysene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Dibenz(a,h)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Fluorene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Indeno(1,2,3-cd)pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Naphthalene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Phenanthrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 14:28	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 14:28*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 14:28*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 14:28*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 14:28*	S4

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-5.0

Lab ID: 1703653-28

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Arsenic	**2.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Barium	**55**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Chromium	**9.7**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Cobalt	**6.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Copper	**7.9**	2.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Nickel	**8.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Vanadium	**19**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	
Zinc	**29**	1.0	1	B7J0513	10/18/2017	10/19/17 10:03	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:24	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 19:16	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 19:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.0**	1.0	1	B7J0547	10/18/2017	10/19/17 10:19	
ORO	**8.1**	1.0	1	B7J0547	10/18/2017	10/19/17 10:19	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-5.0

Lab ID: 1703653-28

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*107 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 10:19*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1,1-Trichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1,2-Trichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1-Dichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,1-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2,3-Trichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2,3-Trichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2,4-Trichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2,4-Trimethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2-Dibromo-3-chloropropane	ND	10	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2-Dibromoethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2-Dichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,2-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,3,5-Trimethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,3-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,3-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
1,4-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
2,2-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
2-Chlorotoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
4-Chlorotoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
4-Isopropyltoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Benzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Bromobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Bromochloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Bromodichloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Bromoform	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Bromomethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Carbon disulfide	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-5.0

Lab ID: 1703653-28

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Chlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Chloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Chloroform	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Chloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
cis-1,2-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
cis-1,3-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Di-isopropyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Dibromochloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Dibromomethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Dichlorodifluoromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Ethyl Acetate	ND	52	1	B7J0791	10/26/2017	10/26/17 16:44	
Ethyl Ether	ND	52	1	B7J0791	10/26/2017	10/26/17 16:44	
Ethyl tert-butyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Ethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Freon-113	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Hexachlorobutadiene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Isopropylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
m,p-Xylene	ND	10	1	B7J0791	10/26/2017	10/26/17 16:44	
Methylene chloride	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
MTBE	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
n-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
n-Propylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Naphthalene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
o-Xylene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
sec-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Styrene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
tert-Amyl methyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
tert-Butanol	ND	100	1	B7J0791	10/26/2017	10/26/17 16:44	
tert-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Tetrachloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Toluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
trans-1,2-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
trans-1,3-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Trichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Trichlorofluoromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Vinyl acetate	ND	52	1	B7J0791	10/26/2017	10/26/17 16:44	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB33-5.0

Lab ID: 1703653-28

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	5.2	1	B7J0791	10/26/2017	10/26/17 16:44	
Surrogate: 1,2-Dichloroethane-d4	*105 %*		*32 - 140*		B7J0791	10/26/2017	*10/26/17 16:44*	
Surrogate: 4-Bromofluorobenzene	*102 %*		*68 - 131*		B7J0791	10/26/2017	*10/26/17 16:44*	
Surrogate: Dibromofluoromethane	*95.3 %*		*49 - 134*		B7J0791	10/26/2017	*10/26/17 16:44*	
Surrogate: Toluene-d8	*107 %*		*75 - 132*		B7J0791	10/26/2017	*10/26/17 16:44*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Acenaphthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Acenaphthylene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Benzo(a)anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Benzo(a)pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Benzo(b)fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Benzo(g,h,i)perylene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Benzo(k)fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Chrysene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Dibenz(a,h)anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Fluorene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Indeno(1,2,3-cd)pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Naphthalene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Phenanthrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:23	
Surrogate: 1,2-Dichlorobenzene-d4	*65.8 %*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 11:23*	
Surrogate: 2-Fluorobiphenyl	*98.2 %*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 11:23*	
Surrogate: Nitrobenzene-d5	*68.2 %*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 11:23*	
Surrogate: 4-Terphenyl-d14	*87.3 %*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 11:23*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-0.5

Lab ID: 1703653-29

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Arsenic	**4.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Barium	**63**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Chromium	**12**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Cobalt	**5.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Copper	**110**	2.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Lead	**110**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Nickel	**9.7**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Vanadium	**21**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	
Zinc	**140**	1.0	1	B7J0513	10/18/2017	10/19/17 10:04	

TCLP Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**0.33**	0.25	5	B7J0818	10/27/2017	10/27/17 18:03	D1

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**13**	1.0	20	B7J0849	10/30/2017	10/30/17 12:29	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.89**	0.10	1	B7J0518	10/18/2017	10/19/17 13:26	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-0.5

Lab ID: 1703653-29

Gasoline Range Organics by EPA 8015B (Modified) — **Analyst: VW**

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics		ND	1.0	1	B7J0349	10/14/2017	10/14/17 19:35	
Surrogate: 4-Bromofluorobenzene	*112 %*		*50 - 138*		B7J0349	10/14/2017	*10/14/17 19:35*	

Diesel Range Organics by EPA 8015B — **Analyst: TKT**

Analyte		Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO		**230**	10	10	B7J0547	10/18/2017	10/19/17 14:57	
ORO		**490**	10	10	B7J0547	10/18/2017	10/19/17 14:57	
Surrogate: p-Terphenyl	*0%*		*38 - 145*		B7J0547	10/18/2017	*10/19/17 14:57*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-2.5

Lab ID: 1703653-30

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Arsenic	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Barium	**13**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Chromium	**3.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Cobalt	**1.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Copper	**2.2**	2.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Nickel	**2.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Vanadium	**6.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	
Zinc	**8.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:05	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:28	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 13:49	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 13:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.7**	1.0	1	B7J0547	10/18/2017	10/19/17 10:36	
ORO	**6.0**	1.0	1	B7J0547	10/18/2017	10/19/17 10:36	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-2.5

Lab ID: 1703653-30

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*101 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 10:36*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-5.0

Lab ID: 1703653-31

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Arsenic	**1.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Barium	**53**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Chromium	**9.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Cobalt	**5.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Copper	**6.8**	2.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Nickel	**7.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Vanadium	**17**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	
Zinc	**29**	1.0	1	B7J0513	10/18/2017	10/19/17 10:07	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:30	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 20:11	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 20:11*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.3**	1.0	1	B7J0547	10/18/2017	10/19/17 10:54	
ORO	**9.4**	1.0	1	B7J0547	10/18/2017	10/19/17 10:54	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-5.0

Lab ID: 1703653-31

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*104 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 10:54*	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-0.5

Lab ID: 1703653-32

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Arsenic	**2.4**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Barium	**17**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Chromium	**4.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Cobalt	**2.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Copper	**10**	2.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Lead	**10**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Nickel	**4.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Vanadium	**9.7**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	
Zinc	**43**	1.0	1	B7J0513	10/18/2017	10/19/17 10:08	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:31	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 20:30	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 20:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**54**	10	10	B7J0547	10/18/2017	10/19/17 14:40	
ORO	**100**	10	10	B7J0547	10/18/2017	10/19/17 14:40	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-0.5

Lab ID: 1703653-32

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 14:40*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-2.5

Lab ID: 1703653-33

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Arsenic	**2.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Barium	**18**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Chromium	**5.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Cobalt	**2.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Copper	**2.1**	2.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Nickel	**3.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Vanadium	**9.9**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	
Zinc	**11**	1.0	1	B7J0513	10/18/2017	10/19/17 10:09	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:33	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 20:48	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 20:48*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**8.8**	1.0	1	B7J0547	10/18/2017	10/19/17 11:11	
ORO	**8.8**	1.0	1	B7J0547	10/18/2017	10/19/17 11:11	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-2.5

Lab ID: 1703653-33

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*83.7 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 11:11*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-5.0

Lab ID: 1703653-34

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Arsenic	**1.4**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Barium	**35**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Chromium	**7.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Cobalt	**3.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Copper	**4.4**	2.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Nickel	**5.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Vanadium	**12**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	
Zinc	**19**	1.0	1	B7J0513	10/18/2017	10/19/17 10:10	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:35	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 21:07	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 21:07*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.4**	1.0	1	B7J0547	10/18/2017	10/19/17 11:28	
ORO	**5.6**	1.0	1	B7J0547	10/18/2017	10/19/17 11:28	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB29-5.0

Lab ID: 1703653-34

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*98.3 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 11:28*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-0.5

Lab ID: 1703653-35

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Arsenic	**4.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Barium	**45**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Chromium	**8.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Cobalt	**4.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Copper	**17**	2.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Lead	**85**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Nickel	**12**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Vanadium	**16**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	
Zinc	**190**	1.0	1	B7J0513	10/18/2017	10/19/17 10:11	

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**4.8**	1.0	20	B7J0849	10/30/2017	10/30/17 12:30	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:41	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 21:25	
Surrogate: 4-Bromofluorobenzene	*111 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 21:25*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-0.5

Lab ID: 1703653-35

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**530**	50	50	B7J0547	10/18/2017	10/19/17 15:32	
ORO	**930**	50	50	B7J0547	10/18/2017	10/19/17 15:32	
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 15:32*	S4

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1,1-Trichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1,2-Trichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1-Dichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,1-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2,3-Trichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2,3-Trichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2,4-Trichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2,4-Trimethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2-Dibromo-3-chloropropane	ND	10	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2-Dibromoethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2-Dichloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,2-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,3,5-Trimethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,3-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,3-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
1,4-Dichlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
2,2-Dichloropropane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
2-Chlorotoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
4-Chlorotoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
4-Isopropyltoluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Benzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Bromobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Bromochloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Bromodichloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Bromoform	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-0.5

Lab ID: 1703653-35

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromomethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Carbon disulfide	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Carbon tetrachloride	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Chlorobenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Chloroethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Chloroform	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Chloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
cis-1,2-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
cis-1,3-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Di-isopropyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Dibromochloromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Dibromomethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Dichlorodifluoromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Ethyl Acetate	ND	52	1	B7J0791	10/26/2017	10/26/17 17:02	
Ethyl Ether	ND	52	1	B7J0791	10/26/2017	10/26/17 17:02	
Ethyl tert-butyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Ethylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Freon-113	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Hexachlorobutadiene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Isopropylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
m,p-Xylene	ND	10	1	B7J0791	10/26/2017	10/26/17 17:02	
Methylene chloride	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
MTBE	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
n-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
n-Propylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Naphthalene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
o-Xylene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
sec-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Styrene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
tert-Amyl methyl ether	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
tert-Butanol	ND	100	1	B7J0791	10/26/2017	10/26/17 17:02	
tert-Butylbenzene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Tetrachloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Toluene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
trans-1,2-Dichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
trans-1,3-Dichloropropene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Trichloroethene	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-0.5

Lab ID: 1703653-35

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Vinyl acetate	ND	52	1	B7J0791	10/26/2017	10/26/17 17:02	
Vinyl chloride	ND	5.2	1	B7J0791	10/26/2017	10/26/17 17:02	
Surrogate: 1,2-Dichloroethane-d4	*106 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 17:02*	
Surrogate: 4-Bromofluorobenzene	*107 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 17:02*	
Surrogate: Dibromofluoromethane	*95.8 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 17:02*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 17:02*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Acenaphthene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Acenaphthylene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Anthracene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Benzo(a)anthracene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Benzo(a)pyrene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Benzo(b)fluoranthene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Benzo(g,h,i)perylene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Benzo(k)fluoranthene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Chrysene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Dibenz(a,h)anthracene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Fluoranthene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Fluorene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Indeno(1,2,3-cd)pyrene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Naphthalene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Phenanthrene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Pyrene	ND	250	50	B7J0764	10/25/2017	10/27/17 14:56	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 14:56*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 14:56*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 14:56*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 14:56*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-2.5

Lab ID: 1703653-36

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Arsenic	**5.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Barium	**63**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Chromium	**13**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Cobalt	**5.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Copper	**27**	2.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Lead	**53**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Nickel	**13**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Vanadium	**20**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	
Zinc	**120**	1.0	1	B7J0513	10/18/2017	10/19/17 10:12	

STLC Metals by ICP-AES by EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**1.0**	1.0	20	B7J0849	10/30/2017	10/30/17 14:39	D1

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:43	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 21:44	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 21:44*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-2.5

Lab ID: 1703653-36

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**480**	50	50	B7J0547	10/18/2017	10/19/17 16:07	
ORO	**1000**	50	50	B7J0547	10/18/2017	10/19/17 16:07	
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 16:07*	S4

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1,1-Trichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1,2,2-Tetrachloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1,2-Trichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1-Dichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,1-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2,3-Trichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2,3-Trichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2,4-Trichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2,4-Trimethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2-Dibromo-3-chloropropane	ND	9.8	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2-Dibromoethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2-Dichloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,2-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,3,5-Trimethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,3-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,3-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
1,4-Dichlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
2,2-Dichloropropane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
2-Chlorotoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
4-Chlorotoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
4-Isopropyltoluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Benzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Bromobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Bromochloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Bromodichloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Bromoform	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-2.5

Lab ID: 1703653-36

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Bromomethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Carbon disulfide	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Carbon tetrachloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Chlorobenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Chloroethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Chloroform	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Chloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
cis-1,2-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
cis-1,3-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Di-isopropyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Dibromochloromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Dibromomethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Dichlorodifluoromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Ethyl Acetate	ND	49	1	B7J0791	10/26/2017	10/26/17 17:21	
Ethyl Ether	ND	49	1	B7J0791	10/26/2017	10/26/17 17:21	
Ethyl tert-butyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Ethylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Freon-113	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Hexachlorobutadiene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Isopropylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
m,p-Xylene	ND	9.8	1	B7J0791	10/26/2017	10/26/17 17:21	
Methylene chloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
MTBE	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
n-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
n-Propylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Naphthalene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
o-Xylene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
sec-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Styrene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
tert-Amyl methyl ether	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
tert-Butanol	ND	98	1	B7J0791	10/26/2017	10/26/17 17:21	
tert-Butylbenzene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Tetrachloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Toluene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
trans-1,2-Dichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
trans-1,3-Dichloropropene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Trichloroethene	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-2.5
Lab ID: 1703653-36

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Trichlorofluoromethane	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Vinyl acetate	ND	49	1	B7J0791	10/26/2017	10/26/17 17:21	
Vinyl chloride	ND	4.9	1	B7J0791	10/26/2017	10/26/17 17:21	
Surrogate: 1,2-Dichloroethane-d4	*108 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 17:21*	
Surrogate: 4-Bromofluorobenzene	*97.9 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 17:21*	
Surrogate: Dibromofluoromethane	*96.0 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 17:21*	
Surrogate: Toluene-d8	*107 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 17:21*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Acenaphthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Acenaphthylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Benzo(a)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Benzo(a)pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Benzo(b)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Benzo(g,h,i)perylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Benzo(k)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Chrysene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Dibenz(a,h)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Fluorene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Indeno(1,2,3-cd)pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Naphthalene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Phenanthrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:25	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 15:25*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 15:25*	S4
Surrogate: Nitrobenzene-d5	*0%*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 15:25*	
Surrogate: 4-Terphenyl-d14	*0%*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 15:25*	S4

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-5.0

Lab ID: 1703653-37

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Arsenic	**2.5**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Barium	**81**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Chromium	**19**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Cobalt	**4.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Copper	**9.2**	2.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Lead	**4.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Nickel	**11**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Vanadium	**18**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	
Zinc	**50**	1.0	1	B7J0513	10/18/2017	10/19/17 10:16	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:45	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**400**	50	50	B7J0311	10/14/2017	10/14/17 06:07	
Surrogate: 4-Bromofluorobenzene	*45.6 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 06:07*	S7

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**11000**	200	200	B7J0547	10/18/2017	10/19/17 16:42	
ORO	**5600**	200	200	B7J0547	10/18/2017	10/19/17 16:42	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-5.0

Lab ID: 1703653-37

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 16:42*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1221	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1232	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1242	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1248	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1254	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1260	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1262	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Aroclor 1268	ND	16	1	B7J0724	10/24/2017	10/25/17 17:47	
Surrogate: Decachlorobiphenyl	*40.3 %*	*18 - 136*		B7J0724	10/24/2017	*10/25/17 17:47*	
Surrogate: Tetrachloro-m-xylene	*50.1 %*	*30 - 130*		B7J0724	10/24/2017	*10/25/17 17:47*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1,1-Trichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1,2-Trichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1-Dichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,1-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2,3-Trichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2,3-Trichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2,4-Trichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2,4-Trimethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2-Dibromoethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,2-Dichloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-5.0

Lab ID: 1703653-37

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,3,5-Trimethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,3-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,3-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
1,4-Dichlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
2,2-Dichloropropane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
2-Chlorotoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
4-Chlorotoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
4-Isopropyltoluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Benzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Bromobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Bromochloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Bromodichloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Bromoform	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Bromomethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Carbon disulfide	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Carbon tetrachloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Chlorobenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Chloroethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Chloroform	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Chloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
cis-1,2-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
cis-1,3-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Di-isopropyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Dibromochloromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Dibromomethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Dichlorodifluoromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Ethyl Acetate	ND	55	1	B7J0750	10/25/2017	10/25/17 14:37	
Ethyl Ether	ND	55	1	B7J0750	10/25/2017	10/25/17 14:37	
Ethyl tert-butyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Ethylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Freon-113	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Hexachlorobutadiene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Isopropylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
m,p-Xylene	ND	11	1	B7J0750	10/25/2017	10/25/17 14:37	
Methylene chloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
MTBE	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	

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Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-5.0

Lab ID: 1703653-37

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
n-Propylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Naphthalene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
o-Xylene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
sec-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Styrene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
tert-Amyl methyl ether	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
tert-Butanol	ND	110	1	B7J0750	10/25/2017	10/25/17 14:37	
tert-Butylbenzene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Tetrachloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Toluene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
trans-1,2-Dichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
trans-1,3-Dichloropropene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Trichloroethene	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Trichlorofluoromethane	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Vinyl acetate	ND	55	1	B7J0750	10/25/2017	10/25/17 14:37	
Vinyl chloride	ND	5.5	1	B7J0750	10/25/2017	10/25/17 14:37	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*32 - 140*		B7J0750	10/25/2017	*10/25/17 14:37*	
Surrogate: 4-Bromofluorobenzene	*107 %*	*68 - 131*		B7J0750	10/25/2017	*10/25/17 14:37*	
Surrogate: Dibromofluoromethane	*95.5 %*	*49 - 134*		B7J0750	10/25/2017	*10/25/17 14:37*	
Surrogate: Toluene-d8	*106 %*	*75 - 132*		B7J0750	10/25/2017	*10/25/17 14:37*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	**7800**	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Acenaphthene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Acenaphthylene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Benzo(a)anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Benzo(a)pyrene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Benzo(b)fluoranthene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Benzo(g,h,i)perylene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Benzo(k)fluoranthene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Chrysene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Dibenz(a,h)anthracene	ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB28-5.0

Lab ID: 1703653-37

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Fluorene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Indeno(1,2,3-cd)pyrene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Naphthalene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Phenanthrene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Pyrene		ND	100	20	B7J0757	10/25/2017	10/25/17 21:56	
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0757	10/25/2017	*10/25/17 21:56*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0757	10/25/2017	*10/25/17 21:56*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0757	10/25/2017	*10/25/17 21:56*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0757	10/25/2017	*10/25/17 21:56*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-0.5

Lab ID: 1703653-38

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Arsenic	**2.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Barium	**13**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Chromium	**4.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Cobalt	**2.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Copper	**2.4**	2.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Lead	**1.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Nickel	**2.7**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Vanadium	**8.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	
Zinc	**11**	1.0	1	B7J0513	10/18/2017	10/19/17 10:17	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:46	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 22:02	
Surrogate: 4-Bromofluorobenzene	*115 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 22:02*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**11**	1.0	1	B7J0547	10/18/2017	10/19/17 13:48	
ORO	**14**	1.0	1	B7J0547	10/18/2017	10/19/17 13:48	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-0.5

Lab ID: 1703653-38

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*131 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 13:48*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-2.5

Lab ID: 1703653-39

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Arsenic	**2.0**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Barium	**23**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Chromium	**5.5**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Cobalt	**2.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Copper	**2.7**	2.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Nickel	**3.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Vanadium	**8.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	
Zinc	**14**	1.0	1	B7J0513	10/18/2017	10/19/17 10:18	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:48	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 22:20	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 22:20*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**12**	1.0	1	B7J0547	10/18/2017	10/19/17 12:03	
ORO	**12**	1.0	1	B7J0547	10/18/2017	10/19/17 12:03	

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-2.5

Lab ID: 1703653-39

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*142 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 12:03*	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-5.0
Lab ID: 1703653-40

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Arsenic	**1.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Barium	**62**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Chromium	**9.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Cobalt	**5.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Copper	**7.0**	2.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Nickel	**7.7**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Vanadium	**18**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	
Zinc	**30**	1.0	1	B7J0513	10/18/2017	10/19/17 10:19	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:50	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0349	10/14/2017	10/14/17 22:39	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0349	10/14/2017	*10/14/17 22:39*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B7J0547	10/18/2017	10/19/17 14:06	
ORO	**18**	1.0	1	B7J0547	10/18/2017	10/19/17 14:06	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB26-5.0

Lab ID: 1703653-40

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*89.3 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 14:06*	

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Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-0.5

Lab ID: 1703653-41

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Arsenic	**1.3**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Barium	**20**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Chromium	**5.6**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Cobalt	**2.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Copper	**3.1**	2.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Nickel	**3.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Vanadium	**12**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	
Zinc	**14**	1.0	1	B7J0513	10/18/2017	10/19/17 10:20	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:52	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 03:03	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 03:03*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**9.1**	1.0	1	B7J0547	10/18/2017	10/19/17 12:56	
ORO	**9.9**	1.0	1	B7J0547	10/18/2017	10/19/17 12:56	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-0.5

Lab ID: 1703653-41

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*74.4 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 12:56*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-2.5

Lab ID: 1703653-42

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Arsenic	**2.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Barium	**38**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Chromium	**8.1**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Cobalt	**4.4**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Copper	**4.8**	2.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Nickel	**6.2**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Vanadium	**14**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	
Zinc	**22**	1.0	1	B7J0513	10/18/2017	10/19/17 10:21	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:54	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 03:21	
Surrogate: 4-Bromofluorobenzene	*115 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 03:21*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B7J0547	10/18/2017	10/19/17 13:13	
ORO	**17**	1.0	1	B7J0547	10/18/2017	10/19/17 13:13	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-2.5

Lab ID: 1703653-42

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*138 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 13:13*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-5.0

Lab ID: 1703653-43

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Arsenic	**2.4**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Barium	**65**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Chromium	**11**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Cobalt	**6.5**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Copper	**8.3**	2.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Lead	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Nickel	**8.9**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Vanadium	**19**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	
Zinc	**33**	1.0	1	B7J0513	10/18/2017	10/19/17 10:23	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:56	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 03:40	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 03:40*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**7.2**	1.0	1	B7J0547	10/18/2017	10/19/17 13:31	
ORO	**8.5**	1.0	1	B7J0547	10/18/2017	10/19/17 13:31	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB21-5.0

Lab ID: 1703653-43

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*127 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 13:31*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-0.5

Lab ID: 1703653-44

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Arsenic	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Barium	**78**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Beryllium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Cadmium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Chromium	**7.8**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Cobalt	**3.9**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Copper	**9.2**	2.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Lead	**4.5**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Molybdenum	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Nickel	**6.4**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Selenium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Silver	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Thallium	ND	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Vanadium	**15**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	
Zinc	**31**	1.0	1	B7J0513	10/18/2017	10/19/17 10:24	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0518	10/18/2017	10/19/17 13:58	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 03:58	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 03:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B7J0547	10/18/2017	10/19/17 14:23	
ORO	**35**	1.0	1	B7J0547	10/18/2017	10/19/17 14:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-0.5

Lab ID: 1703653-44

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*73.6 %*	*38 - 145*		B7J0547	10/18/2017	*10/19/17 14:23*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-2.5
Lab ID: 1703653-45

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Barium	**15**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Chromium	**2.9**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Cobalt	**1.8**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Copper	**2.1**	2.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Nickel	**2.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Vanadium	**5.6**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	
Zinc	**8.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:30	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.22**	0.10	1	B7J0519	10/18/2017	10/19/17 11:54	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 04:17	
Surrogate: 4-Bromofluorobenzene	*110 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 04:17*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**4.0**	1.0	1	B7J0581	10/19/2017	10/19/17 17:33	
ORO	**4.6**	1.0	1	B7J0581	10/19/2017	10/19/17 17:33	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-2.5

Lab ID: 1703653-45

Diesel Range Organics by EPA 8015B **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*135 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 17:33*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-5.0

Lab ID: 1703653-46

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Barium	**8.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Chromium	**1.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Cobalt	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Copper	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Nickel	**1.2**	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Vanadium	**2.8**	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	
Zinc	**4.6**	1.0	1	B7J0514	10/18/2017	10/19/17 10:34	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.17**	0.10	1	B7J0519	10/18/2017	10/19/17 12:03	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 04:35	
Surrogate: 4-Bromofluorobenzene	*112 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 04:35*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2.9**	1.0	1	B7J0581	10/19/2017	10/19/17 15:59	
ORO	**2.5**	1.0	1	B7J0581	10/19/2017	10/19/17 15:59	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB15-5.0

Lab ID: 1703653-46

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*57.7 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 15:59*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-0.5

Lab ID: 1703653-47

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Barium	**21**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Chromium	**3.1**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Cobalt	**1.6**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Copper	**5.7**	2.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Lead	**5.0**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Nickel	**4.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Vanadium	**6.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	
Zinc	**18**	1.0	1	B7J0514	10/18/2017	10/19/17 10:35	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.21**	0.10	1	B7J0519	10/18/2017	10/19/17 12:05	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 04:53	
Surrogate: 4-Bromofluorobenzene	*95.5 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 04:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**840**	200	100	B7J0581	10/19/2017	10/19/17 21:26	
ORO	**3800**	200	100	B7J0581	10/19/2017	10/19/17 21:26	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-0.5

Lab ID: 1703653-47

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 21:26*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO/

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1221	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1232	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1242	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1248	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1254	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1260	**19**	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1262	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Aroclor 1268	ND	16	1	B7J0770	10/25/2017	10/25/17 23:44	
Surrogate: Decachlorobiphenyl	*34.7 %*	*18 - 136*		B7J0770	10/25/2017	*10/25/17 23:44*	
Surrogate: Tetrachloro-m-xylene	*84.4 %*	*30 - 130*		B7J0770	10/25/2017	*10/25/17 23:44*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1,1-Trichloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1,2,2-Tetrachloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1,2-Trichloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1-Dichloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1-Dichloroethene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,1-Dichloropropene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2,3-Trichloropropane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2,3-Trichlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2,4-Trichlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2,4-Trimethylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2-Dibromo-3-chloropropane	ND	9.7	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2-Dibromoethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2-Dichlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,2-Dichloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-0.5

Lab ID: 1703653-47

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,3,5-Trimethylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,3-Dichlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,3-Dichloropropane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
1,4-Dichlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
2,2-Dichloropropane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
2-Chlorotoluene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
4-Chlorotoluene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
4-Isopropyltoluene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Benzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Bromobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Bromochloromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Bromodichloromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Bromoform	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Bromomethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Carbon disulfide	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Carbon tetrachloride	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Chlorobenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Chloroethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Chloroform	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Chloromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
cis-1,2-Dichloroethene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
cis-1,3-Dichloropropene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Di-isopropyl ether	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Dibromochloromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Dibromomethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Dichlorodifluoromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Ethyl Acetate	ND	48	1	B7J0791	10/26/2017	10/26/17 17:40	
Ethyl Ether	ND	48	1	B7J0791	10/26/2017	10/26/17 17:40	
Ethyl tert-butyl ether	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Ethylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Freon-113	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Hexachlorobutadiene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Isopropylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
m,p-Xylene	ND	9.7	1	B7J0791	10/26/2017	10/26/17 17:40	
Methylene chloride	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
MTBE	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-0.5

Lab ID: 1703653-47

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
n-Propylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Naphthalene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
o-Xylene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
sec-Butylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Styrene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
tert-Amyl methyl ether	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
tert-Butanol	ND	97	1	B7J0791	10/26/2017	10/26/17 17:40	
tert-Butylbenzene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Tetrachloroethene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Toluene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
trans-1,2-Dichloroethene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
trans-1,3-Dichloropropene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Trichloroethene	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Trichlorofluoromethane	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Vinyl acetate	ND	48	1	B7J0791	10/26/2017	10/26/17 17:40	
Vinyl chloride	ND	4.8	1	B7J0791	10/26/2017	10/26/17 17:40	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 17:40*	
Surrogate: 4-Bromofluorobenzene	*97.1 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 17:40*	
Surrogate: Dibromofluoromethane	*100 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 17:40*	
Surrogate: Toluene-d8	*108 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 17:40*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Acenaphthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Acenaphthylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Benzo(a)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Benzo(a)pyrene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Benzo(b)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Benzo(g,h,i)perylene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Benzo(k)fluoranthene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Chrysene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Dibenz(a,h)anthracene	ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-0.5

Lab ID: 1703653-47

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Fluorene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Indeno(1,2,3-cd)pyrene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Naphthalene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Phenanthrene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Pyrene		ND	1000	200	B7J0764	10/25/2017	10/27/17 15:53	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0764	10/25/2017	*10/27/17 15:53*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0764	10/25/2017	*10/27/17 15:53*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0764	10/25/2017	*10/27/17 15:53*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0764	10/25/2017	*10/27/17 15:53*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-2.5

Lab ID: 1703653-48

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Barium	**21**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Chromium	**3.8**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Cobalt	**2.2**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Copper	**2.3**	2.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Nickel	**3.0**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Vanadium	**6.5**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	
Zinc	**11**	1.0	1	B7J0514	10/18/2017	10/19/17 10:36	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.51**	0.10	1	B7J0519	10/18/2017	10/19/17 12:07	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 14:07	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 14:07*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.2**	1.0	1	B7J0581	10/19/2017	10/19/17 18:19	
ORO	**7.3**	1.0	1	B7J0581	10/19/2017	10/19/17 18:19	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-2.5
Lab ID: 1703653-48

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*89.5 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 18:19*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1,1-Trichloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1,2-Trichloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1-Dichloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1-Dichloroethene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,1-Dichloropropene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2,3-Trichloropropane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2,3-Trichlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2,4-Trichlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2,4-Trimethylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2-Dibromo-3-chloropropane	ND	8.7	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2-Dibromoethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2-Dichlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2-Dichloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,2-Dichloropropane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,3,5-Trimethylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,3-Dichlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,3-Dichloropropane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
1,4-Dichlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
2,2-Dichloropropane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
2-Chlorotoluene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
4-Chlorotoluene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
4-Isopropyltoluene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Benzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Bromobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Bromochloromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Bromodichloromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Bromoform	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Bromomethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Carbon disulfide	**13**	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-2.5

Lab ID: 1703653-48

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Chlorobenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Chloroethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Chloroform	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Chloromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
cis-1,2-Dichloroethene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
cis-1,3-Dichloropropene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Di-isopropyl ether	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Dibromochloromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Dibromomethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Dichlorodifluoromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Ethyl Acetate	ND	44	1	B7J0791	10/26/2017	10/26/17 17:58	
Ethyl Ether	ND	44	1	B7J0791	10/26/2017	10/26/17 17:58	
Ethyl tert-butyl ether	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Ethylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Freon-113	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Hexachlorobutadiene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Isopropylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
m,p-Xylene	ND	8.7	1	B7J0791	10/26/2017	10/26/17 17:58	
Methylene chloride	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
MTBE	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
n-Butylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
n-Propylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Naphthalene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
o-Xylene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
sec-Butylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Styrene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
tert-Amyl methyl ether	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
tert-Butanol	ND	87	1	B7J0791	10/26/2017	10/26/17 17:58	
tert-Butylbenzene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Tetrachloroethene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Toluene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
trans-1,2-Dichloroethene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
trans-1,3-Dichloropropene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Trichloroethene	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Trichlorofluoromethane	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Vinyl acetate	ND	44	1	B7J0791	10/26/2017	10/26/17 17:58	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-2.5
Lab ID: 1703653-48

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride	ND	4.4	1	B7J0791	10/26/2017	10/26/17 17:58	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*32 - 140*		B7J0791	10/26/2017	*10/26/17 17:58*	
Surrogate: 4-Bromofluorobenzene	*101 %*	*68 - 131*		B7J0791	10/26/2017	*10/26/17 17:58*	
Surrogate: Dibromofluoromethane	*96.6 %*	*49 - 134*		B7J0791	10/26/2017	*10/26/17 17:58*	
Surrogate: Toluene-d8	*111 %*	*75 - 132*		B7J0791	10/26/2017	*10/26/17 17:58*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Acenaphthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Acenaphthylene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Benzo(a)anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Benzo(a)pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Benzo(b)fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Benzo(g,h,i)perylene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Benzo(k)fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Chrysene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Dibenz(a,h)anthracene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Fluoranthene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Fluorene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Indeno(1,2,3-cd)pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Naphthalene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Phenanthrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Pyrene	ND	5.0	1	B7J0764	10/25/2017	10/27/17 11:51	
Surrogate: 1,2-Dichlorobenzene-d4	*33.8 %*	*29 - 109*		B7J0764	10/25/2017	*10/27/17 11:51*	
Surrogate: 2-Fluorobiphenyl	*60.8 %*	*39 - 108*		B7J0764	10/25/2017	*10/27/17 11:51*	
Surrogate: Nitrobenzene-d5	*40.0 %*	*0 - 146*		B7J0764	10/25/2017	*10/27/17 11:51*	
Surrogate: 4-Terphenyl-d14	*69.5 %*	*39 - 123*		B7J0764	10/25/2017	*10/27/17 11:51*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-5.0

Lab ID: 1703653-49

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Barium	**11**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Chromium	**2.4**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Cobalt	**1.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Copper	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Nickel	**1.6**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Vanadium	**3.8**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	
Zinc	**6.4**	1.0	1	B7J0514	10/18/2017	10/19/17 10:37	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.24**	0.10	1	B7J0519	10/18/2017	10/19/17 12:09	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 14:25	
Surrogate: 4-Bromofluorobenzene	*104 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 14:25*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1.3**	1.0	1	B7J0581	10/19/2017	10/19/17 17:02	
ORO	**1.5**	1.0	1	B7J0581	10/19/2017	10/19/17 17:02	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB10-5.0

Lab ID: 1703653-49

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*77.6 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 17:02*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-0.5

Lab ID: 1703653-50

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Barium	**12**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Chromium	**2.9**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Cobalt	**1.2**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Copper	**2.4**	2.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Lead	**7.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Nickel	**2.1**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Vanadium	**4.9**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	
Zinc	**16**	1.0	1	B7J0514	10/18/2017	10/19/17 10:38	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.16**	0.10	1	B7J0519	10/18/2017	10/19/17 12:15	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 05:12	
Surrogate: 4-Bromofluorobenzene *108 %*		*50 - 138*		B7J0311	10/14/2017	*10/14/17 05:12*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**7.1**	1.0	1	B7J0581	10/19/2017	10/19/17 20:23	
ORO	**16**	1.0	1	B7J0581	10/19/2017	10/19/17 20:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-0.5

Lab ID: 1703653-50

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*137 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 20:23*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-2.5

Lab ID: 1703653-51

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Barium	**9.8**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Chromium	**2.1**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Cobalt	**1.2**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Copper	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Nickel	**1.6**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Vanadium	**3.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	
Zinc	**6.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:39	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.16**	0.10	1	B7J0519	10/18/2017	10/19/17 12:17	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 05:30	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 05:30*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6.8**	1.0	1	B7J0581	10/19/2017	10/19/17 16:15	
ORO	**5.1**	1.0	1	B7J0581	10/19/2017	10/19/17 16:15	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-2.5

Lab ID: 1703653-51

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*84.0 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 16:15*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-5.0

Lab ID: 1703653-52

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Arsenic	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Barium	**9.1**	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Beryllium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Cadmium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Chromium	**1.7**	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Cobalt	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Copper	ND	2.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Lead	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Molybdenum	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Nickel	**1.2**	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Selenium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Silver	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Thallium	ND	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Vanadium	**3.0**	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	
Zinc	**5.3**	1.0	1	B7J0514	10/18/2017	10/19/17 10:40	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.20**	0.10	1	B7J0519	10/18/2017	10/19/17 12:19	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0311	10/14/2017	10/14/17 05:49	
Surrogate: 4-Bromofluorobenzene	*109 %*	*50 - 138*		B7J0311	10/14/2017	*10/14/17 05:49*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1.2**	1.0	1	B7J0581	10/19/2017	10/19/17 17:17	
ORO	**1.6**	1.0	1	B7J0581	10/19/2017	10/19/17 17:17	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-5.0

Lab ID: 1703653-52

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*54.4 %*	*38 - 145*		B7J0581	10/19/2017	*10/19/17 17:17*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-GW
Lab ID: 1703653-53

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:28	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:28	
Barium	**0.098**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Chromium	**0.0087**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Cobalt	**0.0035**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Copper	**0.0090**	0.0090	1	B7J0455	10/17/2017	10/17/17 17:28	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:28	
Molybdenum	**0.022**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:28	
Nickel	**0.0067**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:28	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:28	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:28	
Vanadium	**0.018**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:28	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:28	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:21	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**0.09**	0.05	1	B7J0434	10/17/2017	10/17/17 10:13	
Surrogate: 4-Bromofluorobenzene	*97.3 %*	*70 - 130*		B7J0434	10/17/2017	*10/17/17 10:13*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.47**	0.05	1	B7J0338	10/13/2017	10/14/17 11:10	
ORO	**0.43**	0.05	1	B7J0338	10/13/2017	10/14/17 11:10	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-GW
Lab ID: 1703653-53

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*128 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 11:10*	

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Benzene	**0.81**	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:44	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-GW

Lab ID: 1703653-53

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
cis-1,2-Dichloroethene	**78**	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 17:44	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 17:44	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:44	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 17:44	
MTBE	**19**	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 17:44	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Tetrachloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
trans-1,2-Dichloroethene	**33**	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Trichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 17:44	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB6-GW

Lab ID: 1703653-53

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride	**43**	0.50	1	B7J0319	10/13/2017	10/13/17 17:44	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*70 - 166*		B7J0319	10/13/2017	*10/13/17 17:44*	
Surrogate: 4-Bromofluorobenzene	*93.1 %*	*88 - 120*		B7J0319	10/13/2017	*10/13/17 17:44*	
Surrogate: Dibromofluoromethane	*105 %*	*80 - 150*		B7J0319	10/13/2017	*10/13/17 17:44*	
Surrogate: Toluene-d8	*102 %*	*87 - 121*		B7J0319	10/13/2017	*10/13/17 17:44*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 15:31	
Surrogate: 1,2-Dichlorobenzene-d4	*63.0 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 15:31*	
Surrogate: 2-Fluorobiphenyl	*69.6 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 15:31*	
Surrogate: Nitrobenzene-d5	*80.8 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 15:31*	
Surrogate: 4-Terphenyl-d14	*80.6 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 15:31*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-GW
Lab ID: 1703653-54

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:32	
Arsenic	**0.013**	0.010	1	B7J0455	10/17/2017	10/17/17 17:32	
Barium	**0.31**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Chromium	**0.022**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Cobalt	**0.0086**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Copper	**0.016**	0.0090	1	B7J0455	10/17/2017	10/17/17 17:32	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:32	
Molybdenum	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:32	
Nickel	**0.016**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:32	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:32	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:32	
Vanadium	**0.034**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:32	
Zinc	**0.090**	0.025	1	B7J0455	10/17/2017	10/17/17 17:32	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:23	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	1	B7J0434	10/17/2017	10/17/17 10:33	
Surrogate: 4-Bromofluorobenzene	*101 %*	*70 - 130*		B7J0434	10/17/2017	*10/17/17 10:33*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.35**	0.05	1	B7J0338	10/13/2017	10/14/17 11:27	
ORO	**0.27**	0.05	1	B7J0338	10/13/2017	10/14/17 11:27	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-GW
Lab ID: 1703653-54

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*132 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 11:27*	

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Benzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:09	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-GW

Lab ID: 1703653-54

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
cis-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 18:09	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 18:09	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:09	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:09	
MTBE	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 18:09	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Tetrachloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
trans-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Trichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 18:09	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB27-GW
Lab ID: 1703653-54

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte		Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:09	
Surrogate: 1,2-Dichloroethane-d4	*99.3 %*		*70 - 166*		B7J0319	10/13/2017	*10/13/17 18:09*	
Surrogate: 4-Bromofluorobenzene	*94.1 %*		*88 - 120*		B7J0319	10/13/2017	*10/13/17 18:09*	
Surrogate: Dibromofluoromethane	*102 %*		*80 - 150*		B7J0319	10/13/2017	*10/13/17 18:09*	
Surrogate: Toluene-d8	*101 %*		*87 - 121*		B7J0319	10/13/2017	*10/13/17 18:09*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Acenaphthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Acenaphthylene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Benzo(a)anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Benzo(a)pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Benzo(b)fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Benzo(g,h,i)perylene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Benzo(k)fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Chrysene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Dibenz(a,h)anthracene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Fluoranthene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Fluorene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Indeno(1,2,3-cd)pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Naphthalene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Phenanthrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Pyrene		ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:00	
Surrogate: 1,2-Dichlorobenzene-d4	*54.5 %*		*32 - 99*		B7J0413	10/16/2017	*10/16/17 16:00*	
Surrogate: 2-Fluorobiphenyl	*52.0 %*		*29 - 105*		B7J0413	10/16/2017	*10/16/17 16:00*	
Surrogate: Nitrobenzene-d5	*70.2 %*		*17 - 123*		B7J0413	10/16/2017	*10/16/17 16:00*	
Surrogate: 4-Terphenyl-d14	*63.6 %*		*32 - 119*		B7J0413	10/16/2017	*10/16/17 16:00*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-GW
Lab ID: 1703653-55

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:33	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:33	
Barium	**0.047**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Chromium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Cobalt	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Copper	ND	0.0090	1	B7J0455	10/17/2017	10/17/17 17:33	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:33	
Molybdenum	**0.0059**	0.0050	1	B7J0455	10/17/2017	10/17/17 17:33	
Nickel	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:33	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:33	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:33	
Vanadium	**0.0067**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:33	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:33	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:26	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	1	B7J0434	10/17/2017	10/17/17 10:54	
Surrogate: 4-Bromofluorobenzene	*99.7 %*	*70 - 130*		B7J0434	10/17/2017	*10/17/17 10:54*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.38**	0.05	1	B7J0338	10/13/2017	10/14/17 11:44	
ORO	**0.33**	0.05	1	B7J0338	10/13/2017	10/14/17 11:44	
Surrogate: p-Terphenyl	*119 %*	*20 - 150*		B7J0338	10/13/2017	*10/14/17 11:44*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-GW

Lab ID: 1703653-55

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1,1-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1,2-Trichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,1-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2,3-Trichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2,3-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2,4-Trichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2,4-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2-Dibromoethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2-Dichloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,3,5-Trimethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,3-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,3-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
1,4-Dichlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
2,2-Dichloropropane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
2-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
4-Chlorotoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
4-Isopropyltoluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Benzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Bromobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Bromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Bromodichloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Bromoform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Bromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Carbon disulfide	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:33	
Carbon tetrachloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Chlorobenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Chloroethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Chloroform	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Chloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
cis-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-GW
Lab ID: 1703653-55

Volatile Organic Compounds by EPA 8260B **Analyst: QP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Di-isopropyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Dibromochloromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Dibromomethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Dichlorodifluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Ethyl Acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 18:33	
Ethyl Ether	ND	10	1	B7J0319	10/13/2017	10/13/17 18:33	
Ethyl tert-butyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Ethylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Freon-113	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Hexachlorobutadiene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Isopropylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
m,p-Xylene	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:33	
Methylene chloride	ND	1.0	1	B7J0319	10/13/2017	10/13/17 18:33	
MTBE	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
n-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
n-Propylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Naphthalene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
o-Xylene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
sec-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Styrene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
tert-Amyl methyl ether	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
tert-Butanol	ND	10	1	B7J0319	10/13/2017	10/13/17 18:33	
tert-Butylbenzene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Tetrachloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Toluene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
trans-1,2-Dichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
trans-1,3-Dichloropropene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Trichloroethene	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Trichlorofluoromethane	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Vinyl acetate	ND	10	1	B7J0319	10/13/2017	10/13/17 18:33	
Vinyl chloride	ND	0.50	1	B7J0319	10/13/2017	10/13/17 18:33	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*70 - 166*		B7J0319	10/13/2017	*10/13/17 18:33*	
Surrogate: 4-Bromofluorobenzene	*93.4 %*	*88 - 120*		B7J0319	10/13/2017	*10/13/17 18:33*	
Surrogate: Dibromofluoromethane	*105 %*	*80 - 150*		B7J0319	10/13/2017	*10/13/17 18:33*	
Surrogate: Toluene-d8	*101 %*	*87 - 121*		B7J0319	10/13/2017	*10/13/17 18:33*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Client Sample ID LB31-GW
Lab ID: 1703653-55

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:29	
Surrogate: 1,2-Dichlorobenzene-d4	*68.4 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 16:29*	
Surrogate: 2-Fluorobiphenyl	*68.0 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 16:29*	
Surrogate: Nitrobenzene-d5	*84.7 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 16:29*	
Surrogate: 4-Terphenyl-d14	*80.1 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 16:29*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W										
Blank (B7J0455-BLK1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	ND	0.010	0.0088							
Arsenic	ND	0.010	0.0078							
Barium	ND	0.0030	0.0026							
Beryllium	ND	0.0030	0.0016							
Cadmium	ND	0.0030	0.0024							
Chromium	ND	0.0030	0.0020							
Cobalt	ND	0.0030	0.0016							
Copper	ND	0.0090	0.0038							
Lead	ND	0.0050	0.0047							
Molybdenum	ND	0.0050	0.0030							
Nickel	ND	0.0050	0.0046							
Selenium	ND	0.010	0.0093							
Silver	ND	0.0030	0.0024							
Thallium	ND	0.015	0.0085							
Vanadium	ND	0.0030	0.0022							
Zinc	ND	0.025	0.0057							
LCS (B7J0455-BS1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	0.929102	0.010	0.0088	1.00000		92.9	80 - 120			
Arsenic	0.941062	0.010	0.0078	1.00000		94.1	80 - 120			
Barium	0.969431	0.0030	0.0026	1.00000		96.9	80 - 120			
Beryllium	0.952237	0.0030	0.0016	1.00000		95.2	80 - 120			
Cadmium	0.923200	0.0030	0.0024	1.00000		92.3	80 - 120			
Chromium	0.964497	0.0030	0.0020	1.00000		96.4	80 - 120			
Cobalt	0.960800	0.0030	0.0016	1.00000		96.1	80 - 120			
Copper	0.947343	0.0090	0.0038	1.00000		94.7	80 - 120			
Lead	0.953769	0.0050	0.0047	1.00000		95.4	80 - 120			
Molybdenum	0.936200	0.0050	0.0030	1.00000		93.6	80 - 120			
Nickel	0.929993	0.0050	0.0046	1.00000		93.0	80 - 120			
Selenium	0.907008	0.010	0.0093	1.00000		90.7	80 - 120			
Silver	1.18499	0.0030	0.0024	1.00000		118	80 - 120			
Thallium	0.946903	0.015	0.0085	1.00000		94.7	80 - 120			
Vanadium	0.953132	0.0030	0.0022	1.00000		95.3	80 - 120			
Zinc	0.930909	0.025	0.0057	1.00000		93.1	80 - 120			
Matrix Spike (B7J0455-MS1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	2.45296	0.010	0.0088	2.50000	ND	98.1	60 - 130			
Arsenic	2.51904	0.010	0.0078	2.50000	ND	101	69 - 123			
Barium	2.59554	0.0030	0.0026	2.50000	0.106382	99.6	67 - 129			
Beryllium	2.52702	0.0030	0.0016	2.50000	ND	101	74 - 120			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W (continued)										
Matrix Spike (B7J0455-MS1) - Continued			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Cadmium	2.37069	0.0030	0.0024	2.50000	ND	94.8	69 - 116			
Chromium	2.49293	0.0030	0.0020	2.50000	0.014934	99.1	74 - 120			
Cobalt	2.43594	0.0030	0.0016	2.50000	0.002840	97.3	70 - 116			
Copper	2.53772	0.0090	0.0038	2.50000	0.01129	101	76 - 123			
Lead	2.42425	0.0050	0.0047	2.50000	ND	97.0	69 - 117			
Molybdenum	2.53677	0.0050	0.0030	2.50000	0.026825	100	68 - 120			
Nickel	2.38734	0.0050	0.0046	2.50000	0.011243	95.0	70 - 115			
Selenium	2.39006	0.010	0.0093	2.50000	ND	95.6	66 - 120			
Silver	2.66866	0.0030	0.0024	2.50000	ND	107	73 - 123			
Thallium	2.34797	0.015	0.0085	2.50000	ND	93.9	57 - 124			
Vanadium	2.52252	0.0030	0.0022	2.50000	0.010942	100	72 - 123			
Zinc	2.38635	0.025	0.0057	2.50000	0.023691	94.5	73 - 111			
Matrix Spike Dup (B7J0455-MSD1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Antimony	2.42439	0.010	0.0088	2.50000	ND	97.0	60 - 130	1.17	20	
Arsenic	2.47205	0.010	0.0078	2.50000	ND	98.9	69 - 123	1.88	20	
Barium	2.56504	0.0030	0.0026	2.50000	0.106382	98.3	67 - 129	1.18	20	
Beryllium	2.49000	0.0030	0.0016	2.50000	ND	99.6	74 - 120	1.48	20	
Cadmium	2.33304	0.0030	0.0024	2.50000	ND	93.3	69 - 116	1.60	20	
Chromium	2.44862	0.0030	0.0020	2.50000	0.014934	97.3	74 - 120	1.79	20	
Cobalt	2.39427	0.0030	0.0016	2.50000	0.002840	95.7	70 - 116	1.73	20	
Copper	2.50095	0.0090	0.0038	2.50000	0.01129	99.6	76 - 123	1.46	20	
Lead	2.39216	0.0050	0.0047	2.50000	ND	95.7	69 - 117	1.33	20	
Molybdenum	2.50298	0.0050	0.0030	2.50000	0.026825	99.0	68 - 120	1.34	20	
Nickel	2.35861	0.0050	0.0046	2.50000	0.011243	93.9	70 - 115	1.21	20	
Selenium	2.34170	0.010	0.0093	2.50000	ND	93.7	66 - 120	2.04	20	
Silver	2.62202	0.0030	0.0024	2.50000	ND	105	73 - 123	1.76	20	
Thallium	2.34150	0.015	0.0085	2.50000	ND	93.7	57 - 124	0.276	20	
Vanadium	2.48646	0.0030	0.0022	2.50000	0.010942	99.0	72 - 123	1.44	20	
Zinc	2.35433	0.025	0.0057	2.50000	0.023691	93.2	73 - 111	1.35	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0512 - EPA 3050B_S										
Blank (B7J0512-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0512-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	42.8347	2.0	0.51	50.0000		85.7	80 - 120			
Arsenic	41.9015	1.0	0.12	50.0000		83.8	80 - 120			
Barium	44.6627	1.0	0.12	50.0000		89.3	80 - 120			
Beryllium	42.8990	1.0	0.03	50.0000		85.8	80 - 120			
Cadmium	41.2118	1.0	0.14	50.0000		82.4	80 - 120			
Chromium	44.3845	1.0	0.26	50.0000		88.8	80 - 120			
Cobalt	44.1090	1.0	0.07	50.0000		88.2	80 - 120			
Copper	43.9566	2.0	0.19	50.0000		87.9	80 - 120			
Lead	43.4095	1.0	0.18	50.0000		86.8	80 - 120			
Molybdenum	43.5882	1.0	0.12	50.0000		87.2	80 - 120			
Nickel	42.4423	1.0	0.18	50.0000		84.9	80 - 120			
Selenium	40.9294	1.0	0.40	50.0000		81.9	80 - 120			
Silver	44.0698	1.0	0.12	50.0000		88.1	80 - 120			
Thallium	43.6014	1.0	0.38	50.0000		87.2	80 - 120			
Vanadium	43.7901	1.0	0.06	50.0000		87.6	80 - 120			
Zinc	42.7615	1.0	0.15	50.0000		85.5	80 - 120			
Matrix Spike (B7J0512-MS1)				**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	85.1956	2.0	0.51	125.000	ND	68.2	33 - 98			
Arsenic	96.4253	1.0	0.12	125.000	ND	77.1	48 - 101			
Barium	211.469	1.0	0.12	125.000	112.544	79.1	25 - 131			
Beryllium	96.6163	1.0	0.03	125.000	ND	77.3	56 - 97			
Cadmium	88.7228	1.0	0.14	125.000	0.217274	70.8	53 - 94			
Chromium	109.976	1.0	0.26	125.000	12.2492	78.2	45 - 113			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0512 - EPA 3050B_S (continued)										
Matrix Spike (B7J0512-MS1) - Continued			**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Cobalt	104.019	1.0	0.07	125.000	11.0846	74.3	51 - 97			
Copper	131.604	2.0	0.19	125.000	27.3024	83.4	51 - 113			
Lead	100.946	1.0	0.18	125.000	15.8065	68.1	33 - 127			
Molybdenum	97.2690	1.0	0.12	125.000	ND	77.8	54 - 97			
Nickel	102.447	1.0	0.18	125.000	12.2521	72.2	46 - 102			
Selenium	93.8541	1.0	0.40	125.000	ND	75.1	52 - 93			
Silver	109.536	1.0	0.12	125.000	ND	87.6	58 - 98			
Thallium	82.6166	1.0	0.38	125.000	ND	66.1	46 - 93			
Vanadium	136.896	1.0	0.06	125.000	35.7809	80.9	55 - 104			
Zinc	156.721	1.0	0.15	125.000	71.1020	68.5	26 - 118			
Matrix Spike Dup (B7J0512-MSD1)			**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Antimony	85.7494	2.0	0.51	125.000	ND	68.6	33 - 98	0.648	20	
Arsenic	97.1357	1.0	0.12	125.000	ND	77.7	48 - 101	0.734	20	
Barium	201.928	1.0	0.12	125.000	112.544	71.5	25 - 131	4.62	20	
Beryllium	97.1872	1.0	0.03	125.000	ND	77.7	56 - 97	0.589	20	
Cadmium	89.6008	1.0	0.14	125.000	0.217274	71.5	53 - 94	0.985	20	
Chromium	109.026	1.0	0.26	125.000	12.2492	77.4	45 - 113	0.868	20	
Cobalt	104.407	1.0	0.07	125.000	11.0846	74.7	51 - 97	0.373	20	
Copper	130.933	2.0	0.19	125.000	27.3024	82.9	51 - 113	0.511	20	
Lead	101.004	1.0	0.18	125.000	15.8065	68.2	33 - 127	0.0567	20	
Molybdenum	98.0695	1.0	0.12	125.000	ND	78.5	54 - 97	0.820	20	
Nickel	102.569	1.0	0.18	125.000	12.2521	72.3	46 - 102	0.119	20	
Selenium	93.9946	1.0	0.40	125.000	ND	75.2	52 - 93	0.150	20	
Silver	109.182	1.0	0.12	125.000	ND	87.3	58 - 98	0.323	20	
Thallium	84.1898	1.0	0.38	125.000	ND	67.4	46 - 93	1.89	20	
Vanadium	132.623	1.0	0.06	125.000	35.7809	77.5	55 - 104	3.17	20	
Zinc	153.308	1.0	0.15	125.000	71.1020	65.8	26 - 118	2.20	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0513 - EPA 3050B_S										
Blank (B7J0513-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0513-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	46.5207	2.0	0.51	50.0000		93.0	80 - 120			
Arsenic	45.4538	1.0	0.12	50.0000		90.9	80 - 120			
Barium	49.9204	1.0	0.12	50.0000		99.8	80 - 120			
Beryllium	46.4558	1.0	0.03	50.0000		92.9	80 - 120			
Cadmium	45.9970	1.0	0.14	50.0000		92.0	80 - 120			
Chromium	49.5866	1.0	0.26	50.0000		99.2	80 - 120			
Cobalt	49.0946	1.0	0.07	50.0000		98.2	80 - 120			
Copper	48.8124	2.0	0.19	50.0000		97.6	80 - 120			
Lead	47.0606	1.0	0.18	50.0000		94.1	80 - 120			
Molybdenum	47.6148	1.0	0.12	50.0000		95.2	80 - 120			
Nickel	47.1630	1.0	0.18	50.0000		94.3	80 - 120			
Selenium	43.8917	1.0	0.40	50.0000		87.8	80 - 120			
Silver	50.0478	1.0	0.12	50.0000		100	80 - 120			
Thallium	47.9518	1.0	0.38	50.0000		95.9	80 - 120			
Vanadium	48.8748	1.0	0.06	50.0000		97.7	80 - 120			
Zinc	47.0921	1.0	0.15	50.0000		94.2	80 - 120			
Matrix Spike (B7J0513-MS1)				**Source: 1703653-25**		Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	86.3357	2.0	0.51	125.000	ND	69.1	33 - 98			
Arsenic	99.3593	1.0	0.12	125.000	1.67277	78.1	48 - 101			
Barium	174.340	1.0	0.12	125.000	63.4571	88.7	25 - 131			
Beryllium	99.5367	1.0	0.03	125.000	ND	79.6	56 - 97			
Cadmium	95.0267	1.0	0.14	125.000	ND	76.0	53 - 94			
Chromium	113.848	1.0	0.26	125.000	11.3153	82.0	45 - 113			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0513 - EPA 3050B_S (continued)										
Matrix Spike (B7J0513-MS1) - Continued			**Source: 1703653-25**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
Cobalt	104.573	1.0	0.07	125.000	6.56633	78.4	51 - 97			
Copper	118.700	2.0	0.19	125.000	9.73521	87.2	51 - 113			
Lead	97.8200	1.0	0.18	125.000	0.930096	77.5	33 - 127			
Molybdenum	99.5364	1.0	0.12	125.000	ND	79.6	54 - 97			
Nickel	104.694	1.0	0.18	125.000	9.07944	76.5	46 - 102			
Selenium	94.7546	1.0	0.40	125.000	ND	75.8	52 - 93			
Silver	113.129	1.0	0.12	125.000	ND	90.5	58 - 98			
Thallium	87.8820	1.0	0.38	125.000	ND	70.3	46 - 93			
Vanadium	126.363	1.0	0.06	125.000	20.1248	85.0	55 - 104			
Zinc	130.724	1.0	0.15	125.000	31.5438	79.3	26 - 118			
Matrix Spike Dup (B7J0513-MSD1)			**Source: 1703653-25**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	88.6622	2.0	0.51	125.000	ND	70.9	33 - 98	2.66	20	
Arsenic	101.471	1.0	0.12	125.000	1.67277	79.8	48 - 101	2.10	20	
Barium	169.425	1.0	0.12	125.000	63.4571	84.8	25 - 131	2.86	20	
Beryllium	100.498	1.0	0.03	125.000	ND	80.4	56 - 97	0.962	20	
Cadmium	95.3203	1.0	0.14	125.000	ND	76.3	53 - 94	0.308	20	
Chromium	114.144	1.0	0.26	125.000	11.3153	82.3	45 - 113	0.259	20	
Cobalt	105.011	1.0	0.07	125.000	6.56633	78.8	51 - 97	0.418	20	
Copper	119.259	2.0	0.19	125.000	9.73521	87.6	51 - 113	0.470	20	
Lead	97.6286	1.0	0.18	125.000	0.930096	77.4	33 - 127	0.196	20	
Molybdenum	101.840	1.0	0.12	125.000	ND	81.5	54 - 97	2.29	20	
Nickel	104.799	1.0	0.18	125.000	9.07944	76.6	46 - 102	0.101	20	
Selenium	95.4904	1.0	0.40	125.000	ND	76.4	52 - 93	0.773	20	
Silver	112.822	1.0	0.12	125.000	ND	90.3	58 - 98	0.271	20	
Thallium	89.2306	1.0	0.38	125.000	ND	71.4	46 - 93	1.52	20	
Vanadium	125.893	1.0	0.06	125.000	20.1248	84.6	55 - 104	0.372	20	
Zinc	127.428	1.0	0.15	125.000	31.5438	76.7	26 - 118	2.55	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0514 - EPA 3050B_S										
Blank (B7J0514-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0514-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	44.8754	2.0	0.51	50.0000		89.8	80 - 120			
Arsenic	44.0749	1.0	0.12	50.0000		88.1	80 - 120			
Barium	48.6405	1.0	0.12	50.0000		97.3	80 - 120			
Beryllium	44.9154	1.0	0.03	50.0000		89.8	80 - 120			
Cadmium	44.1805	1.0	0.14	50.0000		88.4	80 - 120			
Chromium	48.1236	1.0	0.26	50.0000		96.2	80 - 120			
Cobalt	47.3911	1.0	0.07	50.0000		94.8	80 - 120			
Copper	47.1627	2.0	0.19	50.0000		94.3	80 - 120			
Lead	45.5098	1.0	0.18	50.0000		91.0	80 - 120			
Molybdenum	46.6074	1.0	0.12	50.0000		93.2	80 - 120			
Nickel	45.6339	1.0	0.18	50.0000		91.3	80 - 120			
Selenium	42.6339	1.0	0.40	50.0000		85.3	80 - 120			
Silver	48.5596	1.0	0.12	50.0000		97.1	80 - 120			
Thallium	45.8797	1.0	0.38	50.0000		91.8	80 - 120			
Vanadium	47.2307	1.0	0.06	50.0000		94.5	80 - 120			
Zinc	45.3834	1.0	0.15	50.0000		90.8	80 - 120			
Matrix Spike (B7J0514-MS1)				**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	99.7452	2.0	0.51	125.000	ND	79.8	33 - 98			
Arsenic	103.717	1.0	0.12	125.000	0.714668	82.4	48 - 101			
Barium	127.717	1.0	0.12	125.000	14.9466	90.2	25 - 131			
Beryllium	107.156	1.0	0.03	125.000	ND	85.7	56 - 97			
Cadmium	103.290	1.0	0.14	125.000	ND	82.6	53 - 94			
Chromium	113.945	1.0	0.26	125.000	2.86796	88.9	45 - 113			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0514 - EPA 3050B_S (continued)										
Matrix Spike (B7J0514-MS1) - Continued			**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Cobalt	109.483	1.0	0.07	125.000	1.75757	86.2	51 - 97			
Copper	113.994	2.0	0.19	125.000	2.06066	89.5	51 - 113			
Lead	104.033	1.0	0.18	125.000	0.370006	82.9	33 - 127			
Molybdenum	108.330	1.0	0.12	125.000	ND	86.7	54 - 97			
Nickel	107.913	1.0	0.18	125.000	2.31202	84.5	46 - 102			
Selenium	99.8651	1.0	0.40	125.000	ND	79.9	52 - 93			
Silver	117.364	1.0	0.12	125.000	ND	93.9	58 - 98			
Thallium	101.860	1.0	0.38	125.000	ND	81.5	46 - 93			
Vanadium	117.475	1.0	0.06	125.000	5.59419	89.5	55 - 104			
Zinc	113.861	1.0	0.15	125.000	8.67915	84.1	26 - 118			
Matrix Spike Dup (B7J0514-MSD1)			**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Antimony	98.7102	2.0	0.51	125.000	ND	79.0	33 - 98	1.04	20	
Arsenic	103.773	1.0	0.12	125.000	0.714668	82.4	48 - 101	0.0539	20	
Barium	135.508	1.0	0.12	125.000	14.9466	96.4	25 - 131	5.92	20	
Beryllium	103.603	1.0	0.03	125.000	ND	82.9	56 - 97	3.37	20	
Cadmium	101.155	1.0	0.14	125.000	ND	80.9	53 - 94	2.09	20	
Chromium	112.810	1.0	0.26	125.000	2.86796	88.0	45 - 113	1.00	20	
Cobalt	107.790	1.0	0.07	125.000	1.75757	84.8	51 - 97	1.56	20	
Copper	114.003	2.0	0.19	125.000	2.06066	89.6	51 - 113	0.00790	20	
Lead	105.636	1.0	0.18	125.000	0.370006	84.2	33 - 127	1.53	20	
Molybdenum	107.204	1.0	0.12	125.000	ND	85.8	54 - 97	1.05	20	
Nickel	106.278	1.0	0.18	125.000	2.31202	83.2	46 - 102	1.53	20	
Selenium	99.8978	1.0	0.40	125.000	ND	79.9	52 - 93	0.0328	20	
Silver	115.381	1.0	0.12	125.000	ND	92.3	58 - 98	1.70	20	
Thallium	100.274	1.0	0.38	125.000	ND	80.2	46 - 93	1.57	20	
Vanadium	118.562	1.0	0.06	125.000	5.59419	90.4	55 - 104	0.921	20	
Zinc	115.503	1.0	0.15	125.000	8.67915	85.5	26 - 118	1.43	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0914 - EPA 3050B_S										
Blank (B7J0914-BLK1)						Prepared: 10/31/2017 Analyzed: 11/1/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0914-BS1)						Prepared: 10/31/2017 Analyzed: 11/1/2017				
Antimony	47.2629	2.0	0.51	50.0000		94.5	80 - 120			
Arsenic	46.2836	1.0	0.12	50.0000		92.6	80 - 120			
Barium	50.4184	1.0	0.12	50.0000		101	80 - 120			
Beryllium	47.4649	1.0	0.03	50.0000		94.9	80 - 120			
Cadmium	46.4815	1.0	0.14	50.0000		93.0	80 - 120			
Chromium	50.5600	1.0	0.26	50.0000		101	80 - 120			
Cobalt	47.6976	1.0	0.07	50.0000		95.4	80 - 120			
Copper	50.5507	2.0	0.19	50.0000		101	80 - 120			
Lead	48.3161	1.0	0.18	50.0000		96.6	80 - 120			
Molybdenum	49.0683	1.0	0.12	50.0000		98.1	80 - 120			
Nickel	45.8171	1.0	0.18	50.0000		91.6	80 - 120			
Selenium	43.9757	1.0	0.40	50.0000		88.0	80 - 120			
Silver	51.1884	1.0	0.12	50.0000		102	80 - 120			
Thallium	47.9448	1.0	0.38	50.0000		95.9	80 - 120			
Vanadium	50.3659	1.0	0.06	50.0000		101	80 - 120			
Zinc	46.6677	1.0	0.15	50.0000		93.3	80 - 120			
Matrix Spike (B7J0914-MS1)			**Source: 1703653-13RE1**			Prepared: 10/31/2017 Analyzed: 11/1/2017				
Antimony	74.8246	2.0	0.51	125.000	ND	59.9	33 - 98			
Arsenic	93.0384	1.0	0.12	125.000	4.01457	71.2	48 - 101			
Barium	190.896	1.0	0.12	125.000	98.0676	74.3	25 - 131			
Beryllium	90.4578	1.0	0.03	125.000	ND	72.4	56 - 97			
Cadmium	84.1044	1.0	0.14	125.000	0.420542	66.9	53 - 94			
Chromium	109.112	1.0	0.26	125.000	17.7746	73.1	45 - 113			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0914 - EPA 3050B_S (continued)										
Matrix Spike (B7J0914-MS1) - Continued			**Source: 1703653-13RE1**		Prepared: 10/31/2017 Analyzed: 11/1/2017					
Cobalt	92.1824	1.0	0.07	125.000	8.69976	66.8	51 - 97			
Copper	124.746	2.0	0.19	125.000	27.5392	77.8	51 - 113			
Lead	201.782	1.0	0.18	125.000	133.179	54.9	33 - 127			
Molybdenum	92.0352	1.0	0.12	125.000	ND	73.6	54 - 97			
Nickel	95.9636	1.0	0.18	125.000	15.1979	64.6	46 - 102			
Selenium	84.9134	1.0	0.40	125.000	ND	67.9	52 - 93			
Silver	101.927	1.0	0.12	125.000	ND	81.5	58 - 98			
Thallium	77.2187	1.0	0.38	125.000	ND	61.8	46 - 93			
Vanadium	125.532	1.0	0.06	125.000	32.1264	74.7	55 - 104			
Zinc	208.978	1.0	0.15	125.000	122.398	69.3	26 - 118			
Matrix Spike Dup (B7J0914-MSD1)			**Source: 1703653-13RE1**		Prepared: 10/31/2017 Analyzed: 11/1/2017					
Antimony	72.8254	2.0	0.51	125.000	ND	58.3	33 - 98	2.71	20	
Arsenic	89.9830	1.0	0.12	125.000	4.01457	68.8	48 - 101	3.34	20	
Barium	213.836	1.0	0.12	125.000	98.0676	92.6	25 - 131	11.3	20	
Beryllium	89.7414	1.0	0.03	125.000	ND	71.8	56 - 97	0.795	20	
Cadmium	82.4770	1.0	0.14	125.000	0.420542	65.6	53 - 94	1.95	20	
Chromium	108.905	1.0	0.26	125.000	17.7746	72.9	45 - 113	0.190	20	
Cobalt	96.2006	1.0	0.07	125.000	8.69976	70.0	51 - 97	4.27	20	
Copper	128.997	2.0	0.19	125.000	27.5392	81.2	51 - 113	3.35	20	
Lead	182.650	1.0	0.18	125.000	133.179	39.6	33 - 127	9.95	20	
Molybdenum	88.7940	1.0	0.12	125.000	ND	71.0	54 - 97	3.58	20	
Nickel	100.557	1.0	0.18	125.000	15.1979	68.3	46 - 102	4.67	20	
Selenium	84.1308	1.0	0.40	125.000	ND	67.3	52 - 93	0.926	20	
Silver	100.359	1.0	0.12	125.000	ND	80.3	58 - 98	1.55	20	
Thallium	73.5252	1.0	0.38	125.000	ND	58.8	46 - 93	4.90	20	
Vanadium	128.234	1.0	0.06	125.000	32.1264	76.9	55 - 104	2.13	20	
Zinc	218.179	1.0	0.15	125.000	122.398	76.6	26 - 118	4.31	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0818 - EPA 3010A_S										
Blank (B7J0818-BLK1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.050	0.0047							
Blank (B7J0818-BLK2)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.050	0.0047							
LCS (B7J0818-BS1)					Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	0.937282	0.050	0.0047	1.00000		93.7	80 - 120			
Duplicate (B7J0818-DUP1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	ND	0.50	0.047		0.055943			NR	20	
Duplicate (B7J0818-DUP2)			**Source: 1703720-02**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	0.913033	0.62	0.059		0.821568			10.5	20	
Matrix Spike (B7J0818-MS1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	2.32879	0.50	0.047	2.50000	0.055943	90.9	78 - 109			
Matrix Spike (B7J0818-MS2)			**Source: 1703653-04**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	11.7478	0.25	0.024	2.50000	0.040223	468	78 - 109			M1
Matrix Spike Dup (B7J0818-MSD1)			**Source: 1703718-01**		Prepared: 10/27/2017 Analyzed: 10/27/2017					
Lead	2.28561	0.50	0.047	2.50000	0.055943	89.2	78 - 109	1.87	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0849 - STLC_S Extraction										
Blank (B7J0849-BLK1)						Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	ND	1.0	0.076							
Lead	ND	1.0	0.094							
LCS (B7J0849-BS1)						Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	1.82832			2.00000		91.4	80 - 120			
Lead	1.94441			2.00000		97.2	80 - 120			
Matrix Spike (B7J0849-MS1)			**Source: 1703641-02**			Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	4.54437			2.50000	2.49998	81.8	62 - 129			
Lead	7.43540			2.50000	5.75609	67.2	44 - 130			
Matrix Spike Dup (B7J0849-MSD1)			**Source: 1703641-02**			Prepared: 10/30/2017 Analyzed: 10/30/2017				
Copper	4.56573			2.50000	2.49998	82.6	62 - 129	0.469	20	
Lead	7.68783			2.50000	5.75609	77.3	44 - 130	3.34	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7K0042 - STLC_S Extraction										
Blank (B7K0042-BLK1)					Prepared: 11/2/2017 Analyzed: 11/2/2017					
Copper	ND	1.0	0.076							
Lead	ND	1.0	0.094							
LCS (B7K0042-BS1)					Prepared: 11/2/2017 Analyzed: 11/2/2017					
Copper	1.90442			2.00000		95.2	80 - 120			
Lead	1.93454			2.00000		96.7	80 - 120			
Matrix Spike (B7K0042-MS1)			**Source: 1703653-13RE1**		Prepared: 11/2/2017 Analyzed: 11/2/2017					
Copper	3.13407			2.50000	1.01489	84.8	62 - 129			
Lead	3.98799			2.50000	1.93875	82.0	44 - 130			
Matrix Spike Dup (B7K0042-MSD1)			**Source: 1703653-13RE1**		Prepared: 11/2/2017 Analyzed: 11/2/2017					
Copper	3.08973			2.50000	1.01489	83.0	62 - 129	1.42	20	
Lead	4.02118			2.50000	1.93875	83.3	44 - 130	0.829	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0458 - EPA 245.1/7470_W										
Blank (B7J0458-BLK1)					Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	ND	0.20	0.05							
LCS (B7J0458-BS1)					Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	9.54958	0.20	0.05	10.0000		95.5	80 - 120			
Matrix Spike (B7J0458-MS1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	9.82494	0.20	0.05	10.0000	0.066603	97.6	70 - 130			
Matrix Spike Dup (B7J0458-MSD1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	10.2498	0.20	0.05	10.0000	0.066603	102	70 - 130	4.23	20	
Post Spike (B7J0458-PS1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	4.94797			5.00000	0.066603	97.6	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0517 - EPA 7471_S										
Blank (B7J0517-BLK1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0517-BS1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.709973	0.10	0.005	0.833333		85.2	80 - 120			
Matrix Spike (B7J0517-MS1)			**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.799106	0.10	0.005	0.833333	0.086615	85.5	70 - 130			
Matrix Spike Dup (B7J0517-MSD1)			**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.782249	0.10	0.005	0.833333	0.086615	83.5	70 - 130	2.13	20	
Post Spike (B7J0517-PS1)			**Source: 1703653-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.006157			5.00000E-3	0.001039	102	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0518 - EPA 7471_S										
Blank (B7J0518-BLK1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0518-BS1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.787788	0.10	0.005	0.833333		94.5	80 - 120			
Matrix Spike (B7J0518-MS1)			**Source: 1703653-25**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.877261	0.10	0.005	0.833333	0.026099	102	70 - 130			
Matrix Spike Dup (B7J0518-MSD1)			**Source: 1703653-25**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.862597	0.10	0.005	0.833333	0.026099	100	70 - 130	1.69	20	
Post Spike (B7J0518-PS1)			**Source: 1703653-25**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.005830			5.00000E-3	3.132E-4	110	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0519 - EPA 7471_S										
Blank (B7J0519-BLK1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0519-BS1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.795421	0.10	0.005	0.833333		95.5	80 - 120			
Matrix Spike (B7J0519-MS1)			**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	1.06796	0.10	0.005	0.833333	0.215105	102	70 - 130			
Matrix Spike Dup (B7J0519-MSD1)			**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.996882	0.10	0.005	0.833333	0.215105	93.8	70 - 130	6.89	20	
Post Spike (B7J0519-PS1)			**Source: 1703653-45**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	8.6043E-3			5.00000E-3	0.002581	120	85 - 115			M1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

STLC Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0854 - EPA 245.1/7470_S										
Blank (B7J0854-BLK1)					Prepared: 10/30/2017 Analyzed: 10/30/2017					
Mercury	ND	0.20	0.05							
LCS (B7J0854-BS1)					Prepared: 10/30/2017 Analyzed: 10/30/2017					
Mercury	9.99994	0.20	0.05	10.0000		100	80 - 120			
Matrix Spike (B7J0854-MS1)			**Source: 1703653-04**		Prepared: 10/30/2017 Analyzed: 10/30/2017					
Mercury	48.5370	1.0	0.23	50.0000	ND	97.1	70 - 130			
Matrix Spike Dup (B7J0854-MSD1)			**Source: 1703653-04**		Prepared: 10/30/2017 Analyzed: 10/30/2017					
Mercury	48.7846	1.0	0.23	50.0000	ND	97.6	70 - 130	0.509	20	
Post Spike (B7J0854-PS1)			**Source: 1703653-04**		Prepared: 10/30/2017 Analyzed: 10/30/2017					
Mercury	5.14350			5.00000	-0.002775	103	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

TCLP Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0833 - EPA 245.1/7470_S										
Blank (B7J0833-BLK1)					Prepared: 10/27/2017 Analyzed: 10/30/2017					
Mercury	ND	0.20	0.05							
LCS (B7J0833-BS1)					Prepared: 10/27/2017 Analyzed: 10/30/2017					
Mercury	10.0418	0.20	0.05	10.0000		100	80 - 120			
Matrix Spike (B7J0833-MS1)			**Source: 1703653-04**		Prepared: 10/27/2017 Analyzed: 10/30/2017					
Mercury	9.95622	0.20	0.05	10.0000	0.080743	98.8	70 - 130			
Matrix Spike Dup (B7J0833-MSD1)			**Source: 1703653-04**		Prepared: 10/27/2017 Analyzed: 10/30/2017					
Mercury	9.87210	0.20	0.05	10.0000	0.080743	97.9	70 - 130	0.849	20	
Post Spike (B7J0833-PS1)			**Source: 1703653-04**		Prepared: 10/27/2017 Analyzed: 10/30/2017					
Mercury	4.91872			5.00000	0.080743	96.8	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0311 - GCVOA_S										
Blank (B7J0311-BLK1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2162*			*0.200000*		*108*	*50 - 138*			
LCS (B7J0311-BS1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	4.43100	1.0	0.20	5.00000		88.6	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2087*			*0.200000*		*104*	*50 - 138*			
Matrix Spike (B7J0311-MS1)			**Source: 1703658-01**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.83600	1.0	0.20	5.00000	ND	76.7	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2319*			*0.200000*		*116*	*50 - 138*			
Matrix Spike Dup (B7J0311-MSD1)			**Source: 1703658-01**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.65500	1.0	0.20	5.00000	ND	73.1	17 - 141	4.83	20	
Surrogate: 4-Bromofluorobenzene	*0.2203*			*0.200000*		*110*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0337 - GCVOA_S										
Blank (B7J0337-BLK1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2175*			*0.200000*		*109*	*50 - 138*			
LCS (B7J0337-BS1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	4.75300	1.0	0.20	5.00000		95.1	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2192*			*0.200000*		*110*	*50 - 138*			
Matrix Spike (B7J0337-MS1)			**Source: 1703653-01**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.29800	1.0	0.20	5.00000	ND	66.0	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2209*			*0.200000*		*110*	*50 - 138*			
Matrix Spike Dup (B7J0337-MSD1)			**Source: 1703653-01**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.45900	1.0	0.20	5.00000	ND	69.2	17 - 141	4.77	20	
Surrogate: 4-Bromofluorobenzene	*0.2225*			*0.200000*		*111*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0349 - GCVOA_S										
Blank (B7J0349-BLK1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2160*			*0.200000*		*108*	*50 - 138*			
LCS (B7J0349-BS1)						Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	4.44400	1.0	0.20	5.00000		88.9	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2107*			*0.200000*		*105*	*50 - 138*			
Matrix Spike (B7J0349-MS1)			**Source: 1703653-23**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.81800	1.0	0.20	5.00000	ND	76.4	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2287*			*0.200000*		*114*	*50 - 138*			
Matrix Spike Dup (B7J0349-MSD1)			**Source: 1703653-23**			Prepared: 10/14/2017 Analyzed: 10/14/2017				
Gasoline Range Organics	3.42900	1.0	0.20	5.00000	ND	68.6	17 - 141	10.7	20	
Surrogate: 4-Bromofluorobenzene	*0.2234*			*0.200000*		*112*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0362 - GCVOA_S										
Blank (B7J0362-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2112*			*0.400000*		*52.8*	*50 - 138*			
LCS (B7J0362-BS1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	4.55900	1.0	0.20	5.00000		91.2	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2227*			*0.400000*		*55.7*	*50 - 138*			
Duplicate (B7J0362-DUP1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2124*			*0.400000*		*53.1*	*50 - 138*			
Matrix Spike (B7J0362-MS1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	3.95500	1.0	0.20	5.00000	ND	79.1	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2115*			*0.400000*		*52.9*	*50 - 138*			
Matrix Spike Dup (B7J0362-MSD1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	3.51900	1.0	0.20	5.00000	ND	70.4	17 - 141	11.7	20	
Surrogate: 4-Bromofluorobenzene	*0.2040*			*0.400000*		*51.0*	*50 - 138*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0434 - GCVOA_W										
Blank (B7J0434-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	ND	0.05	0.05							
Surrogate: 4-Bromofluorobenzene	*0.1009*			*0.100000*		*101*	*70 - 130*			
LCS (B7J0434-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	0.736000	0.05	0.05	1.00000		73.6	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1016*			*0.100000*		*102*	*70 - 130*			
LCS Dup (B7J0434-BSD1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	0.848000	0.05	0.05	1.00000		84.8	70 - 130	14.1	20	
Surrogate: 4-Bromofluorobenzene	*0.1029*			*0.100000*		*103*	*70 - 130*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0338 - GCSEMI_DRO_W										
Blank (B7J0338-BLK1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	ND	0.05	0.05							
ORO	ND	0.05	0.05							
Surrogate: p-Terphenyl	*0.1079*			*8.00000E-2*		*135*	*20 - 150*			
LCS (B7J0338-BS1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	0.547070	0.05	0.05	1.00000		54.7	42 - 142			
Surrogate: p-Terphenyl	*0.1020*			*8.00000E-2*		*128*	*20 - 150*			
LCS Dup (B7J0338-BSD1)						Prepared: 10/13/2017 Analyzed: 10/14/2017				
DRO	0.504190	0.05	0.05	1.00000		50.4	42 - 142	8.16	20	
Surrogate: p-Terphenyl	*0.1056*			*8.00000E-2*		*132*	*20 - 150*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0525 - GCSEMI_DRO_LL_S										
Blank (B7J0525-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*3.572*			*2.66667*		*134*	*38 - 145*			
LCS (B7J0525-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	31.1437	1.0	1.0	33.3333		93.4	33 - 143			
Surrogate: p-Terphenyl	*3.401*			*2.66667*		*128*	*38 - 145*			
Matrix Spike (B7J0525-MS1)			**Source: 1703653-16**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	37.2963	1.0	1.0	33.3333	32.4327	14.6	20 - 159			M1
Surrogate: p-Terphenyl	*3.647*			*2.66667*		*137*	*38 - 145*			
Matrix Spike Dup (B7J0525-MSD1)			**Source: 1703653-16**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	41.7943	1.0	1.0	33.3333	32.4327	28.1	20 - 159	11.4	20	
Surrogate: p-Terphenyl	*3.867*			*5.33333*		*72.5*	*38 - 145*			

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0547 - GCSEMI_DRO_LL_S										
Blank (B7J0547-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*4.911*			*5.33333*		*92.1*	*38 - 145*			
LCS (B7J0547-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	43.0820	1.0	1.0	33.3333		129	33 - 143			
Surrogate: p-Terphenyl	*5.111*			*5.33333*		*95.8*	*38 - 145*			
Matrix Spike (B7J0547-MS1)			**Source: 1703653-39**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	42.8017	1.0	1.0	33.3333	12.4963	90.9	20 - 159			
Surrogate: p-Terphenyl	*4.301*			*5.33333*		*80.6*	*38 - 145*			
Matrix Spike Dup (B7J0547-MSD1)			**Source: 1703653-39**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
DRO	40.4547	1.0	1.0	33.3333	12.4963	83.9	20 - 159	5.64	20	
Surrogate: p-Terphenyl	*4.121*			*5.33333*		*77.3*	*38 - 145*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0581 - GCSEMI_DRO_LL_S										
Blank (B7J0581-BLK1)						Prepared: 10/19/2017 Analyzed: 10/19/2017				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*3.053*			*2.66667*		*114*	*38 - 145*			
LCS (B7J0581-BS1)						Prepared: 10/19/2017 Analyzed: 10/19/2017				
DRO	33.9177	1.0	1.0	33.3333		102	33 - 143			
Surrogate: p-Terphenyl	*3.107*			*2.66667*		*117*	*38 - 145*			
Matrix Spike (B7J0581-MS1)			**Source: 1703653-45**			Prepared: 10/19/2017 Analyzed: 10/19/2017				
DRO	31.4457	1.0	1.0	33.3333	3.99100	82.4	20 - 159			
Surrogate: p-Terphenyl	*2.185*			*2.66667*		*81.9*	*38 - 145*			
Matrix Spike Dup (B7J0581-MSD1)			**Source: 1703653-45**			Prepared: 10/19/2017 Analyzed: 10/19/2017				
DRO	29.1940	1.0	1.0	33.3333	3.99100	75.6	20 - 159	7.43	20	
Surrogate: p-Terphenyl	*1.957*			*2.66667*		*73.4*	*38 - 145*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0724 - GCSEMI_PCB/PEST_S										
Blank (B7J0724-BLK2)						Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*13.23*			*16.6667*		*79.4*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.64*			*16.6667*		*87.8*	*30 - 130*			
LCS (B7J0724-BS2)						Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	149.223	16	4.6	166.667		89.5	73 - 111			
Aroclor 1260	155.316	16	4.6	166.667		93.2	75 - 125			
Surrogate: Decachlorobiphenyl	*13.98*			*16.6667*		*83.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.23*			*16.6667*		*91.4*	*30 - 130*			
Matrix Spike (B7J0724-MS3)			**Source: 1703770-02**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	77.6048	16	4.6	166.667	ND	46.6	36 - 127			
Aroclor 1260	86.5117	16	4.6	166.667	ND	51.9	31 - 142			
Surrogate: Decachlorobiphenyl	*7.514*			*16.6667*		*45.1*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*6.630*			*16.6667*		*39.8*	*30 - 130*			
Matrix Spike (B7J0724-MS4)			**Source: 1703770-03**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	89.5710	16	4.6	166.667	ND	53.7	36 - 127			
Aroclor 1260	95.6437	16	4.6	166.667	ND	57.4	31 - 142			
Surrogate: Decachlorobiphenyl	*8.150*			*16.6667*		*48.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*8.857*			*16.6667*		*53.1*	*30 - 130*			
Matrix Spike Dup (B7J0724-MSD3)			**Source: 1703770-02**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	87.3318	16	4.6	166.667	ND	52.4	36 - 127	11.8	20	
Aroclor 1260	82.0210	16	4.6	166.667	ND	49.2	31 - 142	5.33	20	
Surrogate: Decachlorobiphenyl	*6.951*			*16.6667*		*41.7*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*6.484*			*16.6667*		*38.9*	*30 - 130*			
Matrix Spike Dup (B7J0724-MSD4)			**Source: 1703770-03**			Prepared: 10/24/2017 Analyzed: 10/25/2017				
Aroclor 1016	100.878	16	4.6	166.667	ND	60.5	36 - 127	11.9	20	
Aroclor 1260	102.184	16	4.6	166.667	ND	61.3	31 - 142	6.61	20	
Surrogate: Decachlorobiphenyl	*9.008*			*16.6667*		*54.0*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*9.429*			*16.6667*		*56.6*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0770 - GCSEMI_PCB/PEST_S										
Blank (B7J0770-BLK1)						Prepared: 10/25/2017 Analyzed: 10/25/2017				
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*9.262*			*16.6667*		*55.6*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.52*			*16.6667*		*87.1*	*30 - 130*			
LCS (B7J0770-BS1)						Prepared: 10/25/2017 Analyzed: 10/25/2017				
Aroclor 1016	154.310	16	4.6	166.667		92.6	73 - 111			
Aroclor 1260	153.660	16	4.6	166.667		92.2	75 - 125			
Surrogate: Decachlorobiphenyl	*10.31*			*16.6667*		*61.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.73*			*16.6667*		*94.4*	*30 - 130*			
Matrix Spike (B7J0770-MS1)			**Source: 1703653-47**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
Aroclor 1016	163.694	16	4.6	166.667	ND	98.2	36 - 127			
Aroclor 1260	143.278	16	4.6	166.667	19.3135	74.4	31 - 142			
Surrogate: Decachlorobiphenyl	*6.911*			*16.6667*		*41.5*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*13.12*			*16.6667*		*78.7*	*30 - 130*			
Matrix Spike Dup (B7J0770-MSD1)			**Source: 1703653-47**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
Aroclor 1016	145.422	16	4.6	166.667	ND	87.3	36 - 127	11.8	20	
Aroclor 1260	138.026	16	4.6	166.667	19.3135	71.2	31 - 142	3.73	20	
Surrogate: Decachlorobiphenyl	*6.632*			*16.6667*		*39.8*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*13.38*			*16.6667*		*80.3*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W										
Blank (B7J0319-BLK1)							Prepared: 10/13/2017 Analyzed: 10/13/2017			
1,1,1,2-Tetrachloroethane	ND	0.50	0.13							
1,1,1-Trichloroethane	ND	0.50	0.38							
1,1,2,2-Tetrachloroethane	ND	0.50	0.20							
1,1,2-Trichloroethane	ND	0.50	0.19							
1,1-Dichloroethane	ND	0.50	0.20							
1,1-Dichloroethene	ND	0.50	0.28							
1,1-Dichloropropene	ND	0.50	0.36							
1,2,3-Trichloropropane	ND	0.50	0.16							
1,2,3-Trichlorobenzene	ND	0.50	0.06							
1,2,4-Trichlorobenzene	ND	0.50	0.07							
1,2,4-Trimethylbenzene	ND	0.50	0.09							
1,2-Dibromo-3-chloropropane	ND	0.50	0.20							
1,2-Dibromoethane	ND	0.50	0.13							
1,2-Dichlorobenzene	ND	0.50	0.12							
1,2-Dichloroethane	ND	0.50	0.39							
1,2-Dichloropropane	ND	0.50	0.47							
1,3,5-Trimethylbenzene	ND	0.50	0.08							
1,3-Dichlorobenzene	ND	0.50	0.13							
1,3-Dichloropropane	ND	0.50	0.08							
1,4-Dichlorobenzene	ND	0.50	0.18							
2,2-Dichloropropane	ND	0.50	0.23							
2-Chlorotoluene	ND	0.50	0.12							
4-Chlorotoluene	ND	0.50	0.11							
4-Isopropyltoluene	ND	0.50	0.12							
Benzene	ND	0.50	0.21							
Bromobenzene	ND	0.50	0.12							
Bromochloromethane	ND	0.50	0.10							
Bromodichloromethane	ND	0.50	0.32							
Bromoform	ND	0.50	0.14							
Bromomethane	ND	0.50	0.22							
Carbon disulfide	ND	1.0	0.21							
Carbon tetrachloride	ND	0.50	0.31							
Chlorobenzene	ND	0.50	0.16							
Chloroethane	ND	0.50	0.29							
Chloroform	ND	0.50	0.16							
Chloromethane	ND	0.50	0.19							
cis-1,2-Dichloroethene	ND	0.50	0.39							
cis-1,3-Dichloropropene	ND	0.50	0.08							
Di-isopropyl ether	ND	0.50	0.14							
Dibromochloromethane	ND	0.50	0.11							
Dibromomethane	ND	0.50	0.09							

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
Blank (B7J0319-BLK1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Dichlorodifluoromethane	ND	0.50	0.31							
Ethyl Acetate	ND	10	1.1							
Ethyl Ether	ND	10	1.4							
Ethyl tert-butyl ether	ND	0.50	0.08							
Ethylbenzene	ND	0.50	0.08							
Freon-113	ND	0.50	0.34							
Hexachlorobutadiene	ND	0.50	0.22							
Isopropylbenzene	ND	0.50	0.10							
m,p-Xylene	ND	1.0	0.18							
Methylene chloride	ND	1.0	0.26							
MTBE	ND	0.50	0.09							
n-Butylbenzene	ND	0.50	0.15							
n-Propylbenzene	ND	0.50	0.14							
Naphthalene	ND	0.50	0.09							
o-Xylene	ND	0.50	0.04							
sec-Butylbenzene	ND	0.50	0.15							
Styrene	ND	0.50	0.05							
tert-Amyl methyl ether	ND	0.50	0.10							
tert-Butanol	ND	10	3.0							
tert-Butylbenzene	ND	0.50	0.11							
Tetrachloroethene	ND	0.50	0.18							
Toluene	ND	0.50	0.14							
trans-1,2-Dichloroethene	ND	0.50	0.15							
trans-1,3-Dichloropropene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.15							
Trichlorofluoromethane	ND	0.50	0.33							
Vinyl acetate	ND	10	1.9							
Vinyl chloride	ND	0.50	0.25							
Surrogate: 1,2-Dichloroethane-d4	*24.67*			*25.0000*		*98.7*	*70 - 166*			
Surrogate: 4-Bromofluorobenzene	*23.05*			*25.0000*		*92.2*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.32*			*25.0000*		*101*	*80 - 150*			
Surrogate: Toluene-d8	*25.18*			*25.0000*		*101*	*87 - 121*			
LCS (B7J0319-BS1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1,1,2-Tetrachloroethane	7.43000	0.50	0.13	10.0000		74.3	73 - 136			
1,1,1-Trichloroethane	9.16000	0.50	0.38	10.0000		91.6	73 - 143			
1,1,2,2-Tetrachloroethane	9.50000	0.50	0.20	10.0000		95.0	62 - 127			
1,1,2-Trichloroethane	10.3500	0.50	0.19	10.0000		104	72 - 122			
1,1-Dichloroethane	10.0700	0.50	0.20	10.0000		101	73 - 138			
1,1-Dichloroethene	9.99000	0.50	0.28	10.0000		99.9	74 - 132			
1,1-Dichloropropene	13.1800	0.50	0.36	10.0000		132	70 - 143			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS (B7J0319-BS1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,2,3-Trichloropropane	10.3200	0.50	0.16	10.0000		103	66 - 119			
1,2,3-Trichlorobenzene	10.1600	0.50	0.06	10.0000		102	70 - 131			
1,2,4-Trichlorobenzene	10.1400	0.50	0.07	10.0000		101	70 - 128			
1,2,4-Trimethylbenzene	10.2400	0.50	0.09	10.0000		102	74 - 142			
1,2-Dibromo-3-chloropropane	6.24000	0.50	0.20	10.0000		62.4	56 - 118			
1,2-Dibromoethane	10.4100	0.50	0.13	10.0000		104	73 - 122			
1,2-Dichlorobenzene	10.4900	0.50	0.12	10.0000		105	75 - 128			
1,2-Dichloroethane	13.3700	0.50	0.39	10.0000		134	70 - 131			L4
1,2-Dichloropropane	10.6900	0.50	0.47	10.0000		107	69 - 124			
1,3,5-Trimethylbenzene	10.3000	0.50	0.08	10.0000		103	73 - 144			
1,3-Dichlorobenzene	10.5500	0.50	0.13	10.0000		106	75 - 131			
1,3-Dichloropropane	10.5900	0.50	0.08	10.0000		106	70 - 122			
1,4-Dichlorobenzene	10.5200	0.50	0.18	10.0000		105	75 - 127			
2,2-Dichloropropane	8.20000	0.50	0.23	10.0000		82.0	68 - 151			
2-Chlorotoluene	10.2100	0.50	0.12	10.0000		102	72 - 138			
4-Chlorotoluene	10.0800	0.50	0.11	10.0000		101	72 - 140			
4-Isopropyltoluene	10.4200	0.50	0.12	10.0000		104	74 - 149			
Benzene	27.1300	0.50	0.21	20.0000		136	67 - 138			
Bromobenzene	10.4900	0.50	0.12	10.0000		105	73 - 127			
Bromochloromethane	10.0900	0.50	0.10	10.0000		101	74 - 123			
Bromodichloromethane	8.40000	0.50	0.32	10.0000		84.0	74 - 129			
Bromoform	6.12000	0.50	0.14	10.0000		61.2	63 - 131			L4
Bromomethane	16.3300	0.50	0.22	10.0000		163	57 - 216			
Carbon disulfide	10.2300	1.0	0.21	10.0000		102	81 - 147			
Carbon tetrachloride	9.47000	0.50	0.31	10.0000		94.7	77 - 151			
Chlorobenzene	10.1800	0.50	0.16	10.0000		102	73 - 125			
Chloroethane	11.2000	0.50	0.29	10.0000		112	54 - 154			
Chloroform	10.3200	0.50	0.16	10.0000		103	77 - 132			
Chloromethane	5.64000	0.50	0.19	10.0000		56.4	57 - 142			L4
cis-1,2-Dichloroethene	9.86000	0.50	0.39	10.0000		98.6	73 - 126			
cis-1,3-Dichloropropene	8.28000	0.50	0.08	10.0000		82.8	76 - 120			
Di-isopropyl ether	9.00000	0.50	0.14	10.0000		90.0	54 - 147			
Dibromochloromethane	7.27000	0.50	0.11	10.0000		72.7	71 - 126			
Dibromomethane	10.0000	0.50	0.09	10.0000		100	73 - 121			
Dichlorodifluoromethane	8.66000	0.50	0.31	10.0000		86.6	48 - 152			
Ethyl Acetate	95.8800	10	1.1	100.000		95.9	50 - 144			
Ethyl Ether	94.3500	10	1.4	100.000		94.4	67 - 140			
Ethyl tert-butyl ether	8.68000	0.50	0.08	10.0000		86.8	58 - 137			
Ethylbenzene	20.9500	0.50	0.08	20.0000		105	72 - 134			
Freon-113	11.3900	0.50	0.34	10.0000		114	75 - 157			
Hexachlorobutadiene	10.1900	0.50	0.22	10.0000		102	72 - 139			
Isopropylbenzene	10.4400	0.50	0.10	10.0000		104	73 - 146			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS (B7J0319-BS1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
m,p-Xylene	20.3800	1.0	0.18	20.0000		102	75 - 138			
Methylene chloride	9.38000	1.0	0.26	10.0000		93.8	52 - 154			
MTBE	8.97000	0.50	0.09	10.0000		89.7	62 - 129			
n-Butylbenzene	10.7000	0.50	0.15	10.0000		107	72 - 151			
n-Propylbenzene	10.7300	0.50	0.14	10.0000		107	69 - 149			
Naphthalene	10.2600	0.50	0.09	10.0000		103	61 - 122			
o-Xylene	20.4900	0.50	0.04	20.0000		102	66 - 147			
sec-Butylbenzene	10.6400	0.50	0.15	10.0000		106	72 - 148			
Styrene	9.95000	0.50	0.05	10.0000		99.5	72 - 138			
tert-Amyl methyl ether	8.61000	0.50	0.10	10.0000		86.1	53 - 122			
tert-Butanol	35.6900	10	3.0	50.0000		71.4	21 - 149			
tert-Butylbenzene	10.3600	0.50	0.11	10.0000		104	70 - 145			
Tetrachloroethene	10.4100	0.50	0.18	10.0000		104	61 - 145			
Toluene	21.3400	0.50	0.14	20.0000		107	70 - 140			
trans-1,2-Dichloroethene	10.1800	0.50	0.15	10.0000		102	73 - 130			
trans-1,3-Dichloropropene	7.14000	0.50	0.09	10.0000		71.4	72 - 129			L4
Trichloroethene	10.5000	0.50	0.15	10.0000		105	69 - 126			
Trichlorofluoromethane	11.2000	0.50	0.33	10.0000		112	70 - 159			
Vinyl acetate	80.0100	10	1.9	100.000		80.0	69 - 170			
Vinyl chloride	9.61000	0.50	0.25	10.0000		96.1	56 - 151			
Surrogate: 1,2-Dichloroethane-d4	*24.98*			*25.0000*		*99.9*	*70 - 166*			
Surrogate: 4-Bromofluorobenzene	*24.03*			*25.0000*		*96.1*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.30*			*25.0000*		*101*	*80 - 150*			
Surrogate: Toluene-d8	*24.91*			*25.0000*		*99.6*	*87 - 121*			
LCS Dup (B7J0319-BSD1)					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,1,1,2-Tetrachloroethane	7.41000	0.50	0.13	10.0000		74.1	73 - 136	0.270	20	
1,1,1-Trichloroethane	9.63000	0.50	0.38	10.0000		96.3	73 - 143	5.00	20	
1,1,2,2-Tetrachloroethane	9.37000	0.50	0.20	10.0000		93.7	62 - 127	1.38	20	
1,1,2-Trichloroethane	10.4100	0.50	0.19	10.0000		104	72 - 122	0.578	20	
1,1-Dichloroethane	10.3600	0.50	0.20	10.0000		104	73 - 138	2.84	20	
1,1-Dichloroethene	10.3300	0.50	0.28	10.0000		103	74 - 132	3.35	20	
1,1-Dichloropropene	13.5800	0.50	0.36	10.0000		136	70 - 143	2.99	20	
1,2,3-Trichloropropane	10.1300	0.50	0.16	10.0000		101	66 - 119	1.86	20	
1,2,3-Trichlorobenzene	10.1500	0.50	0.06	10.0000		102	70 - 131	0.0985	20	
1,2,4-Trichlorobenzene	9.99000	0.50	0.07	10.0000		99.9	70 - 128	1.49	20	
1,2,4-Trimethylbenzene	10.2100	0.50	0.09	10.0000		102	74 - 142	0.293	20	
1,2-Dibromo-3-chloropropane	6.13000	0.50	0.20	10.0000		61.3	56 - 118	1.78	20	
1,2-Dibromoethane	10.2900	0.50	0.13	10.0000		103	73 - 122	1.16	20	
1,2-Dichlorobenzene	10.5000	0.50	0.12	10.0000		105	75 - 128	0.0953	20	
1,2-Dichloroethane	12.8400	0.50	0.39	10.0000		128	70 - 131	4.04	20	

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618.005
Report To : Brynn McCulloch
Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS Dup (B7J0319-BSD1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
1,2-Dichloropropane	10.7400	0.50	0.47	10.0000		107	69 - 124	0.467	20	
1,3,5-Trimethylbenzene	10.2400	0.50	0.08	10.0000		102	73 - 144	0.584	20	
1,3-Dichlorobenzene	10.5500	0.50	0.13	10.0000		106	75 - 131	0.00	20	
1,3-Dichloropropane	10.5400	0.50	0.08	10.0000		105	70 - 122	0.473	20	
1,4-Dichlorobenzene	10.4100	0.50	0.18	10.0000		104	75 - 127	1.05	20	
2,2-Dichloropropane	8.14000	0.50	0.23	10.0000		81.4	68 - 151	0.734	20	
2-Chlorotoluene	10.1800	0.50	0.12	10.0000		102	72 - 138	0.294	20	
4-Chlorotoluene	10.1200	0.50	0.11	10.0000		101	72 - 140	0.396	20	
4-Isopropyltoluene	10.3200	0.50	0.12	10.0000		103	74 - 149	0.964	20	
Benzene	28.3500	0.50	0.21	20.0000		142	67 - 138	4.40	20	L4
Bromobenzene	10.4600	0.50	0.12	10.0000		105	73 - 127	0.286	20	
Bromochloromethane	10.1700	0.50	0.10	10.0000		102	74 - 123	0.790	20	
Bromodichloromethane	8.68000	0.50	0.32	10.0000		86.8	74 - 129	3.28	20	
Bromoform	6.11000	0.50	0.14	10.0000		61.1	63 - 131	0.164	20	L4
Bromomethane	16.9000	0.50	0.22	10.0000		169	57 - 216	3.43	20	
Carbon disulfide	10.6700	1.0	0.21	10.0000		107	81 - 147	4.21	20	
Carbon tetrachloride	9.68000	0.50	0.31	10.0000		96.8	77 - 151	2.19	20	
Chlorobenzene	10.2200	0.50	0.16	10.0000		102	73 - 125	0.392	20	
Chloroethane	11.5100	0.50	0.29	10.0000		115	54 - 154	2.73	20	
Chloroform	10.6300	0.50	0.16	10.0000		106	77 - 132	2.96	20	
Chloromethane	5.59000	0.50	0.19	10.0000		55.9	57 - 142	0.890	20	L4
cis-1,2-Dichloroethene	10.1300	0.50	0.39	10.0000		101	73 - 126	2.70	20	
cis-1,3-Dichloropropene	8.26000	0.50	0.08	10.0000		82.6	76 - 120	0.242	20	
Di-isopropyl ether	9.44000	0.50	0.14	10.0000		94.4	54 - 147	4.77	20	
Dibromochloromethane	7.14000	0.50	0.11	10.0000		71.4	71 - 126	1.80	20	
Dibromomethane	10.3200	0.50	0.09	10.0000		103	73 - 121	3.15	20	
Dichlorodifluoromethane	8.66000	0.50	0.31	10.0000		86.6	48 - 152	0.00	20	
Ethyl Acetate	97.6000	10	1.1	100.000		97.6	50 - 144	1.78	20	
Ethyl Ether	96.4500	10	1.4	100.000		96.4	67 - 140	2.20	20	
Ethyl tert-butyl ether	8.98000	0.50	0.08	10.0000		89.8	58 - 137	3.40	20	
Ethylbenzene	21.1400	0.50	0.08	20.0000		106	72 - 134	0.903	20	
Freon-113	11.5900	0.50	0.34	10.0000		116	75 - 157	1.74	20	
Hexachlorobutadiene	10.1700	0.50	0.22	10.0000		102	72 - 139	0.196	20	
Isopropylbenzene	10.3400	0.50	0.10	10.0000		103	73 - 146	0.962	20	
m,p-Xylene	20.4300	1.0	0.18	20.0000		102	75 - 138	0.245	20	
Methylene chloride	9.82000	1.0	0.26	10.0000		98.2	52 - 154	4.58	20	
MTBE	9.11000	0.50	0.09	10.0000		91.1	62 - 129	1.55	20	
n-Butylbenzene	10.6000	0.50	0.15	10.0000		106	72 - 151	0.939	20	
n-Propylbenzene	10.6800	0.50	0.14	10.0000		107	69 - 149	0.467	20	
Naphthalene	9.85000	0.50	0.09	10.0000		98.5	61 - 122	4.08	20	
o-Xylene	20.2200	0.50	0.04	20.0000		101	66 - 147	1.33	20	
sec-Butylbenzene	10.6700	0.50	0.15	10.0000		107	72 - 148	0.282	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0319 - MSVOA_LL_W (continued)										
LCS Dup (B7J0319-BSD1) - Continued					Prepared: 10/13/2017 Analyzed: 10/13/2017					
Styrene	9.96000	0.50	0.05	10.0000		99.6	72 - 138	0.100	20	
tert-Amyl methyl ether	8.70000	0.50	0.10	10.0000		87.0	53 - 122	1.04	20	
tert-Butanol	36.6800	10	3.0	50.0000		73.4	21 - 149	2.74	20	
tert-Butylbenzene	10.4400	0.50	0.11	10.0000		104	70 - 145	0.769	20	
Tetrachloroethene	10.4900	0.50	0.18	10.0000		105	61 - 145	0.766	20	
Toluene	21.5800	0.50	0.14	20.0000		108	70 - 140	1.12	20	
trans-1,2-Dichloroethene	10.3700	0.50	0.15	10.0000		104	73 - 130	1.85	20	
trans-1,3-Dichloropropene	7.17000	0.50	0.09	10.0000		71.7	72 - 129	0.419	20	L4
Trichloroethene	10.7200	0.50	0.15	10.0000		107	69 - 126	2.07	20	
Trichlorofluoromethane	11.4800	0.50	0.33	10.0000		115	70 - 159	2.47	20	
Vinyl acetate	77.8800	10	1.9	100.000		77.9	69 - 170	2.70	20	
Vinyl chloride	9.76000	0.50	0.25	10.0000		97.6	56 - 151	1.55	20	
Surrogate: 1,2-Dichloroethane-d4	*25.28*			*25.0000*		*101*	*70 - 166*			
Surrogate: 4-Bromofluorobenzene	*24.08*			*25.0000*		*96.3*	*88 - 120*			
Surrogate: Dibromofluoromethan	*25.78*			*25.0000*		*103*	*80 - 150*			
Surrogate: Toluene-d8	*24.72*			*25.0000*		*98.9*	*87 - 121*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S										
Blank (B7J0750-BLK1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
Blank (B7J0750-BLK1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*42.17*			*50.0000*		*84.3*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.38*			*50.0000*		*101*	*68 - 131*			
Surrogate: Dibromofluoromethan	*43.07*			*50.0000*		*86.1*	*49 - 134*			
Surrogate: Toluene-d8	*49.82*			*50.0000*		*99.6*	*75 - 132*			
LCS (B7J0750-BS1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	45.3800	5.0	0.96	50.0000		90.8	80 - 117			
1,1,1-Trichloroethane	46.3500	5.0	1.1	50.0000		92.7	70 - 122			
1,1,2,2-Tetrachloroethane	47.1400	5.0	0.62	50.0000		94.3	69 - 115			
1,1,2-Trichloroethane	48.3600	5.0	1.6	50.0000		96.7	74 - 120			
1,1-Dichloroethane	47.7700	5.0	0.81	50.0000		95.5	72 - 118			
1,1-Dichloroethene	48.1100	5.0	2.6	50.0000		96.2	61 - 124			
1,1-Dichloropropene	48.2400	5.0	2.3	50.0000		96.5	74 - 128			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS (B7J0750-BS1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,2,3-Trichloropropane	44.5200	5.0	0.54	50.0000		89.0	67 - 116			
1,2,3-Trichlorobenzene	45.7500	5.0	1.2	50.0000		91.5	86 - 127			
1,2,4-Trichlorobenzene	47.7100	5.0	1.1	50.0000		95.4	88 - 137			
1,2,4-Trimethylbenzene	49.0700	5.0	1.5	50.0000		98.1	78 - 125			
1,2-Dibromo-3-chloropropane	47.0900	10	1.6	50.0000		94.2	70 - 134			
1,2-Dibromoethane	46.9600	5.0	3.2	50.0000		93.9	73 - 127			
1,2-Dichlorobenzene	47.6300	5.0	1.1	50.0000		95.3	85 - 116			
1,2-Dichloroethane	47.2900	5.0	1.2	50.0000		94.6	65 - 120			
1,2-Dichloropropane	48.6000	5.0	1.8	50.0000		97.2	81 - 114			
1,3,5-Trimethylbenzene	48.7800	5.0	1.7	50.0000		97.6	76 - 125			
1,3-Dichlorobenzene	47.6100	5.0	1.3	50.0000		95.2	83 - 117			
1,3-Dichloropropane	48.4200	5.0	1.1	50.0000		96.8	79 - 119			
1,4-Dichlorobenzene	48.7500	5.0	1.2	50.0000		97.5	84 - 115			
2,2-Dichloropropane	47.6000	5.0	1.2	50.0000		95.2	72 - 121			
2-Chlorotoluene	47.5000	5.0	1.6	50.0000		95.0	76 - 120			
4-Chlorotoluene	48.5700	5.0	1.5	50.0000		97.1	77 - 122			
4-Isopropyltoluene	50.1100	5.0	2.3	50.0000		100	77 - 131			
Benzene	95.0900	5.0	0.64	100.000		95.1	78 - 115			
Bromobenzene	46.0900	5.0	1.1	50.0000		92.2	79 - 113			
Bromochloromethane	44.1200	5.0	0.64	50.0000		88.2	66 - 123			
Bromodichloromethane	45.6800	5.0	1.2	50.0000		91.4	79 - 112			
Bromoform	45.0000	5.0	0.80	50.0000		90.0	67 - 125			
Bromomethane	66.9100	5.0	2.5	50.0000		134	49 - 150			
Carbon disulfide	52.1500	5.0	3.5	50.0000		104	61 - 146			
Carbon tetrachloride	46.3700	5.0	1.2	50.0000		92.7	65 - 133			
Chlorobenzene	47.2400	5.0	1.0	50.0000		94.5	82 - 113			
Chloroethane	54.5300	5.0	1.1	50.0000		109	46 - 146			
Chloroform	45.6600	5.0	0.82	50.0000		91.3	73 - 116			
Chloromethane	51.3500	5.0	1.4	50.0000		103	46 - 158			
cis-1,2-Dichloroethene	47.0800	5.0	0.67	50.0000		94.2	72 - 121			
cis-1,3-Dichloropropene	47.3000	5.0	1.9	50.0000		94.6	79 - 123			
Di-isopropyl ether	48.6600	5.0	0.55	50.0000		97.3	67 - 125			
Dibromochloromethane	46.2500	5.0	1.0	50.0000		92.5	79 - 116			
Dibromomethane	46.6700	5.0	1.6	50.0000		93.3	72 - 117			
Dichlorodifluoromethane	52.6200	5.0	2.2	50.0000		105	38 - 168			
Ethyl Acetate	526.690	50	8.1	500.000		105	55 - 144			
Ethyl Ether	475.190	50	6.1	500.000		95.0	52 - 133			
Ethyl tert-butyl ether	49.5600	5.0	0.67	50.0000		99.1	68 - 126			
Ethylbenzene	95.7800	5.0	0.91	100.000		95.8	79 - 116			
Freon-113	49.7500	5.0	2.8	50.0000		99.5	66 - 134			
Hexachlorobutadiene	47.3300	5.0	2.5	50.0000		94.7	84 - 133			
Isopropylbenzene	48.0100	5.0	1.8	50.0000		96.0	67 - 134			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS (B7J0750-BS1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
m,p-Xylene	99.6700	10	1.5	100.000		99.7	78 - 126			
Methylene chloride	49.8300	5.0	2.3	50.0000		99.7	31 - 148			
MTBE	46.4700	5.0	0.63	50.0000		92.9	59 - 131			
n-Butylbenzene	50.8900	5.0	2.4	50.0000		102	75 - 141			
n-Propylbenzene	48.5700	5.0	2.2	50.0000		97.1	73 - 127			
Naphthalene	47.2300	5.0	0.97	50.0000		94.5	78 - 129			
o-Xylene	91.8500	5.0	0.87	100.000		91.8	81 - 113			
sec-Butylbenzene	48.9100	5.0	2.3	50.0000		97.8	73 - 129			
Styrene	50.1800	5.0	1.5	50.0000		100	88 - 118			
tert-Amyl methyl ether	47.2700	5.0	0.59	50.0000		94.5	62 - 122			
tert-Butanol	235.130	100	19	250.000		94.1	36 - 142			
tert-Butylbenzene	48.3000	5.0	2.0	50.0000		96.6	74 - 126			
Tetrachloroethene	47.3700	5.0	1.6	50.0000		94.7	74 - 127			
Toluene	96.5300	5.0	0.94	100.000		96.5	79 - 119			
trans-1,2-Dichloroethene	39.2100	5.0	0.59	50.0000		78.4	61 - 128			
trans-1,3-Dichloropropene	48.4800	5.0	2.1	50.0000		97.0	75 - 116			
Trichloroethene	46.7000	5.0	3.1	50.0000		93.4	76 - 123			
Trichlorofluoromethane	50.2600	5.0	1.4	50.0000		101	58 - 134			
Vinyl acetate	526.560	50	9.8	500.000		105	63 - 143			
Vinyl chloride	53.9100	5.0	1.7	50.0000		108	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*52.52*			*50.0000*		*105*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.88*			*50.0000*		*99.8*	*68 - 131*			
Surrogate: Dibromofluoromethan	*49.24*			*50.0000*		*98.5*	*49 - 134*			
Surrogate: Toluene-d8	*52.12*			*50.0000*		*104*	*75 - 132*			
LCS Dup (B7J0750-BSD1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,1,1,2-Tetrachloroethane	45.1500	5.0	0.96	50.0000		90.3	80 - 117	0.508	20	
1,1,1-Trichloroethane	44.5900	5.0	1.1	50.0000		89.2	70 - 122	3.87	20	
1,1,2,2-Tetrachloroethane	45.8800	5.0	0.62	50.0000		91.8	69 - 115	2.71	20	
1,1,2-Trichloroethane	46.7000	5.0	1.6	50.0000		93.4	74 - 120	3.49	20	
1,1-Dichloroethane	45.7000	5.0	0.81	50.0000		91.4	72 - 118	4.43	20	
1,1-Dichloroethene	44.3500	5.0	2.6	50.0000		88.7	61 - 124	8.13	20	
1,1-Dichloropropene	45.6500	5.0	2.3	50.0000		91.3	74 - 128	5.52	20	
1,2,3-Trichloropropane	42.5900	5.0	0.54	50.0000		85.2	67 - 116	4.43	20	
1,2,3-Trichlorobenzene	47.6400	5.0	1.2	50.0000		95.3	86 - 127	4.05	20	
1,2,4-Trichlorobenzene	50.2200	5.0	1.1	50.0000		100	88 - 137	5.13	20	
1,2,4-Trimethylbenzene	48.2600	5.0	1.5	50.0000		96.5	78 - 125	1.66	20	
1,2-Dibromo-3-chloropropane	52.0400	10	1.6	50.0000		104	70 - 134	9.99	20	
1,2-Dibromoethane	50.4600	5.0	3.2	50.0000		101	73 - 127	7.19	20	
1,2-Dichlorobenzene	47.6800	5.0	1.1	50.0000		95.4	85 - 116	0.105	20	
1,2-Dichloroethane	48.0600	5.0	1.2	50.0000		96.1	65 - 120	1.62	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS Dup (B7J0750-BSD1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
1,2-Dichloropropane	47.9800	5.0	1.8	50.0000		96.0	81 - 114	1.28	20	
1,3,5-Trimethylbenzene	47.8300	5.0	1.7	50.0000		95.7	76 - 125	1.97	20	
1,3-Dichlorobenzene	47.3400	5.0	1.3	50.0000		94.7	83 - 117	0.569	20	
1,3-Dichloropropane	47.8600	5.0	1.1	50.0000		95.7	79 - 119	1.16	20	
1,4-Dichlorobenzene	47.8100	5.0	1.2	50.0000		95.6	84 - 115	1.95	20	
2,2-Dichloropropane	45.3600	5.0	1.2	50.0000		90.7	72 - 121	4.82	20	
2-Chlorotoluene	46.8100	5.0	1.6	50.0000		93.6	76 - 120	1.46	20	
4-Chlorotoluene	46.8400	5.0	1.5	50.0000		93.7	77 - 122	3.63	20	
4-Isopropyltoluene	48.8600	5.0	2.3	50.0000		97.7	77 - 131	2.53	20	
Benzene	92.7300	5.0	0.64	100.000		92.7	78 - 115	2.51	20	
Bromobenzene	45.4600	5.0	1.1	50.0000		90.9	79 - 113	1.38	20	
Bromochloromethane	43.8600	5.0	0.64	50.0000		87.7	66 - 123	0.591	20	
Bromodichloromethane	45.2700	5.0	1.2	50.0000		90.5	79 - 112	0.902	20	
Bromoform	45.1200	5.0	0.80	50.0000		90.2	67 - 125	0.266	20	
Bromomethane	61.8300	5.0	2.5	50.0000		124	49 - 150	7.89	20	
Carbon disulfide	48.8400	5.0	3.5	50.0000		97.7	61 - 146	6.56	20	
Carbon tetrachloride	44.7600	5.0	1.2	50.0000		89.5	65 - 133	3.53	20	
Chlorobenzene	46.6700	5.0	1.0	50.0000		93.3	82 - 113	1.21	20	
Chloroethane	54.5900	5.0	1.1	50.0000		109	46 - 146	0.110	20	
Chloroform	44.7800	5.0	0.82	50.0000		89.6	73 - 116	1.95	20	
Chloromethane	49.2800	5.0	1.4	50.0000		98.6	46 - 158	4.11	20	
cis-1,2-Dichloroethene	46.4800	5.0	0.67	50.0000		93.0	72 - 121	1.28	20	
cis-1,3-Dichloropropene	48.6300	5.0	1.9	50.0000		97.3	79 - 123	2.77	20	
Di-isopropyl ether	47.0800	5.0	0.55	50.0000		94.2	67 - 125	3.30	20	
Dibromochloromethane	45.0900	5.0	1.0	50.0000		90.2	79 - 116	2.54	20	
Dibromomethane	46.6500	5.0	1.6	50.0000		93.3	72 - 117	0.0429	20	
Dichlorodifluoromethane	48.9500	5.0	2.2	50.0000		97.9	38 - 168	7.23	20	
Ethyl Acetate	520.010	50	8.1	500.000		104	55 - 144	1.28	20	
Ethyl Ether	450.520	50	6.1	500.000		90.1	52 - 133	5.33	20	
Ethyl tert-butyl ether	47.9700	5.0	0.67	50.0000		95.9	68 - 126	3.26	20	
Ethylbenzene	93.3400	5.0	0.91	100.000		93.3	79 - 116	2.58	20	
Freon-113	46.9800	5.0	2.8	50.0000		94.0	66 - 134	5.73	20	
Hexachlorobutadiene	49.9500	5.0	2.5	50.0000		99.9	84 - 133	5.39	20	
Isopropylbenzene	46.5300	5.0	1.8	50.0000		93.1	67 - 134	3.13	20	
m,p-Xylene	98.2100	10	1.5	100.000		98.2	78 - 126	1.48	20	
Methylene chloride	63.3200	5.0	2.3	50.0000		127	31 - 148	23.8	20	R
MTBE	46.3500	5.0	0.63	50.0000		92.7	59 - 131	0.259	20	
n-Butylbenzene	50.1400	5.0	2.4	50.0000		100	75 - 141	1.48	20	
n-Propylbenzene	46.8400	5.0	2.2	50.0000		93.7	73 - 127	3.63	20	
Naphthalene	47.9900	5.0	0.97	50.0000		96.0	78 - 129	1.60	20	
o-Xylene	91.2700	5.0	0.87	100.000		91.3	81 - 113	0.633	20	
sec-Butylbenzene	48.1200	5.0	2.3	50.0000		96.2	73 - 129	1.63	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0750 - MSVOA_S (continued)										
LCS Dup (B7J0750-BSD1) - Continued					Prepared: 10/25/2017 Analyzed: 10/25/2017					
Styrene	49.8200	5.0	1.5	50.0000		99.6	88 - 118	0.720	20	
tert-Amyl methyl ether	45.3500	5.0	0.59	50.0000		90.7	62 - 122	4.15	20	
tert-Butanol	224.480	100	19	250.000		89.8	36 - 142	4.63	20	
tert-Butylbenzene	46.7200	5.0	2.0	50.0000		93.4	74 - 126	3.33	20	
Tetrachloroethene	45.8800	5.0	1.6	50.0000		91.8	74 - 127	3.20	20	
Toluene	94.2800	5.0	0.94	100.000		94.3	79 - 119	2.36	20	
trans-1,2-Dichloroethene	44.9700	5.0	0.59	50.0000		89.9	61 - 128	13.7	20	
trans-1,3-Dichloropropene	48.0700	5.0	2.1	50.0000		96.1	75 - 116	0.849	20	
Trichloroethene	46.3600	5.0	3.1	50.0000		92.7	76 - 123	0.731	20	
Trichlorofluoromethane	44.9000	5.0	1.4	50.0000		89.8	58 - 134	11.3	20	
Vinyl acetate	493.040	50	9.8	500.000		98.6	63 - 143	6.58	20	
Vinyl chloride	50.5400	5.0	1.7	50.0000		101	51 - 145	6.45	20	
Surrogate: 1,2-Dichloroethane-d4	*51.52*			*50.0000*		*103*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.20*			*50.0000*		*100*	*68 - 131*			
Surrogate: Dibromofluoromethan	*47.79*			*50.0000*		*95.6*	*49 - 134*			
Surrogate: Toluene-d8	*51.39*			*50.0000*		*103*	*75 - 132*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S										
Blank (B7J0791-BLK1)					Prepared: 10/26/2017 Analyzed: 10/26/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
Blank (B7J0791-BLK1) - Continued					Prepared: 10/26/2017 Analyzed: 10/26/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*44.11*			*50.0000*		*88.2*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*51.26*			*50.0000*		*103*	*68 - 131*			
Surrogate: Dibromofluoromethan	*44.50*			*50.0000*		*89.0*	*49 - 134*			
Surrogate: Toluene-d8	*53.12*			*50.0000*		*106*	*75 - 132*			
LCS (B7J0791-BS1)					Prepared: 10/26/2017 Analyzed: 10/26/2017					
1,1,1,2-Tetrachloroethane	46.2700	5.0	0.96	50.0000		92.5	80 - 117			
1,1,1-Trichloroethane	46.2800	5.0	1.1	50.0000		92.6	70 - 122			
1,1,2,2-Tetrachloroethane	47.7800	5.0	0.62	50.0000		95.6	69 - 115			
1,1,2-Trichloroethane	47.8100	5.0	1.6	50.0000		95.6	74 - 120			
1,1-Dichloroethane	46.5900	5.0	0.81	50.0000		93.2	72 - 118			
1,1-Dichloroethene	47.1800	5.0	2.6	50.0000		94.4	61 - 124			
1,1-Dichloropropene	49.3200	5.0	2.3	50.0000		98.6	74 - 128			

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618.005
Report To : Brynn McCulloch
Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
LCS (B7J0791-BS1) - Continued					Prepared: 10/26/2017 Analyzed: 10/26/2017					
1,2,3-Trichloropropane	44.8500	5.0	0.54	50.0000		89.7	67 - 116			
1,2,3-Trichlorobenzene	46.5600	5.0	1.2	50.0000		93.1	86 - 127			
1,2,4-Trichlorobenzene	48.8200	5.0	1.1	50.0000		97.6	88 - 137			
1,2,4-Trimethylbenzene	49.2800	5.0	1.5	50.0000		98.6	78 - 125			
1,2-Dibromo-3-chloropropane	49.8700	10	1.6	50.0000		99.7	70 - 134			
1,2-Dibromoethane	50.4200	5.0	3.2	50.0000		101	73 - 127			
1,2-Dichlorobenzene	48.3700	5.0	1.1	50.0000		96.7	85 - 116			
1,2-Dichloroethane	49.1400	5.0	1.2	50.0000		98.3	65 - 120			
1,2-Dichloropropane	49.3600	5.0	1.8	50.0000		98.7	81 - 114			
1,3,5-Trimethylbenzene	49.7900	5.0	1.7	50.0000		99.6	76 - 125			
1,3-Dichlorobenzene	47.3600	5.0	1.3	50.0000		94.7	83 - 117			
1,3-Dichloropropane	47.8100	5.0	1.1	50.0000		95.6	79 - 119			
1,4-Dichlorobenzene	48.3900	5.0	1.2	50.0000		96.8	84 - 115			
2,2-Dichloropropane	46.6600	5.0	1.2	50.0000		93.3	72 - 121			
2-Chlorotoluene	47.7000	5.0	1.6	50.0000		95.4	76 - 120			
4-Chlorotoluene	48.8500	5.0	1.5	50.0000		97.7	77 - 122			
4-Isopropyltoluene	51.0500	5.0	2.3	50.0000		102	77 - 131			
Benzene	97.7300	5.0	0.64	100.000		97.7	78 - 115			
Bromobenzene	46.0900	5.0	1.1	50.0000		92.2	79 - 113			
Bromochloromethane	44.8100	5.0	0.64	50.0000		89.6	66 - 123			
Bromodichloromethane	47.7100	5.0	1.2	50.0000		95.4	79 - 112			
Bromoform	45.7700	5.0	0.80	50.0000		91.5	67 - 125			
Bromomethane	67.6100	5.0	2.5	50.0000		135	49 - 150			
Carbon disulfide	52.3000	5.0	3.5	50.0000		105	61 - 146			
Carbon tetrachloride	48.2900	5.0	1.2	50.0000		96.6	65 - 133			
Chlorobenzene	47.3100	5.0	1.0	50.0000		94.6	82 - 113			
Chloroethane	54.1500	5.0	1.1	50.0000		108	46 - 146			
Chloroform	45.0400	5.0	0.82	50.0000		90.1	73 - 116			
Chloromethane	51.6100	5.0	1.4	50.0000		103	46 - 158			
cis-1,2-Dichloroethene	46.4300	5.0	0.67	50.0000		92.9	72 - 121			
cis-1,3-Dichloropropene	48.8800	5.0	1.9	50.0000		97.8	79 - 123			
Di-isopropyl ether	46.3600	5.0	0.55	50.0000		92.7	67 - 125			
Dibromochloromethane	45.9800	5.0	1.0	50.0000		92.0	79 - 116			
Dibromomethane	46.9700	5.0	1.6	50.0000		93.9	72 - 117			
Dichlorodifluoromethane	51.2400	5.0	2.2	50.0000		102	38 - 168			
Ethyl Acetate	518.680	50	8.1	500.000		104	55 - 144			
Ethyl Ether	454.710	50	6.1	500.000		90.9	52 - 133			
Ethyl tert-butyl ether	47.0200	5.0	0.67	50.0000		94.0	68 - 126			
Ethylbenzene	97.4800	5.0	0.91	100.000		97.5	79 - 116			
Freon-113	51.0600	5.0	2.8	50.0000		102	66 - 134			
Hexachlorobutadiene	49.8900	5.0	2.5	50.0000		99.8	84 - 133			
Isopropylbenzene	48.5000	5.0	1.8	50.0000		97.0	67 - 134			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
LCS (B7J0791-BS1) - Continued					Prepared: 10/26/2017 Analyzed: 10/26/2017					
m,p-Xylene	100.910	10	1.5	100.000		101	78 - 126			
Methylene chloride	56.2200	5.0	2.3	50.0000		112	31 - 148			
MTBE	45.0500	5.0	0.63	50.0000		90.1	59 - 131			
n-Butylbenzene	51.8400	5.0	2.4	50.0000		104	75 - 141			
n-Propylbenzene	48.8500	5.0	2.2	50.0000		97.7	73 - 127			
Naphthalene	47.0200	5.0	0.97	50.0000		94.0	78 - 129			
o-Xylene	93.1300	5.0	0.87	100.000		93.1	81 - 113			
sec-Butylbenzene	49.4300	5.0	2.3	50.0000		98.9	73 - 129			
Styrene	50.3300	5.0	1.5	50.0000		101	88 - 118			
tert-Amyl methyl ether	44.7800	5.0	0.59	50.0000		89.6	62 - 122			
tert-Butanol	179.230	100	19	250.000		71.7	36 - 142			
tert-Butylbenzene	48.5900	5.0	2.0	50.0000		97.2	74 - 126			
Tetrachloroethene	47.8000	5.0	1.6	50.0000		95.6	74 - 127			
Toluene	99.9100	5.0	0.94	100.000		99.9	79 - 119			
trans-1,2-Dichloroethene	45.0600	5.0	0.59	50.0000		90.1	61 - 128			
trans-1,3-Dichloropropene	50.9500	5.0	2.1	50.0000		102	75 - 116			
Trichloroethene	48.1800	5.0	3.1	50.0000		96.4	76 - 123			
Trichlorofluoromethane	48.4500	5.0	1.4	50.0000		96.9	58 - 134			
Vinyl acetate	509.770	50	9.8	500.000		102	63 - 143			
Vinyl chloride	52.9700	5.0	1.7	50.0000		106	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*51.99*			*50.0000*		*104*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.93*			*50.0000*		*102*	*68 - 131*			
Surrogate: Dibromofluoromethan	*48.42*			*50.0000*		*96.8*	*49 - 134*			
Surrogate: Toluene-d8	*54.85*			*50.0000*		*110*	*75 - 132*			
Matrix Spike (B7J0791-MS1)			**Source: 1703807-01**		Prepared: 10/26/2017 Analyzed: 10/26/2017					
1,1,1,2-Tetrachloroethane	43.6600	5.0	0.96	50.0000	ND	87.3	27 - 130			
1,1,1-Trichloroethane	44.9500	5.0	1.1	50.0000	ND	89.9	32 - 135			
1,1,2,2-Tetrachloroethane	46.0600	5.0	0.62	50.0000	ND	92.1	17 - 135			
1,1,2-Trichloroethane	44.9300	5.0	1.6	50.0000	ND	89.9	31 - 129			
1,1-Dichloroethane	44.0100	5.0	0.81	50.0000	ND	88.0	37 - 130			
1,1-Dichloroethene	47.1500	5.0	2.6	50.0000	ND	94.3	41 - 125			
1,1-Dichloropropene	48.6400	5.0	2.3	50.0000	ND	97.3	33 - 138			
1,2,3-Trichloropropane	44.3300	5.0	0.54	50.0000	ND	88.7	20 - 137			
1,2,3-Trichlorobenzene	41.5100	5.0	1.2	50.0000	ND	83.0	0 - 147			
1,2,4-Trichlorobenzene	44.0400	5.0	1.1	50.0000	ND	88.1	0 - 156			
1,2,4-Trimethylbenzene	47.2300	5.0	1.5	50.0000	ND	94.5	10 - 139			
1,2-Dibromo-3-chloropropane	46.3300	10	1.6	50.0000	ND	92.7	17 - 145			
1,2-Dibromoethane	48.5400	5.0	3.2	50.0000	ND	97.1	25 - 136			
1,2-Dichlorobenzene	45.3600	5.0	1.1	50.0000	ND	90.7	8 - 134			
1,2-Dichloroethane	46.3600	5.0	1.2	50.0000	ND	92.7	31 - 123			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
Matrix Spike (B7J0791-MS1) - Continued			**Source: 1703807-01**		Prepared: 10/26/2017 Analyzed: 10/26/2017					
1,2-Dichloropropane	45.4000	5.0	1.8	50.0000	ND	90.8	38 - 123			
1,3,5-Trimethylbenzene	47.7500	5.0	1.7	50.0000	ND	95.5	10 - 139			
1,3-Dichlorobenzene	45.6100	5.0	1.3	50.0000	ND	91.2	8 - 134			
1,3-Dichloropropane	45.0100	5.0	1.1	50.0000	ND	90.0	34 - 130			
1,4-Dichlorobenzene	44.7000	5.0	1.2	50.0000	ND	89.4	10 - 134			
2,2-Dichloropropane	45.9600	5.0	1.2	50.0000	ND	91.9	36 - 133			
2-Chlorotoluene	46.0600	5.0	1.6	50.0000	ND	92.1	15 - 133			
4-Chlorotoluene	47.2900	5.0	1.5	50.0000	ND	94.6	13 - 135			
4-Isopropyltoluene	48.2000	5.0	2.3	50.0000	ND	96.4	2 - 146			
Benzene	91.6800	5.0	0.64	100.000	ND	91.7	40 - 123			
Bromobenzene	44.4100	5.0	1.1	50.0000	ND	88.8	18 - 132			
Bromochloromethane	43.3600	5.0	0.64	50.0000	ND	86.7	32 - 130			
Bromodichloromethane	44.3900	5.0	1.2	50.0000	ND	88.8	33 - 122			
Bromoform	43.9800	5.0	0.80	50.0000	ND	88.0	20 - 134			
Bromomethane	61.3600	5.0	2.5	50.0000	ND	123	35 - 140			
Carbon disulfide	51.2400	5.0	3.5	50.0000	ND	102	32 - 143			
Carbon tetrachloride	46.4400	5.0	1.2	50.0000	ND	92.9	23 - 144			
Chlorobenzene	44.9900	5.0	1.0	50.0000	ND	90.0	24 - 128			
Chloroethane	50.0100	5.0	1.1	50.0000	ND	100	35 - 135			
Chloroform	43.5100	5.0	0.82	50.0000	ND	87.0	36 - 126			
Chloromethane	49.6000	5.0	1.4	50.0000	ND	99.2	36 - 146			
cis-1,2-Dichloroethene	44.3600	5.0	0.67	50.0000	ND	88.7	31 - 136			
cis-1,3-Dichloropropene	45.9200	5.0	1.9	50.0000	ND	91.8	28 - 130			
Di-isopropyl ether	45.4500	5.0	0.55	50.0000	ND	90.9	32 - 133			
Dibromochloromethane	43.4600	5.0	1.0	50.0000	ND	86.9	30 - 129			
Dibromomethane	43.4700	5.0	1.6	50.0000	ND	86.9	28 - 126			
Dichlorodifluoromethane	51.6300	5.0	2.2	50.0000	ND	103	23 - 162			
Ethyl Acetate	468.760	50	8.1	500.000	ND	93.8	0 - 156			
Ethyl Ether	434.390	50	6.1	500.000	ND	86.9	33 - 128			
Ethyl tert-butyl ether	45.1600	5.0	0.67	50.0000	ND	90.3	33 - 138			
Ethylbenzene	92.3500	5.0	0.91	100.000	ND	92.4	22 - 132			
Freon-113	48.9100	5.0	2.8	50.0000	ND	97.8	31 - 140			
Hexachlorobutadiene	42.6400	5.0	2.5	50.0000	ND	85.3	0 - 150			
Isopropylbenzene	46.8600	5.0	1.8	50.0000	ND	93.7	15 - 144			
m,p-Xylene	96.3900	10	1.5	100.000	ND	96.4	19 - 138			
Methylene chloride	57.9700	5.0	2.3	50.0000	ND	116	9 - 145			
MTBE	42.3000	5.0	0.63	50.0000	ND	84.6	31 - 136			
n-Butylbenzene	48.8600	5.0	2.4	50.0000	ND	97.7	0 - 153			
n-Propylbenzene	47.2900	5.0	2.2	50.0000	ND	94.6	12 - 141			
Naphthalene	42.8200	5.0	0.97	50.0000	ND	85.6	0 - 145			
o-Xylene	88.2800	5.0	0.87	100.000	ND	88.3	20 - 129			
sec-Butylbenzene	47.3100	5.0	2.3	50.0000	ND	94.6	4 - 143			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
Matrix Spike (B7J0791-MS1) - Continued			**Source: 1703807-01**			Prepared: 10/26/2017 Analyzed: 10/26/2017				
Styrene	47.8800	5.0	1.5	50.0000	ND	95.8	19 - 136			
tert-Amyl methyl ether	43.1500	5.0	0.59	50.0000	ND	86.3	30 - 128			
tert-Butanol	187.070	100	19	250.000	ND	74.8	22 - 146			
tert-Butylbenzene	46.3700	5.0	2.0	50.0000	ND	92.7	9 - 140			
Tetrachloroethene	46.1200	5.0	1.6	50.0000	ND	92.2	18 - 143			
Toluene	94.5800	5.0	0.94	100.000	ND	94.6	30 - 132			
trans-1,2-Dichloroethene	43.6300	5.0	0.59	50.0000	ND	87.3	32 - 134			
trans-1,3-Dichloropropene	47.4900	5.0	2.1	50.0000	ND	95.0	23 - 127			
Trichloroethene	45.6600	5.0	3.1	50.0000	ND	91.3	17 - 158			
Trichlorofluoromethane	46.6800	5.0	1.4	50.0000	ND	93.4	36 - 135			
Vinyl acetate	396.020	50	9.8	500.000	ND	79.2	0 - 154			
Vinyl chloride	52.3800	5.0	1.7	50.0000	ND	105	38 - 140			
Surrogate: 1,2-Dichloroethane-d4	*51.81*			*50.0000*		*104*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.85*			*50.0000*		*99.7*	*68 - 131*			
Surrogate: Dibromofluoromethan	*48.20*			*50.0000*		*96.4*	*49 - 134*			
Surrogate: Toluene-d8	*52.03*			*50.0000*		*104*	*75 - 132*			
Matrix Spike Dup (B7J0791-MSD1)			**Source: 1703807-01**			Prepared: 10/26/2017 Analyzed: 10/26/2017				
1,1,1,2-Tetrachloroethane	43.8800	5.0	0.96	50.0000	ND	87.8	27 - 130	0.503	20	
1,1,1-Trichloroethane	44.5500	5.0	1.1	50.0000	ND	89.1	32 - 135	0.894	20	
1,1,2,2-Tetrachloroethane	44.4300	5.0	0.62	50.0000	ND	88.9	17 - 135	3.60	20	
1,1,2-Trichloroethane	44.8600	5.0	1.6	50.0000	ND	89.7	31 - 129	0.156	20	
1,1-Dichloroethane	43.9000	5.0	0.81	50.0000	ND	87.8	37 - 130	0.250	20	
1,1-Dichloroethene	45.3000	5.0	2.6	50.0000	ND	90.6	41 - 125	4.00	20	
1,1-Dichloropropene	47.4600	5.0	2.3	50.0000	ND	94.9	33 - 138	2.46	20	
1,2,3-Trichloropropane	42.2900	5.0	0.54	50.0000	ND	84.6	20 - 137	4.71	20	
1,2,3-Trichlorobenzene	38.3500	5.0	1.2	50.0000	ND	76.7	0 - 147	7.91	20	
1,2,4-Trichlorobenzene	41.0900	5.0	1.1	50.0000	ND	82.2	0 - 156	6.93	20	
1,2,4-Trimethylbenzene	45.9300	5.0	1.5	50.0000	ND	91.9	10 - 139	2.79	20	
1,2-Dibromo-3-chloropropane	48.9400	10	1.6	50.0000	ND	97.9	17 - 145	5.48	20	
1,2-Dibromoethane	45.1500	5.0	3.2	50.0000	ND	90.3	25 - 136	7.24	20	
1,2-Dichlorobenzene	43.7800	5.0	1.1	50.0000	ND	87.6	8 - 134	3.54	20	
1,2-Dichloroethane	45.3500	5.0	1.2	50.0000	ND	90.7	31 - 123	2.20	20	
1,2-Dichloropropane	45.3000	5.0	1.8	50.0000	ND	90.6	38 - 123	0.221	20	
1,3,5-Trimethylbenzene	45.9500	5.0	1.7	50.0000	ND	91.9	10 - 139	3.84	20	
1,3-Dichlorobenzene	43.8400	5.0	1.3	50.0000	ND	87.7	8 - 134	3.96	20	
1,3-Dichloropropane	44.8600	5.0	1.1	50.0000	ND	89.7	34 - 130	0.334	20	
1,4-Dichlorobenzene	44.3000	5.0	1.2	50.0000	ND	88.6	10 - 134	0.899	20	
2,2-Dichloropropane	45.5400	5.0	1.2	50.0000	ND	91.1	36 - 133	0.918	20	
2-Chlorotoluene	44.4500	5.0	1.6	50.0000	ND	88.9	15 - 133	3.56	20	
4-Chlorotoluene	45.7800	5.0	1.5	50.0000	ND	91.6	13 - 135	3.24	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
Matrix Spike Dup (B7J0791-MSD1) - Continued			**Source: 1703807-01**		Prepared: 10/26/2017 Analyzed: 10/26/2017					
4-Isopropyltoluene	46.4500	5.0	2.3	50.0000	ND	92.9	2 - 146	3.70	20	
Benzene	90.3300	5.0	0.64	100.000	ND	90.3	40 - 123	1.48	20	
Bromobenzene	43.1000	5.0	1.1	50.0000	ND	86.2	18 - 132	2.99	20	
Bromochloromethane	41.6700	5.0	0.64	50.0000	ND	83.3	32 - 130	3.98	20	
Bromodichloromethane	44.5600	5.0	1.2	50.0000	ND	89.1	33 - 122	0.382	20	
Bromoform	42.8100	5.0	0.80	50.0000	ND	85.6	20 - 134	2.70	20	
Bromomethane	59.7800	5.0	2.5	50.0000	ND	120	35 - 140	2.61	20	
Carbon disulfide	48.5900	5.0	3.5	50.0000	ND	97.2	32 - 143	5.31	20	
Carbon tetrachloride	46.1000	5.0	1.2	50.0000	ND	92.2	23 - 144	0.735	20	
Chlorobenzene	44.3800	5.0	1.0	50.0000	ND	88.8	24 - 128	1.37	20	
Chloroethane	50.3700	5.0	1.1	50.0000	ND	101	35 - 135	0.717	20	
Chloroform	42.8000	5.0	0.82	50.0000	ND	85.6	36 - 126	1.65	20	
Chloromethane	48.7200	5.0	1.4	50.0000	ND	97.4	36 - 146	1.79	20	
cis-1,2-Dichloroethene	43.5300	5.0	0.67	50.0000	ND	87.1	31 - 136	1.89	20	
cis-1,3-Dichloropropene	44.8800	5.0	1.9	50.0000	ND	89.8	28 - 130	2.29	20	
Di-isopropyl ether	44.5100	5.0	0.55	50.0000	ND	89.0	32 - 133	2.09	20	
Dibromochloromethane	43.2100	5.0	1.0	50.0000	ND	86.4	30 - 129	0.577	20	
Dibromomethane	43.4400	5.0	1.6	50.0000	ND	86.9	28 - 126	0.0690	20	
Dichlorodifluoromethane	50.6200	5.0	2.2	50.0000	ND	101	23 - 162	1.98	20	
Ethyl Acetate	411.500	50	8.1	500.000	ND	82.3	0 - 156	13.0	20	
Ethyl Ether	426.920	50	6.1	500.000	ND	85.4	33 - 128	1.73	20	
Ethyl tert-butyl ether	44.7600	5.0	0.67	50.0000	ND	89.5	33 - 138	0.890	20	
Ethylbenzene	91.0200	5.0	0.91	100.000	ND	91.0	22 - 132	1.45	20	
Freon-113	46.2000	5.0	2.8	50.0000	ND	92.4	31 - 140	5.70	20	
Hexachlorobutadiene	40.0000	5.0	2.5	50.0000	ND	80.0	0 - 150	6.39	20	
Isopropylbenzene	46.0300	5.0	1.8	50.0000	ND	92.1	15 - 144	1.79	20	
m,p-Xylene	95.0000	10	1.5	100.000	ND	95.0	19 - 138	1.45	20	
Methylene chloride	51.6100	5.0	2.3	50.0000	ND	103	9 - 145	11.6	20	
MTBE	42.2300	5.0	0.63	50.0000	ND	84.5	31 - 136	0.166	20	
n-Butylbenzene	46.1800	5.0	2.4	50.0000	ND	92.4	0 - 153	5.64	20	
n-Propylbenzene	45.7800	5.0	2.2	50.0000	ND	91.6	12 - 141	3.24	20	
Naphthalene	41.3800	5.0	0.97	50.0000	ND	82.8	0 - 145	3.42	20	
o-Xylene	87.1900	5.0	0.87	100.000	ND	87.2	20 - 129	1.24	20	
sec-Butylbenzene	45.5500	5.0	2.3	50.0000	ND	91.1	4 - 143	3.79	20	
Styrene	46.4500	5.0	1.5	50.0000	ND	92.9	19 - 136	3.03	20	
tert-Amyl methyl ether	42.3600	5.0	0.59	50.0000	ND	84.7	30 - 128	1.85	20	
tert-Butanol	170.160	100	19	250.000	ND	68.1	22 - 146	9.47	20	
tert-Butylbenzene	45.1300	5.0	2.0	50.0000	ND	90.3	9 - 140	2.71	20	
Tetrachloroethene	44.8700	5.0	1.6	50.0000	ND	89.7	18 - 143	2.75	20	
Toluene	93.3000	5.0	0.94	100.000	ND	93.3	30 - 132	1.36	20	
trans-1,2-Dichloroethene	42.7000	5.0	0.59	50.0000	ND	85.4	32 - 134	2.15	20	
trans-1,3-Dichloropropene	47.2700	5.0	2.1	50.0000	ND	94.5	23 - 127	0.464	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0791 - MSVOA_S (continued)										
Matrix Spike Dup (B7J0791-MSD1) - Continued			**Source: 1703807-01**		Prepared: 10/26/2017 Analyzed: 10/26/2017					
Trichloroethene	44.1500	5.0	3.1	50.0000	ND	88.3	17 - 158	3.36	20	
Trichlorofluoromethane	47.2400	5.0	1.4	50.0000	ND	94.5	36 - 135	1.19	20	
Vinyl acetate	270.060	50	9.8	500.000	ND	54.0	0 - 154	37.8	20	R
Vinyl chloride	51.4300	5.0	1.7	50.0000	ND	103	38 - 140	1.83	20	
Surrogate: 1,2-Dichloroethane-d4	*52.11*			*50.0000*		*104*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*48.53*			*50.0000*		*97.1*	*68 - 131*			
Surrogate: Dibromofluoromethan	*46.15*			*50.0000*		*92.3*	*49 - 134*			
Surrogate: Toluene-d8	*50.44*			*50.0000*		*101*	*75 - 132*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W										
Blank (B7J0413-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	ND	0.20	0.02							
Acenaphthene	ND	0.20	0.02							
Acenaphthylene	ND	0.20	0.02							
Anthracene	ND	0.20	0.01							
Benzo(a)anthracene	ND	0.20	0.01							
Benzo(a)pyrene	ND	0.20	0.01							
Benzo(b)fluoranthene	ND	0.20	0.06							
Benzo(g,h,i)perylene	ND	0.20	0.02							
Benzo(k)fluoranthene	ND	0.20	0.02							
Chrysene	ND	0.20	0.02							
Dibenz(a,h)anthracene	ND	0.20	0.02							
Fluoranthene	ND	0.20	0.02							
Fluorene	ND	0.20	0.02							
Indeno(1,2,3-cd)pyrene	ND	0.20	0.02							
Naphthalene	ND	0.20	0.02							
Phenanthrene	ND	0.20	0.02							
Pyrene	ND	0.20	0.02							
Surrogate: 1,2-Dichlorobenzene-d	*0.7723*			*1.00000*		*77.2*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8111*			*1.00000*		*81.1*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.9341*			*1.00000*		*93.4*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*1.165*			*1.00000*		*117*	*32 - 119*			
LCS (B7J0413-BS1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	0.594950	0.20	0.02	1.00000		59.5	38 - 137			
Acenaphthene	0.670340	0.20	0.02	1.00000		67.0	38 - 103			
Acenaphthylene	0.682710	0.20	0.02	1.00000		68.3	41 - 102			
Anthracene	0.707100	0.20	0.01	1.00000		70.7	37 - 118			
Benzo(a)anthracene	0.778780	0.20	0.01	1.00000		77.9	42 - 118			
Benzo(a)pyrene	0.712580	0.20	0.01	1.00000		71.3	17 - 148			
Benzo(b)fluoranthene	0.800210	0.20	0.06	1.00000		80.0	33 - 126			
Benzo(g,h,i)perylene	0.716580	0.20	0.02	1.00000		71.7	33 - 123			
Benzo(k)fluoranthene	0.803040	0.20	0.02	1.00000		80.3	20 - 131			
Chrysene	0.747150	0.20	0.02	1.00000		74.7	44 - 127			
Dibenz(a,h)anthracene	0.796090	0.20	0.02	1.00000		79.6	31 - 122			
Fluoranthene	0.761460	0.20	0.02	1.00000		76.1	48 - 113			
Fluorene	0.740860	0.20	0.02	1.00000		74.1	46 - 100			
Indeno(1,2,3-cd)pyrene	0.750140	0.20	0.02	1.00000		75.0	35 - 123			
Naphthalene	0.706850	0.20	0.02	1.00000		70.7	35 - 115			
Phenanthrene	0.708600	0.20	0.02	1.00000		70.9	43 - 112			
Pyrene	0.762180	0.20	0.02	1.00000		76.2	47 - 116			
Surrogate: 1,2-Dichlorobenzene-d	*0.7505*			*1.00000*		*75.1*	*32 - 99*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W (continued)										
LCS (B7J0413-BS1) - Continued						Prepared: 10/16/2017 Analyzed: 10/16/2017				
Surrogate: 2-Fluorobiphenyl	*0.8615*			*1.00000*		*86.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8931*			*1.00000*		*89.3*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9966*			*1.00000*		*99.7*	*32 - 119*			
LCS Dup (B7J0413-BSD1)						Prepared: 10/16/2017 Analyzed: 10/16/2017				
2-Methylnaphthalene	0.588280	0.20	0.02	1.00000		58.8	38 - 137	1.13	20	
Acenaphthene	0.688400	0.20	0.02	1.00000		68.8	38 - 103	2.66	20	
Acenaphthylene	0.696510	0.20	0.02	1.00000		69.7	41 - 102	2.00	20	
Anthracene	0.698560	0.20	0.01	1.00000		69.9	37 - 118	1.22	20	
Benzo(a)anthracene	0.791900	0.20	0.01	1.00000		79.2	42 - 118	1.67	20	
Benzo(a)pyrene	0.696140	0.20	0.01	1.00000		69.6	17 - 148	2.33	20	
Benzo(b)fluoranthene	0.811500	0.20	0.06	1.00000		81.2	33 - 126	1.40	20	
Benzo(g,h,i)perylene	0.721590	0.20	0.02	1.00000		72.2	33 - 123	0.697	20	
Benzo(k)fluoranthene	0.794240	0.20	0.02	1.00000		79.4	20 - 131	1.10	20	
Chrysene	0.745200	0.20	0.02	1.00000		74.5	44 - 127	0.261	20	
Dibenz(a,h)anthracene	0.792430	0.20	0.02	1.00000		79.2	31 - 122	0.461	20	
Fluoranthene	0.772070	0.20	0.02	1.00000		77.2	48 - 113	1.38	20	
Fluorene	0.737630	0.20	0.02	1.00000		73.8	46 - 100	0.437	20	
Indeno(1,2,3-cd)pyrene	0.762320	0.20	0.02	1.00000		76.2	35 - 123	1.61	20	
Naphthalene	0.704320	0.20	0.02	1.00000		70.4	35 - 115	0.359	20	
Phenanthrene	0.702930	0.20	0.02	1.00000		70.3	43 - 112	0.803	20	
Pyrene	0.772110	0.20	0.02	1.00000		77.2	47 - 116	1.29	20	
Surrogate: 1,2-Dichlorobenzene-d	*0.7333*			*1.00000*		*73.3*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8521*			*1.00000*		*85.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8699*			*1.00000*		*87.0*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9920*			*1.00000*		*99.2*	*32 - 119*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S										
Blank (B7J0757-BLK1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
2-Methylnaphthalene	ND	5.0	0.60							
Acenaphthene	ND	5.0	0.41							
Acenaphthylene	ND	5.0	0.41							
Anthracene	ND	5.0	0.56							
Benzo(a)anthracene	ND	5.0	0.56							
Benzo(a)pyrene	ND	5.0	0.69							
Benzo(b)fluoranthene	ND	5.0	2.2							
Benzo(g,h,i)perylene	ND	5.0	0.80							
Benzo(k)fluoranthene	ND	5.0	0.70							
Chrysene	ND	5.0	0.61							
Dibenz(a,h)anthracene	ND	5.0	0.88							
Fluoranthene	ND	5.0	0.45							
Fluorene	ND	5.0	0.35							
Indeno(1,2,3-cd)pyrene	ND	5.0	0.82							
Naphthalene	ND	5.0	0.56							
Phenanthrene	ND	5.0	0.34							
Pyrene	ND	5.0	0.51							
Surrogate: 1,2-Dichlorobenzene-d	*21.72*			*33.3333*		*65.2*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*26.50*			*33.3333*		*79.5*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.05*			*33.3333*		*51.1*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*31.30*			*33.3333*		*93.9*	*39 - 123*			
LCS (B7J0757-BS1)					Prepared: 10/25/2017 Analyzed: 10/25/2017					
2-Methylnaphthalene	15.4713	5.0	0.60	33.3333		46.4	23 - 127			
Acenaphthene	17.9283	5.0	0.41	33.3333		53.8	35 - 91			
Acenaphthylene	18.3447	5.0	0.41	33.3333		55.0	35 - 92			
Anthracene	19.9567	5.0	0.56	33.3333		59.9	43 - 109			
Benzo(a)anthracene	24.4347	5.0	0.56	33.3333		73.3	46 - 121			
Benzo(a)pyrene	21.8650	5.0	0.69	33.3333		65.6	49 - 126			
Benzo(b)fluoranthene	28.0460	5.0	2.2	33.3333		84.1	34 - 137			
Benzo(g,h,i)perylene	28.6290	5.0	0.80	33.3333		85.9	40 - 124			
Benzo(k)fluoranthene	23.0450	5.0	0.70	33.3333		69.1	21 - 132			
Chrysene	21.9727	5.0	0.61	33.3333		65.9	51 - 124			
Dibenz(a,h)anthracene	30.3893	5.0	0.88	33.3333		91.2	38 - 123			
Fluoranthene	23.2743	5.0	0.45	33.3333		69.8	47 - 105			
Fluorene	20.2763	5.0	0.35	33.3333		60.8	34 - 95			
Indeno(1,2,3-cd)pyrene	28.1337	5.0	0.82	33.3333		84.4	45 - 124			
Naphthalene	21.1413	5.0	0.56	33.3333		63.4	26 - 110			
Phenanthrene	20.3483	5.0	0.34	33.3333		61.0	39 - 108			
Pyrene	22.9497	5.0	0.51	33.3333		68.8	47 - 107			
Surrogate: 1,2-Dichlorobenzene-d	*21.74*			*33.3333*		*65.2*	*29 - 109*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S (continued)										
LCS (B7J0757-BS1) - Continued						Prepared: 10/25/2017 Analyzed: 10/25/2017				
Surrogate: 2-Fluorobiphenyl	*25.54*			*33.3333*		*76.6*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.26*			*33.3333*		*51.8*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*30.92*			*33.3333*		*92.8*	*39 - 123*			
Matrix Spike (B7J0757-MS1)			**Source: 1703641-33**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
2-Methylnaphthalene	16.0677	5.0	0.60	33.3333	ND	48.2	30 - 141			
Acenaphthene	18.3313	5.0	0.41	33.3333	ND	55.0	9 - 155			
Acenaphthylene	19.1713	5.0	0.41	33.3333	ND	57.5	43 - 110			
Anthracene	19.6413	5.0	0.56	33.3333	ND	58.9	33 - 146			
Benzo(a)anthracene	24.1603	5.0	0.56	33.3333	0.886000	69.8	49 - 130			
Benzo(a)pyrene	22.4533	5.0	0.69	33.3333	0.972000	64.4	36 - 134			
Benzo(b)fluoranthene	28.1877	5.0	2.2	33.3333	ND	84.6	26 - 148			
Benzo(g,h,i)perylene	27.3003	5.0	0.80	33.3333	1.07733	78.7	16 - 156			
Benzo(k)fluoranthene	21.5640	5.0	0.70	33.3333	ND	64.7	29 - 132			
Chrysene	21.7687	5.0	0.61	33.3333	0.950333	62.5	0 - 184			
Dibenz(a,h)anthracene	26.4073	5.0	0.88	33.3333	ND	79.2	29 - 149			
Fluoranthene	24.6230	5.0	0.45	33.3333	1.39000	69.7	14 - 162			
Fluorene	20.6440	5.0	0.35	33.3333	ND	61.9	48 - 111			
Indeno(1,2,3-cd)pyrene	26.3657	5.0	0.82	33.3333	ND	79.1	37 - 135			
Naphthalene	21.3907	5.0	0.56	33.3333	ND	64.2	34 - 126			
Phenanthrene	21.0370	5.0	0.34	33.3333	0.683333	61.1	19 - 155			
Pyrene	24.2550	5.0	0.51	33.3333	1.37100	68.7	13 - 162			
Surrogate: 1,2-Dichlorobenzene-d	*20.75*			*33.3333*		*62.3*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*26.44*			*33.3333*		*79.3*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*17.07*			*33.3333*		*51.2*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*26.58*			*33.3333*		*79.7*	*39 - 123*			
Matrix Spike Dup (B7J0757-MSD1)			**Source: 1703641-33**			Prepared: 10/25/2017 Analyzed: 10/25/2017				
2-Methylnaphthalene	14.5860	5.0	0.60	33.3333	ND	43.8	30 - 141	9.67	20	
Acenaphthene	17.5750	5.0	0.41	33.3333	ND	52.7	9 - 155	4.21	20	
Acenaphthylene	18.6233	5.0	0.41	33.3333	ND	55.9	43 - 110	2.90	20	
Anthracene	18.6273	5.0	0.56	33.3333	ND	55.9	33 - 146	5.30	20	
Benzo(a)anthracene	22.8487	5.0	0.56	33.3333	0.886000	65.9	49 - 130	5.58	20	
Benzo(a)pyrene	20.7357	5.0	0.69	33.3333	0.972000	59.3	36 - 134	7.95	20	
Benzo(b)fluoranthene	24.9090	5.0	2.2	33.3333	ND	74.7	26 - 148	12.3	20	
Benzo(g,h,i)perylene	25.5220	5.0	0.80	33.3333	1.07733	73.3	16 - 156	6.73	20	
Benzo(k)fluoranthene	21.3153	5.0	0.70	33.3333	ND	63.9	29 - 132	1.16	20	
Chrysene	20.3623	5.0	0.61	33.3333	0.950333	58.2	0 - 184	6.68	20	
Dibenz(a,h)anthracene	25.4717	5.0	0.88	33.3333	ND	76.4	29 - 149	3.61	20	
Fluoranthene	23.2487	5.0	0.45	33.3333	1.39000	65.6	14 - 162	5.74	20	
Fluorene	19.7670	5.0	0.35	33.3333	ND	59.3	48 - 111	4.34	20	
Indeno(1,2,3-cd)pyrene	25.2027	5.0	0.82	33.3333	ND	75.6	37 - 135	4.51	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0757 - MSSEMI_S (continued)										
Matrix Spike Dup (B7J0757-MSD1) - Continued			**Source: 1703641-33**		Prepared: 10/25/2017 Analyzed: 10/25/2017					
Naphthalene	19.5670	5.0	0.56	33.3333	ND	58.7	34 - 126	8.91	20	
Phenanthrene	19.8897	5.0	0.34	33.3333	0.683333	57.6	19 - 155	5.61	20	
Pyrene	22.3383	5.0	0.51	33.3333	1.37100	62.9	13 - 162	8.23	20	
Surrogate: 1,2-Dichlorobenzene-d	*18.94*			*33.3333*		*56.8*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*25.06*			*33.3333*		*75.2*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*16.15*			*33.3333*		*48.5*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*25.38*			*33.3333*		*76.1*	*39 - 123*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0764 - MSSEMI_S										
Blank (B7J0764-BLK1)					Prepared: 10/25/2017 Analyzed: 10/27/2017					
2-Methylnaphthalene	ND	5.0	0.60							
Acenaphthene	ND	5.0	0.41							
Acenaphthylene	ND	5.0	0.41							
Anthracene	ND	5.0	0.56							
Benzo(a)anthracene	ND	5.0	0.56							
Benzo(a)pyrene	ND	5.0	0.69							
Benzo(b)fluoranthene	ND	5.0	2.2							
Benzo(g,h,i)perylene	ND	5.0	0.80							
Benzo(k)fluoranthene	ND	5.0	0.70							
Chrysene	ND	5.0	0.61							
Dibenz(a,h)anthracene	ND	5.0	0.88							
Fluoranthene	ND	5.0	0.45							
Fluorene	ND	5.0	0.35							
Indeno(1,2,3-cd)pyrene	ND	5.0	0.82							
Naphthalene	ND	5.0	0.56							
Phenanthrene	ND	5.0	0.34							
Pyrene	ND	5.0	0.51							
Surrogate: 1,2-Dichlorobenzene-d	*19.60*			*33.3333*		*58.8*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*24.66*			*33.3333*		*74.0*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*16.98*			*33.3333*		*50.9*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*31.42*			*33.3333*		*94.3*	*39 - 123*			
LCS (B7J0764-BS1)					Prepared: 10/25/2017 Analyzed: 10/27/2017					
2-Methylnaphthalene	15.0823	5.0	0.60	33.3333		45.2	23 - 127			
Acenaphthene	18.0693	5.0	0.41	33.3333		54.2	35 - 91			
Acenaphthylene	18.6617	5.0	0.41	33.3333		56.0	35 - 92			
Anthracene	20.9190	5.0	0.56	33.3333		62.8	43 - 109			
Benzo(a)anthracene	27.2840	5.0	0.56	33.3333		81.9	46 - 121			
Benzo(a)pyrene	23.5467	5.0	0.69	33.3333		70.6	49 - 126			
Benzo(b)fluoranthene	29.1363	5.0	2.2	33.3333		87.4	34 - 137			
Benzo(g,h,i)perylene	27.5213	5.0	0.80	33.3333		82.6	40 - 124			
Benzo(k)fluoranthene	26.2540	5.0	0.70	33.3333		78.8	21 - 132			
Chrysene	23.6643	5.0	0.61	33.3333		71.0	51 - 124			
Dibenz(a,h)anthracene	31.0690	5.0	0.88	33.3333		93.2	38 - 123			
Fluoranthene	26.6863	5.0	0.45	33.3333		80.1	47 - 105			
Fluorene	21.3673	5.0	0.35	33.3333		64.1	34 - 95			
Indeno(1,2,3-cd)pyrene	28.5763	5.0	0.82	33.3333		85.7	45 - 124			
Naphthalene	20.6280	5.0	0.56	33.3333		61.9	26 - 110			
Phenanthrene	20.7853	5.0	0.34	33.3333		62.4	39 - 108			
Pyrene	26.7290	5.0	0.51	33.3333		80.2	47 - 107			
Surrogate: 1,2-Dichlorobenzene-d	*21.02*			*33.3333*		*63.1*	*29 - 109*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0764 - MSSEMI_S (continued)										
LCS (B7J0764-BS1) - Continued						Prepared: 10/25/2017 Analyzed: 10/27/2017				
Surrogate: 2-Fluorobiphenyl	*27.09*			*33.3333*		*81.3*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*19.42*			*33.3333*		*58.3*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*33.78*			*33.3333*		*101*	*39 - 123*			
Matrix Spike (B7J0764-MS1)			**Source: 1703653-05**			Prepared: 10/25/2017 Analyzed: 10/27/2017				
2-Methylnaphthalene	18.5430	5.0	0.60	33.3333	ND	55.6	30 - 141			
Acenaphthene	22.2650	5.0	0.41	33.3333	ND	66.8	9 - 155			
Acenaphthylene	23.3520	5.0	0.41	33.3333	ND	70.1	43 - 110			
Anthracene	22.5330	5.0	0.56	33.3333	ND	67.6	33 - 146			
Benzo(a)anthracene	26.1233	5.0	0.56	33.3333	ND	78.4	49 - 130			
Benzo(a)pyrene	21.7163	5.0	0.69	33.3333	ND	65.1	36 - 134			
Benzo(b)fluoranthene	26.9497	5.0	2.2	33.3333	ND	80.8	26 - 148			
Benzo(g,h,i)perylene	27.4387	5.0	0.80	33.3333	ND	82.3	16 - 156			
Benzo(k)fluoranthene	24.8680	5.0	0.70	33.3333	ND	74.6	29 - 132			
Chrysene	22.6383	5.0	0.61	33.3333	ND	67.9	0 - 184			
Dibenz(a,h)anthracene	30.5330	5.0	0.88	33.3333	ND	91.6	29 - 149			
Fluoranthene	25.7453	5.0	0.45	33.3333	ND	77.2	14 - 162			
Fluorene	26.1010	5.0	0.35	33.3333	ND	78.3	48 - 111			
Indeno(1,2,3-cd)pyrene	28.4403	5.0	0.82	33.3333	ND	85.3	37 - 135			
Naphthalene	25.1890	5.0	0.56	33.3333	ND	75.6	34 - 126			
Phenanthrene	23.4663	5.0	0.34	33.3333	ND	70.4	19 - 155			
Pyrene	25.7883	5.0	0.51	33.3333	ND	77.4	13 - 162			
Surrogate: 1,2-Dichlorobenzene-d	*24.36*			*33.3333*		*73.1*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*33.10*			*33.3333*		*99.3*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*23.15*			*33.3333*		*69.5*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*31.93*			*33.3333*		*95.8*	*39 - 123*			
Matrix Spike Dup (B7J0764-MSD1)			**Source: 1703653-05**			Prepared: 10/25/2017 Analyzed: 10/27/2017				
2-Methylnaphthalene	19.4837	5.0	0.60	33.3333	ND	58.5	30 - 141	4.95	20	
Acenaphthene	23.8603	5.0	0.41	33.3333	ND	71.6	9 - 155	6.92	20	
Acenaphthylene	24.6297	5.0	0.41	33.3333	ND	73.9	43 - 110	5.33	20	
Anthracene	23.0803	5.0	0.56	33.3333	ND	69.2	33 - 146	2.40	20	
Benzo(a)anthracene	27.2810	5.0	0.56	33.3333	ND	81.8	49 - 130	4.34	20	
Benzo(a)pyrene	22.3620	5.0	0.69	33.3333	ND	67.1	36 - 134	2.93	20	
Benzo(b)fluoranthene	28.8073	5.0	2.2	33.3333	ND	86.4	26 - 148	6.66	20	
Benzo(g,h,i)perylene	27.7343	5.0	0.80	33.3333	ND	83.2	16 - 156	1.07	20	
Benzo(k)fluoranthene	26.8593	5.0	0.70	33.3333	ND	80.6	29 - 132	7.70	20	
Chrysene	23.4133	5.0	0.61	33.3333	ND	70.2	0 - 184	3.37	20	
Dibenz(a,h)anthracene	31.4890	5.0	0.88	33.3333	ND	94.5	29 - 149	3.08	20	
Fluoranthene	27.5037	5.0	0.45	33.3333	ND	82.5	14 - 162	6.60	20	
Fluorene	27.6163	5.0	0.35	33.3333	ND	82.8	48 - 111	5.64	20	
Indeno(1,2,3-cd)pyrene	28.8430	5.0	0.82	33.3333	ND	86.5	37 - 135	1.41	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0764 - MSSEMI_S (continued)										
Matrix Spike Dup (B7J0764-MSD1) - Continued			**Source: 1703653-05**		Prepared: 10/25/2017 Analyzed: 10/27/2017					
Naphthalene	26.1093	5.0	0.56	33.3333	ND	78.3	34 - 126	3.59	20	
Phenanthrene	24.4000	5.0	0.34	33.3333	ND	73.2	19 - 155	3.90	20	
Pyrene	26.8027	5.0	0.51	33.3333	ND	80.4	13 - 162	3.86	20	
Surrogate: 1,2-Dichlorobenzene-d	*24.79*			*33.3333*		*74.4*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*33.94*			*33.3333*		*102*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*23.95*			*33.3333*		*71.8*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*33.84*			*33.3333*		*102*	*39 - 123*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618.005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/02/2017

Notes and Definitions

S7	Surrogate recovery was outside of laboratory acceptance limit. Chromatogram shows high concentration of heavy hydrocarbons.
S4	Surrogate was diluted out.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☑	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other:	4. SEALED	☐	☑	5.9, 6.0, 6.8		

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: 92614
Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company: SAME
Address:
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct Payable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: Hold All 5035 Kits for 8260 VOCs at a later date

Encircle or Write Requested Analysis

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015(GRO) / HOLD	8015(DRO) / TPHD	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15
1	1703653-01	LB7-0.5	10/12/17	726		X	X				X	
2	-02	LB7-2.5		728								
3	-03	LB7-5.0		730								
4	-04	LB11-0.5		750								
5	-05	LB11-2.5		752								
6	-06	LB11-5.0		754								
7	-07	LB16-0.5		810								
8	-08	LB16-2.5		812								
9	-09	LB16-5.0		814								
10	-10	LB22-0.5		826								

Encircle Sample Matrix: (SOIL) SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # (5, 4); Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

REMARKS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontracting lab - ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformated report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name

Ken C. Hall — Signature

Relinquished by: (Signature and Printed Name) Ken C. Hall	Date: 10/12/17	Time: 1500	Received by: (Signature and Printed Name) Rosina	Date: 10/12/17	Time: 1508
Relinquished by: (Signature and Printed Name) Rosina	Date: 10/12/17	Time: 1541	Received by: (Signature and Printed Name) MRZ	Date: 10/12/17	Time: 1541
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 2 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☑	5.9 6.0 5.8		

CUSTOMER

Company: Leighton Consulting Inc. Address: 17781 Cowan Tel: 949-753-9836
City: Irvine State: CA Zip: 92614 Fax:

SEND REPORT TO: Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company: SAME
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO Attn: Acct. Payable Email:
Company: SAME
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191 - 193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time
1	17036531-11	LB22 - 2.5	10/12/17	828
2	-12	LB22 - 5.0		830
3	-13	LB27 - 0.5		856
4	-14	LB27 - 2.5		858
5	-15	LB27 - 5.0		900
6	-16	LB30 - 0.5		930
7	-17	LB30 - 2.5		932
8	-18	LB30 - 5.0		934
9	-19	LB32 - 0.5		950
10	-20	LB32 - 2.5		952

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015 (GRO) TPHg/BTEX; 8015 (DRO) TPHd; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # — Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister — Material: 1=Glass; 2=Plastic; 3=Metal — Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

REMARKS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
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3. The following turnaround time conditions apply:
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   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
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   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
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11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hull — Submitter Print Name
Ken C. Hull — Signature

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Ken C. Hull	10/12/17	1500	Fedex	10/12/17	1504
Fedex	10/12/17	1541	MTR	10/12/17	1541

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 3 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport: ☐ Client ☑ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other:

Sample Conditions Upon Receipt					
Condition	Y	N	Condition	Y	N
1. CHILLED	☐	☐	5. # OF SAMPLES MATCH COC	☐	☐
2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
4. SEALED	☐	☐	6.9 6.0 5.8		

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip:
Tel: 949-753-9336 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company: SAME
Address:
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company: SAME
Address:
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

ITEM	Lab No.	Sample Description: Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015 (GRO) TPHg/A	8015 (DRO) TPHd	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Container Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (AcI2; 6=NaOH; 7=NA2S2O3	REMARKS
1	1709653-21	LB22-2.5	10/12/17	~~828~~ 952 ~~835~~ 955 KH		X	X				X		X					5	4				
2	-22	LB22-5.0		955																			
3	-23	LB32-0.5		950																			
4	-24	LB32-2.5		952																			
5	-25	LB32-5.0		955																			
6	-26	LB33-0.5		1006																			
7	-27	LB33-2.5		1008																			
8	-28	LB33-5.0		1010																			
9	-29	LB31-0.5		1038																			
10	-30	LB31-2.5		1040																			

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

SUBMITTAL TERMS & CONDITIONS

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   TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
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8. Hard copy reports will be disposed of after 45 calendar days from report date.
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   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reformatted report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Ken C. Hall — Signature

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Ken C. Hall	10/12/17	1500	FEDEX	10/12/17	1503
FEDEX	10/12/17	1541	MTR	10/12/17	1541

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 4 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☑	5.9 6.0 5.8		

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip:
Tel: 949-753-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company: SAME
Address:
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company: SAME
Address:
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPH g/o; 8015(DRO) TPH o; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7 = Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4 = 4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260	8015(GRO)	8015(DRO)	8270	8081	8082	6010/7000	TO-15	SOIL/SED/SLUDGE	SOLIDS/WIPE/FILTER	WATER-DRINKING/GROUND	WATER-STORM/WASTE	AQUEOUS/LAYERED-OIL	TAT	#	REMARKS
1	1703653-31	LB31-5.0	10/12/17	1042		X	X				X		X					5	4	
2	-32	LB29-0.5		1120																
3	-33	LB29-2.5		1122																
4	-34	LB29-5.0		1124																
5	-35	LB28-0.5		1146																
6	-36	LB28-2.5		1148																
7	-37	LB28-5.0		1150																
8	-38	LB26-0.5		1202																
9	-39	LB26-2.5		1204																
10	-40	LB26-5.0		1206																

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   TAT = 0 : 200% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
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   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
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10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kevin R. Hall — Signature

SUBCONTRACT LAB

Relinquished by: (Signature and Printed Name) Kevin R. Hall	Date: 10/12/17	Time: 1500	Received by: (Signature and Printed Name) Brown	Date: 10/12/17	Time: 1528
Relinquished by: (Signature and Printed Name) Brown	Date: 10/12/17	Time: 1541	Received by: (Signature and Printed Name) MPK	Date: 10/12/17	Time: 1541
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 5 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐		5.9	6.0 5.8

CUSTOMER

Company: Leighton Consulting Inc.
Address: 17781 Cowan
City: Irvine State: CA Zip: Tel: 949-753-9836 Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: Bmcculloch@leightongroup.com
Company:
Address: SAME
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. DAyable Email:
Company:
Address: SAME
City: State: Zip:

PROJECT SAMPLES

Project Name: POLA Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO) TPHg/h; 8015(DRO) TPHo; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15

Encircle Sample Matrix: (SOIL) / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	REMARKS
1	1709653-41	LB21-0.5	10/12/17	1222	
2	-42	LB21-2.5		1224	
3	-43	LB21-5.0		1226	
4	-44	LB15-0.5		1240	
5	-45	LB15-2.5		1242	
6	-46	LB15-5.0		1244	
7	-47	LB10-0.5		1256	
8	-48	LB10-2.5		1258	
9	-49	LB10-5.0		1300	
10	-50	LB6-0.5		1315	

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
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11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall
Submitter Print Name

Signature

Relinquished by: (Signature and Printed Name) Kim C. Hall	Date: 10/12/17	Time: 1560	Received by: (Signature and Printed Name) FEDEX	Date: 10/12/17	Time: 1508
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/12/17	Time: 1541	Received by: (Signature and Printed Name) UPS	Date: 10/12/17	Time: 1541
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

SWMS 100150

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 6 of 6

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☐ Client ☑ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☐	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☑	☐
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:		
☐ Other: _____	4. SEALED	☐	☐	5.9 6.0 5.4		

CUSTOMER

Company: Leighton Consulting Inc
Address: 17781 Cowan
City: Irvine State: CA Zip: Tel: 949-253-9836 Fax:

SEND REPORT TO:
Attn: Email:
Company: SAME
Address:
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Email:
Company: SAME
Address:
City: State: Zip:

PROJECT SAMPLES

Project Name: POLA Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits for soil

ITEM	Lab No.	Sample ID / Location	Date	Time	8260 / 624 (Volatiles)	8015 (GRO) TPH g/d	8015 (DRO) TPH o	8270(Semi-volatiles)	8081(Organochlorine Pesticides)	8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15	8270SIM PAHs	SOIL SEDIMENT / SLUDGE	SOLIDS / WIPE/ FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	Container #	Container Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister	Container Material: 1=Glass; 2=Plastic; 3=Metal	Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn (Ac)2; 6=NaOH; 7=NA2SO3	REMARKS
1	1703653-51	LB6-2.5	10/12/17	1317		X	X				X			X					5	4				
2	-52	LB6-5.0	↓	1319		X	X				X			X					5	4				
3																								
4	1703653-53	LB6-GW	10/12/17	1322	X	X	X				X		X			X			5	9				
5	-54	LB27-GW		902	X	X	X				X		X			X			5	9				
6	-55	LB31-GW		1044	X	X	X				X		X			X			5	9				
7																								
8																								
9																								
10																								

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

KH

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8. Hard copy reports will be disposed of after 45 calendar days from report date.
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10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
_____ — Signature

Relinquished by: (Signature and Printed Name) Ken C. Hall	Date: 10/12/17	Time: 1500	Received by: (Signature and Printed Name) FEDEX	Date: 10/12/17	Time: 1508
Relinquished by: (Signature and Printed Name) FEDEX	Date: 10/12/17	Time: 1541	Received by: (Signature and Printed Name) MK	Date: 10/12/17	Time: 1541
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Monday, October 23, 2017 9:27 PM
To: Dominic Mata
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Hi Dominic,

For the groundwater 8260, I'm fine with waiting as long as hold times are met.

For the soil samples, we need the following additional analyses for the samples listed below. If we need to sub out the soil samples for 8260 to meet hold times, please do.

VOCs (8260B) and PAHs (8270SIM)
LB2-0.5, LB2-2.5
LB4-0.5, LB4-2.5
LB5-0.5, LB5-2.5
LB9-0.5, LB9-2.5
LB13-0.5, LB13-2.5
LB17-0.5, LB17-2.5
LB28-5.0

PCBs (8082)
LB2-0.5
LB4-0.5
LB5-0.5
LB9-0.5
LB13-0.5
LB17-0.5
LB28-5.0

Dioxins/Furans
LB17-0.5

Please run the above analyses on normal turnaround time.

The list below is the potential samples requiring STLC and TCLP, I will confirm tomorrow if we need to proceed with these tests, but I wanted to give you a heads up in case we have limited sample recovery.

STLCs
LB2-0.5 – Lead and Copper
LB4-0.5 – Lead
LB4-3.5 – Copper
LB5-2.5 – Lead
LB11-0.5 – Lead, Copper, and Mercury
LB17-0.5 – Lead
LB27-0.5 – Lead
LB28-0.5 – Lead
LB28-2.5 – Lead
LB30-2.5 – Lead
LB31-0.5 – Lead

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Tuesday, October 24, 2017 6:16 PM
To: Dominic Mata
Subject: RE: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703653)

Dominic,

We need the following additional analyses for the samples listed below.

VOCs (8260B) and PAHs (8270SIM)
LB10-0.5, LB10-2.5
LB11-0.5, LB11-2.5
LB16-2.5, LB16-5.0
LB28-0.5, LB28-2.5, LB28-5.0
LB33-2.5, LB33-5.0

PCBs (8082)
LB10-0.5
LB11-0.5
LB16-2.5
LB28-5.0
LB33-2.5

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

Leighton
Solutions You Can Build On

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Tuesday, October 24, 2017 4:58 PM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703653)

Hi Brynn,

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Tuesday, October 24, 2017 4:50 PM
To: Dominic Mata
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Hi Dominic,

Please run the STLC and TCLP tests as shown below.

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

Leighton
Solutions You Can Build On

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Tuesday, October 24, 2017 10:48 AM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Good morning Brynn,

I received your request for additional analyses below. There are no delays with soils so they will not need to be subbed out. Also, we will make sure the groundwater sample gets ran before the hold time is up. It has 14 days from the sampled date giving us until Friday but we plan to run before that. If I can further assist, please let me know.

Thanks,
Dominic

From: Brynn McCulloch [mailto:bmcculloch@leightongroup.com]
Sent: Monday, October 23, 2017 9:27 PM
To: Dominic Mata
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Hi Dominic,

For the groundwater 8260, I'm fine with waiting as long as hold times are met.

For the soil samples, we need the following additional analyses for the samples listed below. If we need to sub out the soil samples for 8260 to meet hold times, please do.

VOCs (8260B) and PAHs (8270SIM)
LB2-0.5, LB2-2.5
LB4-0.5, LB4-2.5
LB5-0.5, LB5-2.5
LB9-0.5, LB9-2.5
LB13-0.5, LB13-2.5
LB17-0.5, LB17-2.5
LB28-5.0

PCBs (8082)
LB2-0.5
LB4-0.5
LB5-0.5
LB9-0.5
LB13-0.5
LB17-0.5
LB28-5.0

Dioxins/Furans
LB17-0.5

Please run the above analyses on normal turnaround time.

The list below is the potential samples requiring STLC and TCLP, I will confirm tomorrow if we need to proceed with these tests, but I wanted to give you a heads up in case we have limited sample recovery.

STLCs
LB2-0.5 – Lead and Copper
LB4-0.5 – Lead
LB4-3.5 – Copper
LB5-2.5 – Lead
LB11-0.5 – Lead, Copper, and Mercury
LB17-0.5 – Lead
LB27-0.5 – Lead
LB28-0.5 – Lead
LB28-2.5 – Lead
LB30-2.5 – Lead
LB31-0.5 – Lead
LB33-2.5 – Lead

TCLPs
LB2-0.5 – Lead
LB4-0.5 – Lead
LB11-0.5 – Lead and Mercury
LB27-0.5 – Lead
LB30-2.5 – Lead

LB31-0.5 – Lead
LB33-2.5 – Lead

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
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Cell – 949.394.2306
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Leighton
Solutions You Can Build On

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Monday, October 23, 2017 4:16 PM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Good afternoon Brynn,

Here's an update for your two work orders due today:

- DRO in 1703653 will be done tomorrow
- 8260 water sample - our instrument has been down for several days and is now running but due to the back log, samples with hold times expiring are being prioritized. Would you like to have this sample sub contracted out or keep it in house and looking to have it run Wed (10/25) or Thurs (10/26)? Also, I can provided an updated partial report that includes the DRO for this work order.

Thanks,
Dominic

From: Brynn McCulloch [mailto:bmcculloch@leightongroup.com]
Sent: Monday, October 23, 2017 11:47 AM
To: Dominic Mata
Cc: customer.relations@atlglobal.com
Subject: RE: Results - POLA Berth 191-193, 11618.005 (ATL# 1703641)

Any partial results would be helpful, thank you!

Brynn McCulloch, PG 8798

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Tuesday, October 31, 2017 3:18 PM
To: Dominic Mata
Cc: customer.relations@atlglobal.com
Subject: RE: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703653)

Thank you, Dominic.

Can you please run LB11-0.5 for the Copper TCLP?

Thanks again!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Tuesday, October 31, 2017 2:52 PM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703653)

Hi Brynn,

Please find your partial 3 results that include the added 8260, PAHs, STLCs and TCLPs for the above project attached. The final report is now pending the additional analyses of 8082 and one STLC result being re-extracted (1703653-13). If I can further assist, please let me know.

Thanks,

Dominic Mata | Project Coordinator
ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Avenue, Signal Hill CA 90755
O: 562.989.4045 ext. 238 | http://www.atlglobal.com

November 03, 2017

Brynn McCulloch
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
Tel: (949) 394-2306
Fax:(949) 250-1114

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1703672

Client Reference : POLA Berth 191-193, 11618-005

Enclosed are the results for sample(s) received on October 13, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB35-0.5	1703672-01	Soil	10/13/17 8:37	10/13/17 11:46
LB35-2.5	1703672-02	Soil	10/13/17 8:39	10/13/17 11:46
LB35-5.0	1703672-03	Soil	10/13/17 8:41	10/13/17 11:46
LB34-0.5	1703672-04	Soil	10/13/17 9:17	10/13/17 11:46
LB34-2.5	1703672-05	Soil	10/13/17 9:20	10/13/17 11:46
LB34-5.0	1703672-06	Soil	10/13/17 9:22	10/13/17 11:46
LB34-GW	1703672-07	Groundwater	10/13/17 9:25	10/13/17 11:46

CASE NARRATIVE

The ground water sample for VOCs (EPA 8260) analysis was subcontracted to AETL with ELAP Cert.# 1541.

EPA 8260 analyses was performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-0.5

Lab ID: 1703672-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Arsenic	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Barium	**71**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Beryllium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Cadmium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Chromium	**6.7**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Cobalt	**4.6**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Copper	**8.1**	2.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Lead	**4.1**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Molybdenum	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Nickel	**15**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Selenium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Silver	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Thallium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Vanadium	**24**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	
Zinc	**30**	1.0	1	B7J0521	10/18/2017	10/19/17 11:28	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0523	10/18/2017	10/19/17 16:13	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 11:58	
Surrogate: 4-Bromofluorobenzene	*57.7 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 11:58*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2400**	200	100	B7J0583	10/19/2017	10/19/17 22:00	
ORO	**7800**	200	100	B7J0583	10/19/2017	10/19/17 22:00	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-0.5

Lab ID: 1703672-01

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 22:00*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1221	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1232	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1242	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1248	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1254	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1260	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1262	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Aroclor 1268	ND	160	10	B7J0837	10/27/2017	11/01/17 17:31	D1
Surrogate: Decachlorobiphenyl	*45.2 %*	*18 - 136*		B7J0837	10/27/2017	*11/01/17 17:31*	
Surrogate: Tetrachloro-m-xylene	*42.6 %*	*30 - 130*		B7J0837	10/27/2017	*11/01/17 17:31*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1,1-Trichloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1,2,2-Tetrachloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1,2-Trichloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1-Dichloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1-Dichloroethene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,1-Dichloropropene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2,3-Trichloropropane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2,3-Trichlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2,4-Trichlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2,4-Trimethylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2-Dibromo-3-chloropropane	ND	13	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2-Dibromoethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2-Dichlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,2-Dichloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-0.5

Lab ID: 1703672-01

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,3,5-Trimethylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,3-Dichlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,3-Dichloropropane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
1,4-Dichlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
2,2-Dichloropropane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
2-Chlorotoluene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
4-Chlorotoluene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
4-Isopropyltoluene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Benzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Bromobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Bromochloromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Bromodichloromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Bromoform	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Bromomethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Carbon disulfide	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Carbon tetrachloride	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Chlorobenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Chloroethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Chloroform	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Chloromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
cis-1,2-Dichloroethene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
cis-1,3-Dichloropropene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Di-isopropyl ether	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Dibromochloromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Dibromomethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Dichlorodifluoromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Ethyl Acetate	ND	63	1	B7J0504	10/18/2017	10/18/17 12:09	
Ethyl Ether	ND	63	1	B7J0504	10/18/2017	10/18/17 12:09	
Ethyl tert-butyl ether	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Ethylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Freon-113	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Hexachlorobutadiene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Isopropylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
m,p-Xylene	ND	13	1	B7J0504	10/18/2017	10/18/17 12:09	
Methylene chloride	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
MTBE	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-0.5

Lab ID: 1703672-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
n-Propylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Naphthalene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
o-Xylene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
sec-Butylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Styrene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
tert-Amyl methyl ether	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
tert-Butanol	ND	130	1	B7J0504	10/18/2017	10/18/17 12:09	
tert-Butylbenzene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Tetrachloroethene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Toluene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
trans-1,2-Dichloroethene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
trans-1,3-Dichloropropene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Trichloroethene	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Trichlorofluoromethane	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Vinyl acetate	ND	63	1	B7J0504	10/18/2017	10/18/17 12:09	
Vinyl chloride	ND	6.3	1	B7J0504	10/18/2017	10/18/17 12:09	
Surrogate: 1,2-Dichloroethane-d4	*94.0 %*	*32 - 140*		B7J0504	10/18/2017	*10/18/17 12:09*	
Surrogate: 4-Bromofluorobenzene	*86.4 %*	*68 - 131*		B7J0504	10/18/2017	*10/18/17 12:09*	
Surrogate: Dibromofluoromethane	*100 %*	*49 - 134*		B7J0504	10/18/2017	*10/18/17 12:09*	
Surrogate: Toluene-d8	*104 %*	*75 - 132*		B7J0504	10/18/2017	*10/18/17 12:09*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Acenaphthene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Acenaphthylene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Anthracene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Benzo(a)anthracene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Benzo(a)pyrene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Benzo(b)fluoranthene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Benzo(g,h,i)perylene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Benzo(k)fluoranthene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Chrysene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Dibenz(a,h)anthracene	ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-0.5

Lab ID: 1703672-01

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Fluorene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Indeno(1,2,3-cd)pyrene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Naphthalene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Phenanthrene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Pyrene		ND	2500	200	B7J0832	10/27/2017	11/02/17 13:42	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0832	10/27/2017	*11/02/17 13:42*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0832	10/27/2017	*11/02/17 13:42*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0832	10/27/2017	*11/02/17 13:42*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0832	10/27/2017	*11/02/17 13:42*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-2.5

Lab ID: 1703672-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Arsenic	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Barium	**67**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Beryllium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Cadmium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Chromium	**6.1**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Cobalt	**3.7**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Copper	**5.3**	2.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Lead	**1.1**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Molybdenum	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Nickel	**13**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Selenium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Silver	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Thallium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Vanadium	**19**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	
Zinc	**74**	1.0	1	B7J0521	10/18/2017	10/19/17 11:30	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0523	10/18/2017	10/19/17 16:15	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 12:16	
Surrogate: 4-Bromofluorobenzene	*86.6 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 12:16*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1800**	200	100	B7J0583	10/19/2017	10/19/17 22:17	
ORO	**7400**	200	100	B7J0583	10/19/2017	10/19/17 22:17	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-2.5

Lab ID: 1703672-02

Diesel Range Organics by EPA 8015B — **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 22:17*	S4

Volatile Organic Compounds by EPA 5035/EPA 8260B — **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1,1-Trichloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1,2,2-Tetrachloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1,2-Trichloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1-Dichloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1-Dichloroethene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,1-Dichloropropene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2,3-Trichloropropane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2,3-Trichlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2,4-Trichlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2,4-Trimethylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2-Dibromo-3-chloropropane	ND	13	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2-Dibromoethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2-Dichlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2-Dichloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,2-Dichloropropane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,3,5-Trimethylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,3-Dichlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,3-Dichloropropane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
1,4-Dichlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
2,2-Dichloropropane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
2-Chlorotoluene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
4-Chlorotoluene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
4-Isopropyltoluene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Benzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Bromobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Bromochloromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Bromodichloromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Bromoform	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Bromomethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Carbon disulfide	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-2.5

Lab ID: 1703672-02

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Chlorobenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Chloroethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Chloroform	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Chloromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
cis-1,2-Dichloroethene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
cis-1,3-Dichloropropene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Di-isopropyl ether	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Dibromochloromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Dibromomethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Dichlorodifluoromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Ethyl Acetate	ND	64	1	B7J0504	10/18/2017	10/18/17 12:27	
Ethyl Ether	ND	64	1	B7J0504	10/18/2017	10/18/17 12:27	
Ethyl tert-butyl ether	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Ethylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Freon-113	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Hexachlorobutadiene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Isopropylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
m,p-Xylene	ND	13	1	B7J0504	10/18/2017	10/18/17 12:27	
Methylene chloride	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
MTBE	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
n-Butylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
n-Propylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Naphthalene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
o-Xylene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
sec-Butylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Styrene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
tert-Amyl methyl ether	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
tert-Butanol	ND	130	1	B7J0504	10/18/2017	10/18/17 12:27	
tert-Butylbenzene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Tetrachloroethene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Toluene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
trans-1,2-Dichloroethene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
trans-1,3-Dichloropropene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Trichloroethene	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Trichlorofluoromethane	ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Vinyl acetate	ND	64	1	B7J0504	10/18/2017	10/18/17 12:27	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-2.5
Lab ID: 1703672-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	6.4	1	B7J0504	10/18/2017	10/18/17 12:27	
Surrogate: 1,2-Dichloroethane-d4	*93.1 %*		*32 - 140*		B7J0504	10/18/2017	*10/18/17 12:27*	
Surrogate: 4-Bromofluorobenzene	*85.3 %*		*68 - 131*		B7J0504	10/18/2017	*10/18/17 12:27*	
Surrogate: Dibromofluoromethane	*99.6 %*		*49 - 134*		B7J0504	10/18/2017	*10/18/17 12:27*	
Surrogate: Toluene-d8	*104 %*		*75 - 132*		B7J0504	10/18/2017	*10/18/17 12:27*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Acenaphthene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Acenaphthylene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Anthracene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Benzo(a)anthracene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Benzo(a)pyrene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Benzo(b)fluoranthene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Benzo(g,h,i)perylene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Benzo(k)fluoranthene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Chrysene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Dibenz(a,h)anthracene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Fluoranthene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Fluorene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Indeno(1,2,3-cd)pyrene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Naphthalene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Phenanthrene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Pyrene		ND	5000	500	B7J0832	10/27/2017	11/01/17 22:23	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0832	10/27/2017	*11/01/17 22:23*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0832	10/27/2017	*11/01/17 22:23*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0832	10/27/2017	*11/01/17 22:23*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0832	10/27/2017	*11/01/17 22:23*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-5.0

Lab ID: 1703672-03

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Arsenic	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Barium	**39**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Beryllium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Cadmium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Chromium	**6.7**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Cobalt	**3.2**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Copper	**5.1**	2.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Lead	**8.5**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Molybdenum	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Nickel	**12**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Selenium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Silver	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Thallium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Vanadium	**17**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	
Zinc	**29**	1.0	1	B7J0521	10/18/2017	10/19/17 11:31	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0523	10/18/2017	10/19/17 16:17	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 12:35	
Surrogate: 4-Bromofluorobenzene	*91.8 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 12:35*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**6300**	200	100	B7J0583	10/19/2017	10/19/17 22:35	
ORO	**17000**	200	100	B7J0583	10/19/2017	10/19/17 22:35	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-5.0

Lab ID: 1703672-03

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 22:35*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1221	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1232	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1242	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1248	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1254	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1260	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1262	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Aroclor 1268	ND	32	2	B7J0837	10/27/2017	11/01/17 17:49	D1
Surrogate: Decachlorobiphenyl	*21.1 %*	*18 - 136*		B7J0837	10/27/2017	*11/01/17 17:49*	
Surrogate: Tetrachloro-m-xylene	*58.3 %*	*30 - 130*		B7J0837	10/27/2017	*11/01/17 17:49*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1,1-Trichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1,2-Trichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1-Dichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,1-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2,3-Trichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2,3-Trichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2,4-Trichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2,4-Trimethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2-Dibromoethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,2-Dichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	

Certificate of Analysis

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-5.0

Lab ID: 1703672-03

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,3,5-Trimethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,3-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,3-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
1,4-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
2,2-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
2-Chlorotoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
4-Chlorotoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
4-Isopropyltoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Benzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Bromobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Bromochloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Bromodichloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Bromoform	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Bromomethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Carbon disulfide	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Carbon tetrachloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Chlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Chloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Chloroform	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Chloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
cis-1,2-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
cis-1,3-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Di-isopropyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Dibromochloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Dibromomethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Dichlorodifluoromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Ethyl Acetate	ND	55	1	B7J0504	10/18/2017	10/18/17 12:46	
Ethyl Ether	ND	55	1	B7J0504	10/18/2017	10/18/17 12:46	
Ethyl tert-butyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Ethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Freon-113	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Hexachlorobutadiene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Isopropylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
m,p-Xylene	ND	11	1	B7J0504	10/18/2017	10/18/17 12:46	
Methylene chloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
MTBE	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-5.0

Lab ID: 1703672-03

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
n-Propylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Naphthalene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
o-Xylene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
sec-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Styrene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
tert-Amyl methyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
tert-Butanol	ND	110	1	B7J0504	10/18/2017	10/18/17 12:46	
tert-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Tetrachloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Toluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
trans-1,2-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
trans-1,3-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Trichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Trichlorofluoromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Vinyl acetate	ND	55	1	B7J0504	10/18/2017	10/18/17 12:46	
Vinyl chloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 12:46	
Surrogate: 1,2-Dichloroethane-d4	*101 %*	*32 - 140*		B7J0504	10/18/2017	*10/18/17 12:46*	
Surrogate: 4-Bromofluorobenzene	*86.6 %*	*68 - 131*		B7J0504	10/18/2017	*10/18/17 12:46*	
Surrogate: Dibromofluoromethane	*107 %*	*49 - 134*		B7J0504	10/18/2017	*10/18/17 12:46*	
Surrogate: Toluene-d8	*108 %*	*75 - 132*		B7J0504	10/18/2017	*10/18/17 12:46*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Acenaphthene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Acenaphthylene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Anthracene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Benzo(a)anthracene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Benzo(a)pyrene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Benzo(b)fluoranthene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Benzo(g,h,i)perylene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Benzo(k)fluoranthene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Chrysene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Dibenz(a,h)anthracene	ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB35-5.0

Lab ID: 1703672-03

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Fluorene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Indeno(1,2,3-cd)pyrene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Naphthalene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Phenanthrene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Pyrene		ND	6200	500	B7J0832	10/27/2017	11/01/17 22:50	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0832	10/27/2017	*11/01/17 22:50*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0832	10/27/2017	*11/01/17 22:50*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0832	10/27/2017	*11/01/17 22:50*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0832	10/27/2017	*11/01/17 22:50*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-0.5

Lab ID: 1703672-04

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Arsenic	**3.1**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Barium	**100**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Beryllium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Cadmium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Chromium	**20**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Cobalt	**5.1**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Copper	**23**	2.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Lead	**25**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Molybdenum	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Nickel	**12**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Selenium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Silver	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Thallium	ND	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Vanadium	**20**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	
Zinc	**79**	1.0	1	B7J0521	10/18/2017	10/19/17 11:32	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0523	10/18/2017	10/19/17 16:19	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 12:53	
Surrogate: 4-Bromofluorobenzene	*105 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 12:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1100**	100	100	B7J0583	10/19/2017	10/19/17 22:52	
ORO	**4000**	100	100	B7J0583	10/19/2017	10/19/17 22:52	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-0.5

Lab ID: 1703672-04

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 22:52*	S4

Polychlorinated Biphenyls by EPA 8082

Analyst: CO

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Aroclor 1016	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1221	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1232	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1242	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1248	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1254	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1260	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1262	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Aroclor 1268	ND	16	1	B7J0837	10/27/2017	11/01/17 18:07	
Surrogate: Decachlorobiphenyl	*17.7 %*	*18 - 136*		B7J0837	10/27/2017	*11/01/17 18:07*	S10
Surrogate: Tetrachloro-m-xylene	*44.3 %*	*30 - 130*		B7J0837	10/27/2017	*11/01/17 18:07*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1,1-Trichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1,2,2-Tetrachloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1,2-Trichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1-Dichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,1-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2,3-Trichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2,3-Trichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2,4-Trichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2,4-Trimethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2-Dibromo-3-chloropropane	ND	11	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2-Dibromoethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,2-Dichloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-0.5

Lab ID: 1703672-04

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,3,5-Trimethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,3-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,3-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
1,4-Dichlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
2,2-Dichloropropane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
2-Chlorotoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
4-Chlorotoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
4-Isopropyltoluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Benzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Bromobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Bromochloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Bromodichloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Bromoform	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Bromomethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Carbon disulfide	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Carbon tetrachloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Chlorobenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Chloroethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Chloroform	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Chloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
cis-1,2-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
cis-1,3-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Di-isopropyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Dibromochloromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Dibromomethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Dichlorodifluoromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Ethyl Acetate	ND	55	1	B7J0504	10/18/2017	10/18/17 13:05	
Ethyl Ether	ND	55	1	B7J0504	10/18/2017	10/18/17 13:05	
Ethyl tert-butyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Ethylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Freon-113	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Hexachlorobutadiene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Isopropylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
m,p-Xylene	ND	11	1	B7J0504	10/18/2017	10/18/17 13:05	
Methylene chloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
MTBE	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-0.5

Lab ID: 1703672-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
n-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
n-Propylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Naphthalene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
o-Xylene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
sec-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Styrene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
tert-Amyl methyl ether	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
tert-Butanol	ND	110	1	B7J0504	10/18/2017	10/18/17 13:05	
tert-Butylbenzene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Tetrachloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Toluene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
trans-1,2-Dichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
trans-1,3-Dichloropropene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Trichloroethene	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Trichlorofluoromethane	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Vinyl acetate	ND	55	1	B7J0504	10/18/2017	10/18/17 13:05	
Vinyl chloride	ND	5.5	1	B7J0504	10/18/2017	10/18/17 13:05	
Surrogate: 1,2-Dichloroethane-d4	*95.0 %*	*32 - 140*		B7J0504	10/18/2017	*10/18/17 13:05*	
Surrogate: 4-Bromofluorobenzene	*86.4 %*	*68 - 131*		B7J0504	10/18/2017	*10/18/17 13:05*	
Surrogate: Dibromofluoromethane	*105 %*	*49 - 134*		B7J0504	10/18/2017	*10/18/17 13:05*	
Surrogate: Toluene-d8	*103 %*	*75 - 132*		B7J0504	10/18/2017	*10/18/17 13:05*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Acenaphthene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Acenaphthylene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Anthracene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Benzo(a)anthracene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Benzo(a)pyrene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Benzo(b)fluoranthene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Benzo(g,h,i)perylene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Benzo(k)fluoranthene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Chrysene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Dibenz(a,h)anthracene	ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-0.5

Lab ID: 1703672-04

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Fluoranthene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Fluorene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Indeno(1,2,3-cd)pyrene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Naphthalene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Phenanthrene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Pyrene		ND	2500	500	B7J0832	10/27/2017	11/01/17 23:18	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*29 - 109*		B7J0832	10/27/2017	*11/01/17 23:18*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*39 - 108*		B7J0832	10/27/2017	*11/01/17 23:18*	S4
Surrogate: Nitrobenzene-d5	*0%*		*0 - 146*		B7J0832	10/27/2017	*11/01/17 23:18*	
Surrogate: 4-Terphenyl-d14	*0%*		*39 - 123*		B7J0832	10/27/2017	*11/01/17 23:18*	S4

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-2.5
Lab ID: 1703672-05

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Arsenic	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Barium	**99**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Beryllium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Cadmium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Chromium	**7.5**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Cobalt	**3.7**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Copper	**7.6**	2.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Lead	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Molybdenum	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Nickel	**5.8**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Selenium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Silver	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Thallium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Vanadium	**15**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	
Zinc	**26**	1.0	1	B7J0522	10/18/2017	10/19/17 11:36	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0524	10/18/2017	10/19/17 16:25	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 13:12	
Surrogate: 4-Bromofluorobenzene	*113 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 13:12*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**30**	1.0	1	B7J0583	10/19/2017	10/19/17 19:58	
ORO	**59**	1.0	1	B7J0583	10/19/2017	10/19/17 19:58	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-2.5

Lab ID: 1703672-05

Diesel Range Organics by EPA 8015B — **Analyst: TKT**

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*106 %*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 19:58*	

Volatile Organic Compounds by EPA 5035/EPA 8260B — **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1,1-Trichloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1,2,2-Tetrachloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1,2-Trichloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1-Dichloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1-Dichloroethene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,1-Dichloropropene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2,3-Trichloropropane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2,3-Trichlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2,4-Trichlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2,4-Trimethylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2-Dibromo-3-chloropropane	ND	14	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2-Dibromoethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2-Dichlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2-Dichloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,2-Dichloropropane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,3,5-Trimethylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,3-Dichlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,3-Dichloropropane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
1,4-Dichlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
2,2-Dichloropropane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
2-Chlorotoluene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
4-Chlorotoluene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
4-Isopropyltoluene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Benzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Bromobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Bromochloromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Bromodichloromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Bromoform	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Bromomethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Carbon disulfide	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-2.5

Lab ID: 1703672-05

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Chlorobenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Chloroethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Chloroform	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Chloromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
cis-1,2-Dichloroethene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
cis-1,3-Dichloropropene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Di-isopropyl ether	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Dibromochloromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Dibromomethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Dichlorodifluoromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Ethyl Acetate	ND	68	1	B7J0504	10/18/2017	10/18/17 13:23	
Ethyl Ether	ND	68	1	B7J0504	10/18/2017	10/18/17 13:23	
Ethyl tert-butyl ether	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Ethylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Freon-113	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Hexachlorobutadiene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Isopropylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
m,p-Xylene	ND	14	1	B7J0504	10/18/2017	10/18/17 13:23	
Methylene chloride	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
MTBE	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
n-Butylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
n-Propylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Naphthalene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
o-Xylene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
sec-Butylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Styrene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
tert-Amyl methyl ether	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
tert-Butanol	ND	140	1	B7J0504	10/18/2017	10/18/17 13:23	
tert-Butylbenzene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Tetrachloroethene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Toluene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
trans-1,2-Dichloroethene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
trans-1,3-Dichloropropene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Trichloroethene	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Trichlorofluoromethane	ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Vinyl acetate	ND	68	1	B7J0504	10/18/2017	10/18/17 13:23	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-2.5

Lab ID: 1703672-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	6.8	1	B7J0504	10/18/2017	10/18/17 13:23	
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*32 - 140*		B7J0504	10/18/2017	*10/18/17 13:23*	
Surrogate: 4-Bromofluorobenzene	*89.2 %*		*68 - 131*		B7J0504	10/18/2017	*10/18/17 13:23*	
Surrogate: Dibromofluoromethane	*103 %*		*49 - 134*		B7J0504	10/18/2017	*10/18/17 13:23*	
Surrogate: Toluene-d8	*104 %*		*75 - 132*		B7J0504	10/18/2017	*10/18/17 13:23*	

Semivolatile Organic Compounds by EPA 8270/SIM

Analyst: SP

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Acenaphthene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Acenaphthylene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Anthracene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Benzo(a)anthracene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Benzo(a)pyrene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Benzo(b)fluoranthene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Benzo(g,h,i)perylene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Benzo(k)fluoranthene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Chrysene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Dibenz(a,h)anthracene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Fluoranthene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Fluorene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Indeno(1,2,3-cd)pyrene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Naphthalene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Phenanthrene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Pyrene		ND	5.0	1	B7J0832	10/27/2017	11/01/17 21:29	
Surrogate: 1,2-Dichlorobenzene-d4	*51.2 %*		*29 - 109*		B7J0832	10/27/2017	*11/01/17 21:29*	
Surrogate: 2-Fluorobiphenyl	*84.0 %*		*39 - 108*		B7J0832	10/27/2017	*11/01/17 21:29*	
Surrogate: Nitrobenzene-d5	*70.9 %*		*0 - 146*		B7J0832	10/27/2017	*11/01/17 21:29*	
Surrogate: 4-Terphenyl-d14	*71.8 %*		*39 - 123*		B7J0832	10/27/2017	*11/01/17 21:29*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-5.0

Lab ID: 1703672-06

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Arsenic	**1.7**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Barium	**52**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Beryllium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Cadmium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Chromium	**8.7**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Cobalt	**5.2**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Copper	**6.8**	2.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Lead	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Molybdenum	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Nickel	**7.0**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Selenium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Silver	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Thallium	ND	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Vanadium	**15**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	
Zinc	**27**	1.0	1	B7J0522	10/18/2017	10/19/17 11:42	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B7J0524	10/18/2017	10/19/17 16:36	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B7J0362	10/16/2017	10/16/17 14:44	
Surrogate: 4-Bromofluorobenzene	*114 %*	*50 - 138*		B7J0362	10/16/2017	*10/16/17 14:44*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**5.0**	1.0	1	B7J0583	10/19/2017	10/19/17 20:15	
ORO	**7.1**	1.0	1	B7J0583	10/19/2017	10/19/17 20:15	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-5.0

Lab ID: 1703672-06

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*101 %*	*38 - 145*		B7J0583	10/19/2017	*10/19/17 20:15*	

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1,1-Trichloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1,2,2-Tetrachloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1,2-Trichloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1-Dichloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1-Dichloroethene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,1-Dichloropropene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2,3-Trichloropropane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2,3-Trichlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2,4-Trichlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2,4-Trimethylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2-Dibromo-3-chloropropane	ND	12	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2-Dibromoethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2-Dichlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2-Dichloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,2-Dichloropropane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,3,5-Trimethylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,3-Dichlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,3-Dichloropropane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
1,4-Dichlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
2,2-Dichloropropane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
2-Chlorotoluene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
4-Chlorotoluene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
4-Isopropyltoluene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Benzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Bromobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Bromochloromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Bromodichloromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Bromoform	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Bromomethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Carbon disulfide	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-5.0

Lab ID: 1703672-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Carbon tetrachloride	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Chlorobenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Chloroethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Chloroform	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Chloromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
cis-1,2-Dichloroethene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
cis-1,3-Dichloropropene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Di-isopropyl ether	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Dibromochloromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Dibromomethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Dichlorodifluoromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Ethyl Acetate	ND	61	1	B7J0504	10/18/2017	10/18/17 13:42	
Ethyl Ether	ND	61	1	B7J0504	10/18/2017	10/18/17 13:42	
Ethyl tert-butyl ether	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Ethylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Freon-113	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Hexachlorobutadiene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Isopropylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
m,p-Xylene	ND	12	1	B7J0504	10/18/2017	10/18/17 13:42	
Methylene chloride	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
MTBE	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
n-Butylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
n-Propylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Naphthalene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
o-Xylene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
sec-Butylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Styrene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
tert-Amyl methyl ether	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
tert-Butanol	ND	120	1	B7J0504	10/18/2017	10/18/17 13:42	
tert-Butylbenzene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Tetrachloroethene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Toluene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
trans-1,2-Dichloroethene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
trans-1,3-Dichloropropene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Trichloroethene	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Trichlorofluoromethane	ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Vinyl acetate	ND	61	1	B7J0504	10/18/2017	10/18/17 13:42	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-5.0

Lab ID: 1703672-06

Volatile Organic Compounds by EPA 5035/EPA 8260B **Analyst: AG**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Vinyl chloride		ND	6.1	1	B7J0504	10/18/2017	10/18/17 13:42	
Surrogate: 1,2-Dichloroethane-d4	*95.4 %*		*32 - 140*		B7J0504	10/18/2017	*10/18/17 13:42*	
Surrogate: 4-Bromofluorobenzene	*85.3 %*		*68 - 131*		B7J0504	10/18/2017	*10/18/17 13:42*	
Surrogate: Dibromofluoromethane	*103 %*		*49 - 134*		B7J0504	10/18/2017	*10/18/17 13:42*	
Surrogate: Toluene-d8	*106 %*		*75 - 132*		B7J0504	10/18/2017	*10/18/17 13:42*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-GW
Lab ID: 1703672-07

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:34	
Arsenic	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:34	
Barium	**0.13**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Beryllium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Cadmium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Chromium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Cobalt	**0.0034**	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Copper	ND	0.0090	1	B7J0455	10/17/2017	10/17/17 17:34	
Lead	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:34	
Molybdenum	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:34	
Nickel	ND	0.0050	1	B7J0455	10/17/2017	10/17/17 17:34	
Selenium	ND	0.010	1	B7J0455	10/17/2017	10/17/17 17:34	
Silver	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Thallium	ND	0.015	1	B7J0455	10/17/2017	10/17/17 17:34	
Vanadium	ND	0.0030	1	B7J0455	10/17/2017	10/17/17 17:34	
Zinc	ND	0.025	1	B7J0455	10/17/2017	10/17/17 17:34	

Mercury by AA (Cold Vapor) EPA 7470A

Analyst: KEK

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	1	B7J0458	10/17/2017	10/18/17 17:28	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: VW

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	1	B7J0434	10/17/2017	10/17/17 09:53	
Surrogate: 4-Bromofluorobenzene	*106 %*	*70 - 130*		B7J0434	10/17/2017	*10/17/17 09:53*	

Diesel Range Organics by EPA 8015B

Analyst: TKT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.15**	0.05	1	B7J0462	10/17/2017	10/17/17 22:44	
ORO	**0.10**	0.05	1	B7J0462	10/17/2017	10/17/17 22:44	
Surrogate: p-Terphenyl	*135 %*	*20 - 150*		B7J0462	10/17/2017	*10/17/17 22:44*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Client Sample ID LB34-GW
Lab ID: 1703672-07

Semivolatile Organic Compounds by EPA 8270/SIM **Analyst: SP**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2-Methylnaphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Acenaphthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Acenaphthylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Benzo(a)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Benzo(a)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Benzo(b)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Benzo(g,h,i)perylene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Benzo(k)fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Chrysene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Dibenz(a,h)anthracene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Fluoranthene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Fluorene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Indeno(1,2,3-cd)pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Naphthalene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Phenanthrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Pyrene	ND	0.20	1	B7J0413	10/16/2017	10/16/17 16:57	
Surrogate: 1,2-Dichlorobenzene-d4	*61.7 %*	*32 - 99*		B7J0413	10/16/2017	*10/16/17 16:57*	
Surrogate: 2-Fluorobiphenyl	*65.2 %*	*29 - 105*		B7J0413	10/16/2017	*10/16/17 16:57*	
Surrogate: Nitrobenzene-d5	*76.3 %*	*17 - 123*		B7J0413	10/16/2017	*10/16/17 16:57*	
Surrogate: 4-Terphenyl-d14	*84.0 %*	*32 - 119*		B7J0413	10/16/2017	*10/16/17 16:57*	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W										
Blank (B7J0455-BLK1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	ND	0.010	0.0088							
Arsenic	ND	0.010	0.0078							
Barium	ND	0.0030	0.0026							
Beryllium	ND	0.0030	0.0016							
Cadmium	ND	0.0030	0.0024							
Chromium	ND	0.0030	0.0020							
Cobalt	ND	0.0030	0.0016							
Copper	ND	0.0090	0.0038							
Lead	ND	0.0050	0.0047							
Molybdenum	ND	0.0050	0.0030							
Nickel	ND	0.0050	0.0046							
Selenium	ND	0.010	0.0093							
Silver	ND	0.0030	0.0024							
Thallium	ND	0.015	0.0085							
Vanadium	ND	0.0030	0.0022							
Zinc	ND	0.025	0.0057							
LCS (B7J0455-BS1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	0.929102	0.010	0.0088	1.00000		92.9	80 - 120			
Arsenic	0.941062	0.010	0.0078	1.00000		94.1	80 - 120			
Barium	0.969431	0.0030	0.0026	1.00000		96.9	80 - 120			
Beryllium	0.952237	0.0030	0.0016	1.00000		95.2	80 - 120			
Cadmium	0.923200	0.0030	0.0024	1.00000		92.3	80 - 120			
Chromium	0.964497	0.0030	0.0020	1.00000		96.4	80 - 120			
Cobalt	0.960800	0.0030	0.0016	1.00000		96.1	80 - 120			
Copper	0.947343	0.0090	0.0038	1.00000		94.7	80 - 120			
Lead	0.953769	0.0050	0.0047	1.00000		95.4	80 - 120			
Molybdenum	0.936200	0.0050	0.0030	1.00000		93.6	80 - 120			
Nickel	0.929993	0.0050	0.0046	1.00000		93.0	80 - 120			
Selenium	0.907008	0.010	0.0093	1.00000		90.7	80 - 120			
Silver	1.18499	0.0030	0.0024	1.00000		118	80 - 120			
Thallium	0.946903	0.015	0.0085	1.00000		94.7	80 - 120			
Vanadium	0.953132	0.0030	0.0022	1.00000		95.3	80 - 120			
Zinc	0.930909	0.025	0.0057	1.00000		93.1	80 - 120			
Matrix Spike (B7J0455-MS1)			**Source: 1703640-01**			Prepared: 10/17/2017 Analyzed: 10/17/2017				
Antimony	2.45296	0.010	0.0088	2.50000	ND	98.1	60 - 130			
Arsenic	2.51904	0.010	0.0078	2.50000	ND	101	69 - 123			
Barium	2.59554	0.0030	0.0026	2.50000	0.106382	99.6	67 - 129			
Beryllium	2.52702	0.0030	0.0016	2.50000	ND	101	74 - 120			

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0455 - EPA 3010A_W (continued)										
Matrix Spike (B7J0455-MS1) - Continued			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Cadmium	2.37069	0.0030	0.0024	2.50000	ND	94.8	69 - 116			
Chromium	2.49293	0.0030	0.0020	2.50000	0.014934	99.1	74 - 120			
Cobalt	2.43594	0.0030	0.0016	2.50000	0.002840	97.3	70 - 116			
Copper	2.53772	0.0090	0.0038	2.50000	0.01129	101	76 - 123			
Lead	2.42425	0.0050	0.0047	2.50000	ND	97.0	69 - 117			
Molybdenum	2.53677	0.0050	0.0030	2.50000	0.026825	100	68 - 120			
Nickel	2.38734	0.0050	0.0046	2.50000	0.011243	95.0	70 - 115			
Selenium	2.39006	0.010	0.0093	2.50000	ND	95.6	66 - 120			
Silver	2.66866	0.0030	0.0024	2.50000	ND	107	73 - 123			
Thallium	2.34797	0.015	0.0085	2.50000	ND	93.9	57 - 124			
Vanadium	2.52252	0.0030	0.0022	2.50000	0.010942	100	72 - 123			
Zinc	2.38635	0.025	0.0057	2.50000	0.023691	94.5	73 - 111			
Matrix Spike Dup (B7J0455-MSD1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/17/2017					
Antimony	2.42439	0.010	0.0088	2.50000	ND	97.0	60 - 130	1.17	20	
Arsenic	2.47205	0.010	0.0078	2.50000	ND	98.9	69 - 123	1.88	20	
Barium	2.56504	0.0030	0.0026	2.50000	0.106382	98.3	67 - 129	1.18	20	
Beryllium	2.49000	0.0030	0.0016	2.50000	ND	99.6	74 - 120	1.48	20	
Cadmium	2.33304	0.0030	0.0024	2.50000	ND	93.3	69 - 116	1.60	20	
Chromium	2.44862	0.0030	0.0020	2.50000	0.014934	97.3	74 - 120	1.79	20	
Cobalt	2.39427	0.0030	0.0016	2.50000	0.002840	95.7	70 - 116	1.73	20	
Copper	2.50095	0.0090	0.0038	2.50000	0.01129	99.6	76 - 123	1.46	20	
Lead	2.39216	0.0050	0.0047	2.50000	ND	95.7	69 - 117	1.33	20	
Molybdenum	2.50298	0.0050	0.0030	2.50000	0.026825	99.0	68 - 120	1.34	20	
Nickel	2.35861	0.0050	0.0046	2.50000	0.011243	93.9	70 - 115	1.21	20	
Selenium	2.34170	0.010	0.0093	2.50000	ND	93.7	66 - 120	2.04	20	
Silver	2.62202	0.0030	0.0024	2.50000	ND	105	73 - 123	1.76	20	
Thallium	2.34150	0.015	0.0085	2.50000	ND	93.7	57 - 124	0.276	20	
Vanadium	2.48646	0.0030	0.0022	2.50000	0.010942	99.0	72 - 123	1.44	20	
Zinc	2.35433	0.025	0.0057	2.50000	0.023691	93.2	73 - 111	1.35	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0521 - EPA 3050B_S										
Blank (B7J0521-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0521-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	44.6737	2.0	0.51	50.0000		89.3	80 - 120			
Arsenic	44.3583	1.0	0.12	50.0000		88.7	80 - 120			
Barium	48.5528	1.0	0.12	50.0000		97.1	80 - 120			
Beryllium	45.5802	1.0	0.03	50.0000		91.2	80 - 120			
Cadmium	44.3475	1.0	0.14	50.0000		88.7	80 - 120			
Chromium	48.0257	1.0	0.26	50.0000		96.1	80 - 120			
Cobalt	47.3349	1.0	0.07	50.0000		94.7	80 - 120			
Copper	46.9373	2.0	0.19	50.0000		93.9	80 - 120			
Lead	45.6487	1.0	0.18	50.0000		91.3	80 - 120			
Molybdenum	46.5031	1.0	0.12	50.0000		93.0	80 - 120			
Nickel	45.5362	1.0	0.18	50.0000		91.1	80 - 120			
Selenium	42.9147	1.0	0.40	50.0000		85.8	80 - 120			
Silver	48.5406	1.0	0.12	50.0000		97.1	80 - 120			
Thallium	46.3220	1.0	0.38	50.0000		92.6	80 - 120			
Vanadium	47.2496	1.0	0.06	50.0000		94.5	80 - 120			
Zinc	45.4536	1.0	0.15	50.0000		90.9	80 - 120			
Matrix Spike (B7J0521-MS1)				**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	78.2194	2.0	0.51	125.000	ND	62.6	33 - 98			
Arsenic	96.0602	1.0	0.12	125.000	2.18176	75.1	48 - 101			
Barium	197.620	1.0	0.12	125.000	109.426	70.6	25 - 131			
Beryllium	94.5627	1.0	0.03	125.000	ND	75.7	56 - 97			
Cadmium	88.8968	1.0	0.14	125.000	0.462093	70.7	53 - 94			
Chromium	111.714	1.0	0.26	125.000	18.0048	75.0	45 - 113			

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 11/03/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0521 - EPA 3050B_S (continued)										
Matrix Spike (B7J0521-MS1) - Continued			**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Cobalt	100.921	1.0	0.07	125.000	7.86130	74.4	51 - 97			
Copper	120.351	2.0	0.19	125.000	21.5846	79.0	51 - 113			
Lead	144.756	1.0	0.18	125.000	64.7775	64.0	33 - 127			
Molybdenum	95.7408	1.0	0.12	125.000	ND	76.6	54 - 97			
Nickel	104.175	1.0	0.18	125.000	14.6893	71.6	46 - 102			
Selenium	91.4219	1.0	0.40	125.000	ND	73.1	52 - 93			
Silver	104.123	1.0	0.12	125.000	ND	83.3	58 - 98			
Thallium	84.5474	1.0	0.38	125.000	ND	67.6	46 - 93			
Vanadium	121.406	1.0	0.06	125.000	26.4725	75.9	55 - 104			
Zinc	264.053	1.0	0.15	125.000	184.021	64.0	26 - 118			
Matrix Spike Dup (B7J0521-MSD1)			**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Antimony	87.6342	2.0	0.51	125.000	ND	70.1	33 - 98	11.4	20	
Arsenic	106.725	1.0	0.12	125.000	2.18176	83.6	48 - 101	10.5	20	
Barium	217.283	1.0	0.12	125.000	109.426	86.3	25 - 131	9.48	20	
Beryllium	105.696	1.0	0.03	125.000	ND	84.6	56 - 97	11.1	20	
Cadmium	97.8498	1.0	0.14	125.000	0.462093	77.9	53 - 94	9.59	20	
Chromium	123.744	1.0	0.26	125.000	18.0048	84.6	45 - 113	10.2	20	
Cobalt	110.999	1.0	0.07	125.000	7.86130	82.5	51 - 97	9.51	20	
Copper	134.808	2.0	0.19	125.000	21.5846	90.6	51 - 113	11.3	20	
Lead	162.258	1.0	0.18	125.000	64.7775	78.0	33 - 127	11.4	20	
Molybdenum	106.092	1.0	0.12	125.000	ND	84.9	54 - 97	10.3	20	
Nickel	114.800	1.0	0.18	125.000	14.6893	80.1	46 - 102	9.70	20	
Selenium	101.405	1.0	0.40	125.000	ND	81.1	52 - 93	10.4	20	
Silver	115.307	1.0	0.12	125.000	ND	92.2	58 - 98	10.2	20	
Thallium	94.6868	1.0	0.38	125.000	ND	75.7	46 - 93	11.3	20	
Vanadium	133.700	1.0	0.06	125.000	26.4725	85.8	55 - 104	9.64	20	
Zinc	291.180	1.0	0.15	125.000	184.021	85.7	26 - 118	9.77	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0522 - EPA 3050B_S										
Blank (B7J0522-BLK1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B7J0522-BS1)						Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	44.0054	2.0	0.51	50.0000		88.0	80 - 120			
Arsenic	43.7278	1.0	0.12	50.0000		87.5	80 - 120			
Barium	47.6076	1.0	0.12	50.0000		95.2	80 - 120			
Beryllium	44.0730	1.0	0.03	50.0000		88.1	80 - 120			
Cadmium	43.4271	1.0	0.14	50.0000		86.9	80 - 120			
Chromium	47.0347	1.0	0.26	50.0000		94.1	80 - 120			
Cobalt	46.2982	1.0	0.07	50.0000		92.6	80 - 120			
Copper	45.7400	2.0	0.19	50.0000		91.5	80 - 120			
Lead	44.7014	1.0	0.18	50.0000		89.4	80 - 120			
Molybdenum	45.8167	1.0	0.12	50.0000		91.6	80 - 120			
Nickel	44.5192	1.0	0.18	50.0000		89.0	80 - 120			
Selenium	42.3748	1.0	0.40	50.0000		84.7	80 - 120			
Silver	46.9070	1.0	0.12	50.0000		93.8	80 - 120			
Thallium	44.5632	1.0	0.38	50.0000		89.1	80 - 120			
Vanadium	46.2541	1.0	0.06	50.0000		92.5	80 - 120			
Zinc	44.4701	1.0	0.15	50.0000		88.9	80 - 120			
Matrix Spike (B7J0522-MS1)				**Source: 1703672-05**		Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	55.3796	2.0	0.51	125.000	ND	44.3	33 - 98			
Arsenic	77.4801	1.0	0.12	125.000	0.237066	61.8	48 - 101			
Barium	156.386	1.0	0.12	125.000	98.8874	46.0	25 - 131			
Beryllium	76.9417	1.0	0.03	125.000	ND	61.6	56 - 97			
Cadmium	69.6659	1.0	0.14	125.000	ND	55.7	53 - 94			
Chromium	79.7975	1.0	0.26	125.000	7.45795	57.9	45 - 113			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0522 - EPA 3050B_S (continued)										
Matrix Spike (B7J0522-MS1) - Continued			**Source: 1703672-05**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
Cobalt	75.9180	1.0	0.07	125.000	3.69589	57.8	51 - 97			
Copper	84.9218	2.0	0.19	125.000	7.57142	61.9	51 - 113			
Lead	71.4824	1.0	0.18	125.000	ND	57.2	33 - 127			
Molybdenum	75.1120	1.0	0.12	125.000	ND	60.1	54 - 97			
Nickel	75.5334	1.0	0.18	125.000	5.76752	55.8	46 - 102			
Selenium	74.6554	1.0	0.40	125.000	ND	59.7	52 - 93			
Silver	86.2298	1.0	0.12	125.000	ND	69.0	58 - 98			
Thallium	67.5519	1.0	0.38	125.000	ND	54.0	46 - 93			
Vanadium	88.0594	1.0	0.06	125.000	15.4392	58.1	55 - 104			
Zinc	85.3713	1.0	0.15	125.000	25.5268	47.9	26 - 118			
Matrix Spike Dup (B7J0522-MSD1)			**Source: 1703672-05**			Prepared: 10/18/2017 Analyzed: 10/19/2017				
Antimony	59.4024	2.0	0.51	125.000	ND	47.5	33 - 98	7.01	20	
Arsenic	82.6520	1.0	0.12	125.000	0.237066	65.9	48 - 101	6.46	20	
Barium	164.454	1.0	0.12	125.000	98.8874	52.5	25 - 131	5.03	20	
Beryllium	83.0842	1.0	0.03	125.000	ND	66.5	56 - 97	7.68	20	
Cadmium	74.1982	1.0	0.14	125.000	ND	59.4	53 - 94	6.30	20	
Chromium	84.5824	1.0	0.26	125.000	7.45795	61.7	45 - 113	5.82	20	
Cobalt	80.6244	1.0	0.07	125.000	3.69589	61.5	51 - 97	6.01	20	
Copper	89.4858	2.0	0.19	125.000	7.57142	65.5	51 - 113	5.23	20	
Lead	75.3280	1.0	0.18	125.000	ND	60.3	33 - 127	5.24	20	
Molybdenum	79.0384	1.0	0.12	125.000	ND	63.2	54 - 97	5.09	20	
Nickel	79.8602	1.0	0.18	125.000	5.76752	59.3	46 - 102	5.57	20	
Selenium	79.5914	1.0	0.40	125.000	ND	63.7	52 - 93	6.40	20	
Silver	91.4008	1.0	0.12	125.000	ND	73.1	58 - 98	5.82	20	
Thallium	71.8481	1.0	0.38	125.000	ND	57.5	46 - 93	6.16	20	
Vanadium	93.7148	1.0	0.06	125.000	15.4392	62.6	55 - 104	6.22	20	
Zinc	93.1380	1.0	0.15	125.000	25.5268	54.1	26 - 118	8.70	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Mercury by AA (Cold Vapor) EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0458 - EPA 245.1/7470_W										
Blank (B7J0458-BLK1)					Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	ND	0.20	0.05							
LCS (B7J0458-BS1)					Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	9.54958	0.20	0.05	10.0000		95.5	80 - 120			
Matrix Spike (B7J0458-MS1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	9.82494	0.20	0.05	10.0000	0.066603	97.6	70 - 130			
Matrix Spike Dup (B7J0458-MSD1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	10.2498	0.20	0.05	10.0000	0.066603	102	70 - 130	4.23	20	
Post Spike (B7J0458-PS1)			**Source: 1703640-01**		Prepared: 10/17/2017 Analyzed: 10/18/2017					
Mercury	4.94797			5.00000	0.066603	97.6	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0523 - EPA 7471_S										
Blank (B7J0523-BLK1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0523-BS1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.748114	0.10	0.005	0.833333		89.8	80 - 120			
Matrix Spike (B7J0523-MS1)			**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.889239	0.10	0.005	0.833333	0.069618	98.4	70 - 130			
Matrix Spike Dup (B7J0523-MSD1)			**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.851838	0.10	0.005	0.833333	0.069618	93.9	70 - 130	4.30	20	
Post Spike (B7J0523-PS1)			**Source: 1703659-01**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	6.2191E-3			5.00000E-3	8.354E-4	108	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0524 - EPA 7471_S										
Blank (B7J0524-BLK1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	ND	0.10	0.005							
LCS (B7J0524-BS1)					Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.767508	0.10	0.005	0.833333		92.1	80 - 120			
Matrix Spike (B7J0524-MS1)			**Source: 1703672-05**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.829618	0.10	0.005	0.833333	0.014933	97.8	70 - 130			
Matrix Spike Dup (B7J0524-MSD1)			**Source: 1703672-05**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.755244	0.10	0.005	0.833333	0.014933	88.8	70 - 130	9.39	20	
Post Spike (B7J0524-PS1)			**Source: 1703672-05**		Prepared: 10/18/2017 Analyzed: 10/19/2017					
Mercury	0.005499			5.00000E-3	0.000179	106	85 - 115			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0362 - GCVOA_S										
Blank (B7J0362-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.2112*			*0.400000*		*52.8*	*50 - 138*			
LCS (B7J0362-BS1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	4.55900	1.0	0.20	5.00000		91.2	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.2227*			*0.400000*		*55.7*	*50 - 138*			
Duplicate (B7J0362-DUP1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	ND	1.0	0.20		ND			NR	20	
Surrogate: 4-Bromofluorobenzene	*0.2124*			*0.400000*		*53.1*	*50 - 138*			
Matrix Spike (B7J0362-MS1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	3.95500	1.0	0.20	5.00000	ND	79.1	17 - 141			
Surrogate: 4-Bromofluorobenzene	*0.2115*			*0.400000*		*52.9*	*50 - 138*			
Matrix Spike Dup (B7J0362-MSD1)			**Source: 1703671-02**		Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Organics	3.51900	1.0	0.20	5.00000	ND	70.4	17 - 141	11.7	20	
Surrogate: 4-Bromofluorobenzene	*0.2040*			*0.400000*		*51.0*	*50 - 138*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0434 - GCVOA_W										
Blank (B7J0434-BLK1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	ND	0.05	0.05							
Surrogate: 4-Bromofluorobenzene	*0.1009*			*0.100000*		*101*	*70 - 130*			
LCS (B7J0434-BS1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	0.736000	0.05	0.05	1.00000		73.6	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1016*			*0.100000*		*102*	*70 - 130*			
LCS Dup (B7J0434-BSD1)					Prepared: 10/17/2017 Analyzed: 10/17/2017					
Gasoline Range Organics	0.848000	0.05	0.05	1.00000		84.8	70 - 130	14.1	20	
Surrogate: 4-Bromofluorobenzene	*0.1029*			*0.100000*		*103*	*70 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0462 - GCSEMI_DRO_W										
Blank (B7J0462-BLK1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
DRO	ND	0.05	0.05							
ORO	ND	0.05	0.05							
Surrogate: p-Terphenyl	*0.1126*			*8.00000E-2*		*141*	*20 - 150*			
LCS (B7J0462-BS1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
DRO	0.939440	0.05	0.05	1.00000		93.9	42 - 142			
Surrogate: p-Terphenyl	*0.1084*			*8.00000E-2*		*135*	*20 - 150*			
LCS Dup (B7J0462-BSD1)						Prepared: 10/17/2017 Analyzed: 10/17/2017				
DRO	0.977190	0.05	0.05	1.00000		97.7	42 - 142	3.94	20	
Surrogate: p-Terphenyl	*0.1115*			*8.00000E-2*		*139*	*20 - 150*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0583 - GCSEMI_DRO_LL_S										
Blank (B7J0583-BLK1)					Prepared: 10/19/2017 Analyzed: 10/19/2017					
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*4.185*			*5.33333*		*78.5*	*38 - 145*			
LCS (B7J0583-BS1)					Prepared: 10/19/2017 Analyzed: 10/19/2017					
DRO	39.9217	1.0	1.0	33.3333		120	33 - 143			
Surrogate: p-Terphenyl	*4.230*			*5.33333*		*79.3*	*38 - 145*			
Duplicate (B7J0583-DUP1)			**Source: 1703671-21**		Prepared: 10/19/2017 Analyzed: 10/19/2017					
DRO	14.0893	1.0	1.0		14.3507			1.84	20	
Surrogate: p-Terphenyl	*3.229*			*2.66667*		*121*	*38 - 145*			
Duplicate (B7J0583-DUP2)			**Source: 1703681-11**		Prepared: 10/19/2017 Analyzed: 10/21/2017					
DRO	12.1503	1.0	1.0		16.8737			32.5	20	R
Surrogate: p-Terphenyl	*2.276*			*2.66667*		*85.3*	*38 - 145*			
Matrix Spike (B7J0583-MS1)			**Source: 1703671-21**		Prepared: 10/19/2017 Analyzed: 10/19/2017					
DRO	43.2807	1.0	1.0	33.3333	14.3507	86.8	20 - 159			
Surrogate: p-Terphenyl	*4.216*			*5.33333*		*79.1*	*38 - 145*			
Matrix Spike (B7J0583-MS2)			**Source: 1703681-11**		Prepared: 10/19/2017 Analyzed: 10/21/2017					
DRO	40.2700	1.0	1.0	33.3333	16.8737	70.2	20 - 159			
Surrogate: p-Terphenyl	*2.984*			*2.66667*		*112*	*38 - 145*			
Matrix Spike Dup (B7J0583-MSD1)			**Source: 1703671-21**		Prepared: 10/19/2017 Analyzed: 10/19/2017					
DRO	37.6890	1.0	1.0	33.3333	14.3507	70.0	20 - 159	13.8	20	
Surrogate: p-Terphenyl	*3.140*			*2.66667*		*118*	*38 - 145*			
Matrix Spike Dup (B7J0583-MSD2)			**Source: 1703681-11**		Prepared: 10/19/2017 Analyzed: 10/21/2017					
DRO	32.2900	1.0	1.0	33.3333	16.8737	46.2	20 - 159	22.0	20	R
Surrogate: p-Terphenyl	*2.036*			*2.66667*		*76.3*	*38 - 145*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Polychlorinated Biphenyls by EPA 8082 - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0837 - GCSEMI_PCB/PEST_S										
Blank (B7J0837-BLK1)						Prepared: 10/27/2017 Analyzed: 11/1/2017				
Aroclor 1016	ND	16	4.6							
Aroclor 1221	ND	16	4.6							
Aroclor 1232	ND	16	4.6							
Aroclor 1242	ND	16	4.6							
Aroclor 1248	ND	16	4.6							
Aroclor 1254	ND	16	4.6							
Aroclor 1260	ND	16	4.6							
Aroclor 1262	ND	16	4.6							
Aroclor 1268	ND	16	4.6							
Surrogate: Decachlorobiphenyl	*15.29*			*16.6667*		*91.8*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*15.55*			*16.6667*		*93.3*	*30 - 130*			
LCS (B7J0837-BS1)						Prepared: 10/27/2017 Analyzed: 11/1/2017				
Aroclor 1016	166.246	16	4.6	166.667		99.7	73 - 111			
Aroclor 1260	161.782	16	4.6	166.667		97.1	75 - 125			
Surrogate: Decachlorobiphenyl	*14.96*			*16.6667*		*89.7*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*14.02*			*16.6667*		*84.1*	*30 - 130*			
Matrix Spike (B7J0837-MS1)			**Source: 1703672-04**			Prepared: 10/27/2017 Analyzed: 11/1/2017				
Aroclor 1016	90.9625	16	4.6	166.667	ND	54.6	36 - 127			
Aroclor 1260	175.296	16	4.6	166.667	ND	105	31 - 142			
Surrogate: Decachlorobiphenyl	*5.477*			*16.6667*		*32.9*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*7.501*			*16.6667*		*45.0*	*30 - 130*			
Matrix Spike Dup (B7J0837-MSD1)			**Source: 1703672-04**			Prepared: 10/27/2017 Analyzed: 11/1/2017				
Aroclor 1016	86.3872	16	4.6	166.667	ND	51.8	36 - 127	5.16	20	
Aroclor 1260	182.705	16	4.6	166.667	ND	110	31 - 142	4.14	20	
Surrogate: Decachlorobiphenyl	*5.843*			*16.6667*		*35.1*	*18 - 136*			
Surrogate: Tetrachloro-m-xylene	*8.482*			*16.6667*		*50.9*	*30 - 130*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S										
Blank (B7J0504-BLK1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
1,1,1,2-Tetrachloroethane	ND	5.0	0.96							
1,1,1-Trichloroethane	ND	5.0	1.1							
1,1,2,2-Tetrachloroethane	ND	5.0	0.62							
1,1,2-Trichloroethane	ND	5.0	1.6							
1,1-Dichloroethane	ND	5.0	0.81							
1,1-Dichloroethene	ND	5.0	2.6							
1,1-Dichloropropene	ND	5.0	2.3							
1,2,3-Trichloropropane	ND	5.0	0.54							
1,2,3-Trichlorobenzene	ND	5.0	1.2							
1,2,4-Trichlorobenzene	ND	5.0	1.1							
1,2,4-Trimethylbenzene	ND	5.0	1.5							
1,2-Dibromo-3-chloropropane	ND	10	1.6							
1,2-Dibromoethane	ND	5.0	3.2							
1,2-Dichlorobenzene	ND	5.0	1.1							
1,2-Dichloroethane	ND	5.0	1.2							
1,2-Dichloropropane	ND	5.0	1.8							
1,3,5-Trimethylbenzene	ND	5.0	1.7							
1,3-Dichlorobenzene	ND	5.0	1.3							
1,3-Dichloropropane	ND	5.0	1.1							
1,4-Dichlorobenzene	ND	5.0	1.2							
2,2-Dichloropropane	ND	5.0	1.2							
2-Chlorotoluene	ND	5.0	1.6							
4-Chlorotoluene	ND	5.0	1.5							
4-Isopropyltoluene	ND	5.0	2.3							
Benzene	ND	5.0	0.64							
Bromobenzene	ND	5.0	1.1							
Bromochloromethane	ND	5.0	0.64							
Bromodichloromethane	ND	5.0	1.2							
Bromoform	ND	5.0	0.80							
Bromomethane	ND	5.0	2.5							
Carbon disulfide	ND	5.0	3.5							
Carbon tetrachloride	ND	5.0	1.2							
Chlorobenzene	ND	5.0	1.0							
Chloroethane	ND	5.0	1.1							
Chloroform	ND	5.0	0.82							
Chloromethane	ND	5.0	1.4							
cis-1,2-Dichloroethene	ND	5.0	0.67							
cis-1,3-Dichloropropene	ND	5.0	1.9							
Di-isopropyl ether	ND	5.0	0.55							
Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	1.6							

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
Blank (B7J0504-BLK1) - Continued					Prepared: 10/18/2017 Analyzed: 10/18/2017					
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	8.1							
Ethyl Ether	ND	50	6.1							
Ethyl tert-butyl ether	ND	5.0	0.67							
Ethylbenzene	ND	5.0	0.91							
Freon-113	ND	5.0	2.8							
Hexachlorobutadiene	ND	5.0	2.5							
Isopropylbenzene	ND	5.0	1.8							
m,p-Xylene	ND	10	1.5							
Methylene chloride	ND	5.0	2.3							
MTBE	ND	5.0	0.63							
n-Butylbenzene	ND	5.0	2.4							
n-Propylbenzene	ND	5.0	2.2							
Naphthalene	ND	5.0	0.97							
o-Xylene	ND	5.0	0.87							
sec-Butylbenzene	ND	5.0	2.3							
Styrene	ND	5.0	1.5							
tert-Amyl methyl ether	ND	5.0	0.59							
tert-Butanol	ND	100	19							
tert-Butylbenzene	ND	5.0	2.0							
Tetrachloroethene	ND	5.0	1.6							
Toluene	ND	5.0	0.94							
trans-1,2-Dichloroethene	ND	5.0	0.59							
trans-1,3-Dichloropropene	ND	5.0	2.1							
Trichloroethene	ND	5.0	3.1							
Trichlorofluoromethane	ND	5.0	1.4							
Vinyl acetate	ND	50	9.8							
Vinyl chloride	ND	5.0	1.7							
Surrogate: 1,2-Dichloroethane-d4	*43.50*			*50.0000*		*87.0*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*44.33*			*50.0000*		*88.7*	*68 - 131*			
Surrogate: Dibromofluoromethan	*50.60*			*50.0000*		*101*	*49 - 134*			
Surrogate: Toluene-d8	*53.33*			*50.0000*		*107*	*75 - 132*			
LCS (B7J0504-BS1)					Prepared: 10/18/2017 Analyzed: 10/18/2017					
1,1,1,2-Tetrachloroethane	48.3000	5.0	0.96	50.0000		96.6	80 - 117			
1,1,1-Trichloroethane	48.4900	5.0	1.1	50.0000		97.0	70 - 122			
1,1,2,2-Tetrachloroethane	47.6400	5.0	0.62	50.0000		95.3	69 - 115			
1,1,2-Trichloroethane	49.7900	5.0	1.6	50.0000		99.6	74 - 120			
1,1-Dichloroethane	49.5500	5.0	0.81	50.0000		99.1	72 - 118			
1,1-Dichloroethene	45.4500	5.0	2.6	50.0000		90.9	61 - 124			
1,1-Dichloropropene	50.4300	5.0	2.3	50.0000		101	74 - 128			

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17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
LCS (B7J0504-BS1) - Continued					Prepared: 10/18/2017 Analyzed: 10/18/2017					
1,2,3-Trichloropropane	51.9700	5.0	0.54	50.0000		104	67 - 116			
1,2,3-Trichlorobenzene	49.9800	5.0	1.2	50.0000		100	86 - 127			
1,2,4-Trichlorobenzene	54.2800	5.0	1.1	50.0000		109	88 - 137			
1,2,4-Trimethylbenzene	52.0700	5.0	1.5	50.0000		104	78 - 125			
1,2-Dibromo-3-chloropropane	50.0200	10	1.6	50.0000		100	70 - 134			
1,2-Dibromoethane	51.2300	5.0	3.2	50.0000		102	73 - 127			
1,2-Dichlorobenzene	50.4100	5.0	1.1	50.0000		101	85 - 116			
1,2-Dichloroethane	50.3400	5.0	1.2	50.0000		101	65 - 120			
1,2-Dichloropropane	50.6000	5.0	1.8	50.0000		101	81 - 114			
1,3,5-Trimethylbenzene	51.3200	5.0	1.7	50.0000		103	76 - 125			
1,3-Dichlorobenzene	51.6800	5.0	1.3	50.0000		103	83 - 117			
1,3-Dichloropropane	50.3500	5.0	1.1	50.0000		101	79 - 119			
1,4-Dichlorobenzene	50.1700	5.0	1.2	50.0000		100	84 - 115			
2,2-Dichloropropane	50.8200	5.0	1.2	50.0000		102	72 - 121			
2-Chlorotoluene	50.4000	5.0	1.6	50.0000		101	76 - 120			
4-Chlorotoluene	52.3600	5.0	1.5	50.0000		105	77 - 122			
4-Isopropyltoluene	53.0300	5.0	2.3	50.0000		106	77 - 131			
Benzene	101.730	5.0	0.64	100.000		102	78 - 115			
Bromobenzene	48.9100	5.0	1.1	50.0000		97.8	79 - 113			
Bromochloromethane	50.5500	5.0	0.64	50.0000		101	66 - 123			
Bromodichloromethane	48.7800	5.0	1.2	50.0000		97.6	79 - 112			
Bromoform	48.1400	5.0	0.80	50.0000		96.3	67 - 125			
Bromomethane	54.9500	5.0	2.5	50.0000		110	49 - 150			
Carbon disulfide	49.4000	5.0	3.5	50.0000		98.8	61 - 146			
Carbon tetrachloride	49.0100	5.0	1.2	50.0000		98.0	65 - 133			
Chlorobenzene	49.3400	5.0	1.0	50.0000		98.7	82 - 113			
Chloroethane	52.8400	5.0	1.1	50.0000		106	46 - 146			
Chloroform	49.4800	5.0	0.82	50.0000		99.0	73 - 116			
Chloromethane	53.2500	5.0	1.4	50.0000		106	46 - 158			
cis-1,2-Dichloroethene	49.4400	5.0	0.67	50.0000		98.9	72 - 121			
cis-1,3-Dichloropropene	51.2000	5.0	1.9	50.0000		102	79 - 123			
Di-isopropyl ether	50.3800	5.0	0.55	50.0000		101	67 - 125			
Dibromochloromethane	48.0400	5.0	1.0	50.0000		96.1	79 - 116			
Dibromomethane	54.3700	5.0	1.6	50.0000		109	72 - 117			
Dichlorodifluoromethane	54.2100	5.0	2.2	50.0000		108	38 - 168			
Ethyl Acetate	538.700	50	8.1	500.000		108	55 - 144			
Ethyl Ether	580.530	50	6.1	500.000		116	52 - 133			
Ethyl tert-butyl ether	51.3300	5.0	0.67	50.0000		103	68 - 126			
Ethylbenzene	100.980	5.0	0.91	100.000		101	79 - 116			
Freon-113	50.3400	5.0	2.8	50.0000		101	66 - 134			
Hexachlorobutadiene	53.0900	5.0	2.5	50.0000		106	84 - 133			
Isopropylbenzene	50.8300	5.0	1.8	50.0000		102	67 - 134			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
LCS (B7J0504-BS1) - Continued					Prepared: 10/18/2017 Analyzed: 10/18/2017					
m,p-Xylene	105.660	10	1.5	100.000		106	78 - 126			
Methylene chloride	41.7900	5.0	2.3	50.0000		83.6	31 - 148			
MTBE	50.3900	5.0	0.63	50.0000		101	59 - 131			
n-Butylbenzene	55.7000	5.0	2.4	50.0000		111	75 - 141			
n-Propylbenzene	52.0700	5.0	2.2	50.0000		104	73 - 127			
Naphthalene	48.4100	5.0	0.97	50.0000		96.8	78 - 129			
o-Xylene	100.060	5.0	0.87	100.000		100	81 - 113			
sec-Butylbenzene	52.2600	5.0	2.3	50.0000		105	73 - 129			
Styrene	53.6100	5.0	1.5	50.0000		107	88 - 118			
tert-Amyl methyl ether	49.7500	5.0	0.59	50.0000		99.5	62 - 122			
tert-Butanol	229.040	100	19	250.000		91.6	36 - 142			
tert-Butylbenzene	50.9300	5.0	2.0	50.0000		102	74 - 126			
Tetrachloroethene	50.1200	5.0	1.6	50.0000		100	74 - 127			
Toluene	102.850	5.0	0.94	100.000		103	79 - 119			
trans-1,2-Dichloroethene	51.4700	5.0	0.59	50.0000		103	61 - 128			
trans-1,3-Dichloropropene	51.8200	5.0	2.1	50.0000		104	75 - 116			
Trichloroethene	49.5300	5.0	3.1	50.0000		99.1	76 - 123			
Trichlorofluoromethane	50.2500	5.0	1.4	50.0000		100	58 - 134			
Vinyl acetate	551.500	50	9.8	500.000		110	63 - 143			
Vinyl chloride	54.1900	5.0	1.7	50.0000		108	51 - 145			
Surrogate: 1,2-Dichloroethane-d4	*50.41*			*50.0000*		*101*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*51.59*			*50.0000*		*103*	*68 - 131*			
Surrogate: Dibromofluoromethan	*48.92*			*50.0000*		*97.8*	*49 - 134*			
Surrogate: Toluene-d8	*51.17*			*50.0000*		*102*	*75 - 132*			
Matrix Spike (B7J0504-MS1)			**Source: 1703697-01**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
1,1,1,2-Tetrachloroethane	45.5600	5.0	0.96	50.0000	ND	91.1	27 - 130			
1,1,1-Trichloroethane	48.9000	5.0	1.1	50.0000	ND	97.8	32 - 135			
1,1,2,2-Tetrachloroethane	45.5300	5.0	0.62	50.0000	ND	91.1	17 - 135			
1,1,2-Trichloroethane	46.2000	5.0	1.6	50.0000	ND	92.4	31 - 129			
1,1-Dichloroethane	47.3200	5.0	0.81	50.0000	ND	94.6	37 - 130			
1,1-Dichloroethene	47.6600	5.0	2.6	50.0000	ND	95.3	41 - 125			
1,1-Dichloropropene	50.3700	5.0	2.3	50.0000	ND	101	33 - 138			
1,2,3-Trichloropropane	48.1900	5.0	0.54	50.0000	ND	96.4	20 - 137			
1,2,3-Trichlorobenzene	44.4500	5.0	1.2	50.0000	ND	88.9	0 - 147			
1,2,4-Trichlorobenzene	49.1900	5.0	1.1	50.0000	ND	98.4	0 - 156			
1,2,4-Trimethylbenzene	49.0500	5.0	1.5	50.0000	ND	98.1	10 - 139			
1,2-Dibromo-3-chloropropane	48.1000	10	1.6	50.0000	ND	96.2	17 - 145			
1,2-Dibromoethane	49.4200	5.0	3.2	50.0000	ND	98.8	25 - 136			
1,2-Dichlorobenzene	46.1600	5.0	1.1	50.0000	ND	92.3	8 - 134			
1,2-Dichloroethane	46.9600	5.0	1.2	50.0000	ND	93.9	31 - 123			

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
Matrix Spike (B7J0504-MS1) - Continued			**Source: 1703697-01**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
1,2-Dichloropropane	47.6900	5.0	1.8	50.0000	ND	95.4	38 - 123			
1,3,5-Trimethylbenzene	49.0400	5.0	1.7	50.0000	ND	98.1	10 - 139			
1,3-Dichlorobenzene	47.0700	5.0	1.3	50.0000	ND	94.1	8 - 134			
1,3-Dichloropropane	48.3700	5.0	1.1	50.0000	ND	96.7	34 - 130			
1,4-Dichlorobenzene	46.3200	5.0	1.2	50.0000	ND	92.6	10 - 134			
2,2-Dichloropropane	51.3400	5.0	1.2	50.0000	ND	103	36 - 133			
2-Chlorotoluene	47.7000	5.0	1.6	50.0000	ND	95.4	15 - 133			
4-Chlorotoluene	48.7400	5.0	1.5	50.0000	ND	97.5	13 - 135			
4-Isopropyltoluene	51.8800	5.0	2.3	50.0000	ND	104	2 - 146			
Benzene	96.4900	5.0	0.64	100.000	ND	96.5	40 - 123			
Bromobenzene	46.1400	5.0	1.1	50.0000	ND	92.3	18 - 132			
Bromochloromethane	47.2200	5.0	0.64	50.0000	ND	94.4	32 - 130			
Bromodichloromethane	45.7700	5.0	1.2	50.0000	ND	91.5	33 - 122			
Bromoform	46.0900	5.0	0.80	50.0000	ND	92.2	20 - 134			
Bromomethane	50.7400	5.0	2.5	50.0000	ND	101	35 - 140			
Carbon disulfide	51.5500	5.0	3.5	50.0000	ND	103	32 - 143			
Carbon tetrachloride	49.8900	5.0	1.2	50.0000	ND	99.8	23 - 144			
Chlorobenzene	46.9600	5.0	1.0	50.0000	ND	93.9	24 - 128			
Chloroethane	52.1600	5.0	1.1	50.0000	ND	104	35 - 135			
Chloroform	46.9300	5.0	0.82	50.0000	ND	93.9	36 - 126			
Chloromethane	50.2000	5.0	1.4	50.0000	ND	100	36 - 146			
cis-1,2-Dichloroethene	46.6200	5.0	0.67	50.0000	ND	93.2	31 - 136			
cis-1,3-Dichloropropene	49.9700	5.0	1.9	50.0000	ND	99.9	28 - 130			
Di-isopropyl ether	47.6000	5.0	0.55	50.0000	ND	95.2	32 - 133			
Dibromochloromethane	45.3000	5.0	1.0	50.0000	ND	90.6	30 - 129			
Dibromomethane	50.9800	5.0	1.6	50.0000	ND	102	28 - 126			
Dichlorodifluoromethane	57.9400	5.0	2.2	50.0000	ND	116	23 - 162			
Ethyl Acetate	487.540	50	8.1	500.000	ND	97.5	0 - 156			
Ethyl Ether	521.840	50	6.1	500.000	ND	104	33 - 128			
Ethyl tert-butyl ether	49.5100	5.0	0.67	50.0000	ND	99.0	33 - 138			
Ethylbenzene	97.8100	5.0	0.91	100.000	ND	97.8	22 - 132			
Freon-113	52.8300	5.0	2.8	50.0000	ND	106	31 - 140			
Hexachlorobutadiene	46.6100	5.0	2.5	50.0000	ND	93.2	0 - 150			
Isopropylbenzene	49.5500	5.0	1.8	50.0000	ND	99.1	15 - 144			
m,p-Xylene	104.120	10	1.5	100.000	ND	104	19 - 138			
Methylene chloride	41.3000	5.0	2.3	50.0000	ND	82.6	9 - 145			
MTBE	48.1400	5.0	0.63	50.0000	ND	96.3	31 - 136			
n-Butylbenzene	52.7700	5.0	2.4	50.0000	ND	106	0 - 153			
n-Propylbenzene	50.2700	5.0	2.2	50.0000	ND	101	12 - 141			
Naphthalene	45.5900	5.0	0.97	50.0000	ND	91.2	0 - 145			
o-Xylene	94.2600	5.0	0.87	100.000	ND	94.3	20 - 129			
sec-Butylbenzene	50.9400	5.0	2.3	50.0000	ND	102	4 - 143			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
Matrix Spike (B7J0504-MS1) - Continued			**Source: 1703697-01**			Prepared: 10/18/2017 Analyzed: 10/18/2017				
Styrene	50.7700	5.0	1.5	50.0000	ND	102	19 - 136			
tert-Amyl methyl ether	46.7500	5.0	0.59	50.0000	ND	93.5	30 - 128			
tert-Butanol	232.050	100	19	250.000	ND	92.8	22 - 146			
tert-Butylbenzene	50.2800	5.0	2.0	50.0000	ND	101	9 - 140			
Tetrachloroethene	50.6600	5.0	1.6	50.0000	ND	101	18 - 143			
Toluene	97.2000	5.0	0.94	100.000	ND	97.2	30 - 132			
trans-1,2-Dichloroethene	50.4100	5.0	0.59	50.0000	ND	101	32 - 134			
trans-1,3-Dichloropropene	46.1500	5.0	2.1	50.0000	ND	92.3	23 - 127			
Trichloroethene	49.2200	5.0	3.1	50.0000	ND	98.4	17 - 158			
Trichlorofluoromethane	52.2000	5.0	1.4	50.0000	ND	104	36 - 135			
Vinyl acetate	227.320	50	9.8	500.000	ND	45.5	0 - 154			
Vinyl chloride	56.0900	5.0	1.7	50.0000	ND	112	38 - 140			
Surrogate: 1,2-Dichloroethane-d4	*50.88*			*50.0000*		*102*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*49.78*			*50.0000*		*99.6*	*68 - 131*			
Surrogate: Dibromofluoromethan	*50.44*			*50.0000*		*101*	*49 - 134*			
Surrogate: Toluene-d8	*50.74*			*50.0000*		*101*	*75 - 132*			
Matrix Spike Dup (B7J0504-MSD1)			**Source: 1703697-01**			Prepared: 10/18/2017 Analyzed: 10/18/2017				
1,1,1,2-Tetrachloroethane	42.4600	5.0	0.96	50.0000	ND	84.9	27 - 130	7.04	20	
1,1,1-Trichloroethane	44.8800	5.0	1.1	50.0000	ND	89.8	32 - 135	8.57	20	
1,1,2,2-Tetrachloroethane	42.0600	5.0	0.62	50.0000	ND	84.1	17 - 135	7.92	20	
1,1,2-Trichloroethane	46.5200	5.0	1.6	50.0000	ND	93.0	31 - 129	0.690	20	
1,1-Dichloroethane	43.5300	5.0	0.81	50.0000	ND	87.1	37 - 130	8.34	20	
1,1-Dichloroethene	43.0900	5.0	2.6	50.0000	ND	86.2	41 - 125	10.1	20	
1,1-Dichloropropene	47.2000	5.0	2.3	50.0000	ND	94.4	33 - 138	6.50	20	
1,2,3-Trichloropropane	45.8800	5.0	0.54	50.0000	ND	91.8	20 - 137	4.91	20	
1,2,3-Trichlorobenzene	39.0400	5.0	1.2	50.0000	ND	78.1	0 - 147	13.0	20	
1,2,4-Trichlorobenzene	43.0000	5.0	1.1	50.0000	ND	86.0	0 - 156	13.4	20	
1,2,4-Trimethylbenzene	43.2400	5.0	1.5	50.0000	ND	86.5	10 - 139	12.6	20	
1,2-Dibromo-3-chloropropane	45.6100	10	1.6	50.0000	ND	91.2	17 - 145	5.31	20	
1,2-Dibromoethane	43.6800	5.0	3.2	50.0000	ND	87.4	25 - 136	12.3	20	
1,2-Dichlorobenzene	40.9100	5.0	1.1	50.0000	ND	81.8	8 - 134	12.1	20	
1,2-Dichloroethane	44.8300	5.0	1.2	50.0000	ND	89.7	31 - 123	4.64	20	
1,2-Dichloropropane	44.3700	5.0	1.8	50.0000	ND	88.7	38 - 123	7.21	20	
1,3,5-Trimethylbenzene	43.1600	5.0	1.7	50.0000	ND	86.3	10 - 139	12.8	20	
1,3-Dichlorobenzene	41.8200	5.0	1.3	50.0000	ND	83.6	8 - 134	11.8	20	
1,3-Dichloropropane	45.8200	5.0	1.1	50.0000	ND	91.6	34 - 130	5.41	20	
1,4-Dichlorobenzene	41.5300	5.0	1.2	50.0000	ND	83.1	10 - 134	10.9	20	
2,2-Dichloropropane	45.3700	5.0	1.2	50.0000	ND	90.7	36 - 133	12.3	20	
2-Chlorotoluene	41.7300	5.0	1.6	50.0000	ND	83.5	15 - 133	13.4	20	
4-Chlorotoluene	43.2100	5.0	1.5	50.0000	ND	86.4	13 - 135	12.0	20	

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
Matrix Spike Dup (B7J0504-MSD1) - Continued			**Source: 1703697-01**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
4-Isopropyltoluene	44.9000	5.0	2.3	50.0000	ND	89.8	2 - 146	14.4	20	
Benzene	89.9800	5.0	0.64	100.000	ND	90.0	40 - 123	6.98	20	
Bromobenzene	41.5800	5.0	1.1	50.0000	ND	83.2	18 - 132	10.4	20	
Bromochloromethane	43.9600	5.0	0.64	50.0000	ND	87.9	32 - 130	7.15	20	
Bromodichloromethane	42.5500	5.0	1.2	50.0000	ND	85.1	33 - 122	7.29	20	
Bromoform	44.1900	5.0	0.80	50.0000	ND	88.4	20 - 134	4.21	20	
Bromomethane	45.4000	5.0	2.5	50.0000	ND	90.8	35 - 140	11.1	20	
Carbon disulfide	46.6500	5.0	3.5	50.0000	ND	93.3	32 - 143	9.98	20	
Carbon tetrachloride	45.4500	5.0	1.2	50.0000	ND	90.9	23 - 144	9.31	20	
Chlorobenzene	42.7100	5.0	1.0	50.0000	ND	85.4	24 - 128	9.48	20	
Chloroethane	46.9000	5.0	1.1	50.0000	ND	93.8	35 - 135	10.6	20	
Chloroform	43.3400	5.0	0.82	50.0000	ND	86.7	36 - 126	7.95	20	
Chloromethane	46.8800	5.0	1.4	50.0000	ND	93.8	36 - 146	6.84	20	
cis-1,2-Dichloroethene	42.4800	5.0	0.67	50.0000	ND	85.0	31 - 136	9.29	20	
cis-1,3-Dichloropropene	44.1800	5.0	1.9	50.0000	ND	88.4	28 - 130	12.3	20	
Di-isopropyl ether	44.6400	5.0	0.55	50.0000	ND	89.3	32 - 133	6.42	20	
Dibromochloromethane	43.6500	5.0	1.0	50.0000	ND	87.3	30 - 129	3.71	20	
Dibromomethane	46.3800	5.0	1.6	50.0000	ND	92.8	28 - 126	9.45	20	
Dichlorodifluoromethane	50.7300	5.0	2.2	50.0000	ND	101	23 - 162	13.3	20	
Ethyl Acetate	343.100	50	8.1	500.000	ND	68.6	0 - 156	34.8	20	R
Ethyl Ether	498.370	50	6.1	500.000	ND	99.7	33 - 128	4.60	20	
Ethyl tert-butyl ether	45.9600	5.0	0.67	50.0000	ND	91.9	33 - 138	7.44	20	
Ethylbenzene	89.8800	5.0	0.91	100.000	ND	89.9	22 - 132	8.45	20	
Freon-113	48.9100	5.0	2.8	50.0000	ND	97.8	31 - 140	7.71	20	
Hexachlorobutadiene	40.4400	5.0	2.5	50.0000	ND	80.9	0 - 150	14.2	20	
Isopropylbenzene	43.3500	5.0	1.8	50.0000	ND	86.7	15 - 144	13.3	20	
m,p-Xylene	92.1400	10	1.5	100.000	ND	92.1	19 - 138	12.2	20	
Methylene chloride	44.6900	5.0	2.3	50.0000	ND	89.4	9 - 145	7.88	20	
MTBE	45.4900	5.0	0.63	50.0000	ND	91.0	31 - 136	5.66	20	
n-Butylbenzene	45.9900	5.0	2.4	50.0000	ND	92.0	0 - 153	13.7	20	
n-Propylbenzene	44.0100	5.0	2.2	50.0000	ND	88.0	12 - 141	13.3	20	
Naphthalene	41.6700	5.0	0.97	50.0000	ND	83.3	0 - 145	8.98	20	
o-Xylene	87.2800	5.0	0.87	100.000	ND	87.3	20 - 129	7.69	20	
sec-Butylbenzene	44.0300	5.0	2.3	50.0000	ND	88.1	4 - 143	14.6	20	
Styrene	46.1800	5.0	1.5	50.0000	ND	92.4	19 - 136	9.47	20	
tert-Amyl methyl ether	43.7600	5.0	0.59	50.0000	ND	87.5	30 - 128	6.61	20	
tert-Butanol	215.700	100	19	250.000	ND	86.3	22 - 146	7.30	20	
tert-Butylbenzene	43.3300	5.0	2.0	50.0000	ND	86.7	9 - 140	14.8	20	
Tetrachloroethene	45.8200	5.0	1.6	50.0000	ND	91.6	18 - 143	10.0	20	
Toluene	91.8400	5.0	0.94	100.000	ND	91.8	30 - 132	5.67	20	
trans-1,2-Dichloroethene	45.5100	5.0	0.59	50.0000	ND	91.0	32 - 134	10.2	20	
trans-1,3-Dichloropropene	44.8100	5.0	2.1	50.0000	ND	89.6	23 - 127	2.95	20	

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0504 - MSVOA_S (continued)										
Matrix Spike Dup (B7J0504-MSD1) - Continued			**Source: 1703697-01**		Prepared: 10/18/2017 Analyzed: 10/18/2017					
Trichloroethene	46.6200	5.0	3.1	50.0000	ND	93.2	17 - 158	5.43	20	
Trichlorofluoromethane	47.3700	5.0	1.4	50.0000	ND	94.7	36 - 135	9.70	20	
Vinyl acetate	26.0100	50	9.8	500.000	ND	5.20	0 - 154	159	20	R
Vinyl chloride	49.5700	5.0	1.7	50.0000	ND	99.1	38 - 140	12.3	20	
Surrogate: 1,2-Dichloroethane-d4	*48.12*			*50.0000*		*96.2*	*32 - 140*			
Surrogate: 4-Bromofluorobenzene	*50.74*			*50.0000*		*101*	*68 - 131*			
Surrogate: Dibromofluoromethan	*50.20*			*50.0000*		*100*	*49 - 134*			
Surrogate: Toluene-d8	*51.62*			*50.0000*		*103*	*75 - 132*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W										
Blank (B7J0413-BLK1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	ND	0.20	0.02							
Acenaphthene	ND	0.20	0.02							
Acenaphthylene	ND	0.20	0.02							
Anthracene	ND	0.20	0.01							
Benzo(a)anthracene	ND	0.20	0.01							
Benzo(a)pyrene	ND	0.20	0.01							
Benzo(b)fluoranthene	ND	0.20	0.06							
Benzo(g,h,i)perylene	ND	0.20	0.02							
Benzo(k)fluoranthene	ND	0.20	0.02							
Chrysene	ND	0.20	0.02							
Dibenz(a,h)anthracene	ND	0.20	0.02							
Fluoranthene	ND	0.20	0.02							
Fluorene	ND	0.20	0.02							
Indeno(1,2,3-cd)pyrene	ND	0.20	0.02							
Naphthalene	ND	0.20	0.02							
Phenanthrene	ND	0.20	0.02							
Pyrene	ND	0.20	0.02							
Surrogate: 1,2-Dichlorobenzene-d	*0.7723*			*1.00000*		*77.2*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8111*			*1.00000*		*81.1*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.9341*			*1.00000*		*93.4*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*1.165*			*1.00000*		*117*	*32 - 119*			
LCS (B7J0413-BS1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	0.594950	0.20	0.02	1.00000		59.5	38 - 137			
Acenaphthene	0.670340	0.20	0.02	1.00000		67.0	38 - 103			
Acenaphthylene	0.682710	0.20	0.02	1.00000		68.3	41 - 102			
Anthracene	0.707100	0.20	0.01	1.00000		70.7	37 - 118			
Benzo(a)anthracene	0.778780	0.20	0.01	1.00000		77.9	42 - 118			
Benzo(a)pyrene	0.712580	0.20	0.01	1.00000		71.3	17 - 148			
Benzo(b)fluoranthene	0.800210	0.20	0.06	1.00000		80.0	33 - 126			
Benzo(g,h,i)perylene	0.716580	0.20	0.02	1.00000		71.7	33 - 123			
Benzo(k)fluoranthene	0.803040	0.20	0.02	1.00000		80.3	20 - 131			
Chrysene	0.747150	0.20	0.02	1.00000		74.7	44 - 127			
Dibenz(a,h)anthracene	0.796090	0.20	0.02	1.00000		79.6	31 - 122			
Fluoranthene	0.761460	0.20	0.02	1.00000		76.1	48 - 113			
Fluorene	0.740860	0.20	0.02	1.00000		74.1	46 - 100			
Indeno(1,2,3-cd)pyrene	0.750140	0.20	0.02	1.00000		75.0	35 - 123			
Naphthalene	0.706850	0.20	0.02	1.00000		70.7	35 - 115			
Phenanthrene	0.708600	0.20	0.02	1.00000		70.9	43 - 112			
Pyrene	0.762180	0.20	0.02	1.00000		76.2	47 - 116			
Surrogate: 1,2-Dichlorobenzene-d	*0.7505*			*1.00000*		*75.1*	*32 - 99*			

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 11/03/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0413 - MSSEMI_W (continued)										
LCS (B7J0413-BS1) - Continued					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Surrogate: 2-Fluorobiphenyl	*0.8615*			*1.00000*		*86.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8931*			*1.00000*		*89.3*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9966*			*1.00000*		*99.7*	*32 - 119*			
LCS Dup (B7J0413-BSD1)					Prepared: 10/16/2017 Analyzed: 10/16/2017					
2-Methylnaphthalene	0.588280	0.20	0.02	1.00000		58.8	38 - 137	1.13	20	
Acenaphthene	0.688400	0.20	0.02	1.00000		68.8	38 - 103	2.66	20	
Acenaphthylene	0.696510	0.20	0.02	1.00000		69.7	41 - 102	2.00	20	
Anthracene	0.698560	0.20	0.01	1.00000		69.9	37 - 118	1.22	20	
Benzo(a)anthracene	0.791900	0.20	0.01	1.00000		79.2	42 - 118	1.67	20	
Benzo(a)pyrene	0.696140	0.20	0.01	1.00000		69.6	17 - 148	2.33	20	
Benzo(b)fluoranthene	0.811500	0.20	0.06	1.00000		81.2	33 - 126	1.40	20	
Benzo(g,h,i)perylene	0.721590	0.20	0.02	1.00000		72.2	33 - 123	0.697	20	
Benzo(k)fluoranthene	0.794240	0.20	0.02	1.00000		79.4	20 - 131	1.10	20	
Chrysene	0.745200	0.20	0.02	1.00000		74.5	44 - 127	0.261	20	
Dibenz(a,h)anthracene	0.792430	0.20	0.02	1.00000		79.2	31 - 122	0.461	20	
Fluoranthene	0.772070	0.20	0.02	1.00000		77.2	48 - 113	1.38	20	
Fluorene	0.737630	0.20	0.02	1.00000		73.8	46 - 100	0.437	20	
Indeno(1,2,3-cd)pyrene	0.762320	0.20	0.02	1.00000		76.2	35 - 123	1.61	20	
Naphthalene	0.704320	0.20	0.02	1.00000		70.4	35 - 115	0.359	20	
Phenanthrene	0.702930	0.20	0.02	1.00000		70.3	43 - 112	0.803	20	
Pyrene	0.772110	0.20	0.02	1.00000		77.2	47 - 116	1.29	20	
Surrogate: 1,2-Dichlorobenzene-d	*0.7333*			*1.00000*		*73.3*	*32 - 99*			
Surrogate: 2-Fluorobiphenyl	*0.8521*			*1.00000*		*85.2*	*29 - 105*			
Surrogate: Nitrobenzene-d5	*0.8699*			*1.00000*		*87.0*	*17 - 123*			
Surrogate: 4-Terphenyl-d14	*0.9920*			*1.00000*		*99.2*	*32 - 119*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0832 - MSSEMI_S										
Blank (B7J0832-BLK1)					Prepared: 10/27/2017 Analyzed: 11/1/2017					
2-Methylnaphthalene	ND	5.0	0.60							
Acenaphthene	ND	5.0	0.41							
Acenaphthylene	ND	5.0	0.41							
Anthracene	ND	5.0	0.56							
Benzo(a)anthracene	ND	5.0	0.56							
Benzo(a)pyrene	ND	5.0	0.69							
Benzo(b)fluoranthene	ND	5.0	2.2							
Benzo(g,h,i)perylene	ND	5.0	0.80							
Benzo(k)fluoranthene	ND	5.0	0.70							
Chrysene	ND	5.0	0.61							
Dibenz(a,h)anthracene	ND	5.0	0.88							
Fluoranthene	ND	5.0	0.45							
Fluorene	ND	5.0	0.35							
Indeno(1,2,3-cd)pyrene	ND	5.0	0.82							
Naphthalene	ND	5.0	0.56							
Phenanthrene	ND	5.0	0.34							
Pyrene	ND	5.0	0.51							
Surrogate: 1,2-Dichlorobenzene-d	*25.98*			*33.3333*		*77.9*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*36.07*			*33.3333*		*108*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*32.13*			*33.3333*		*96.4*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*34.65*			*33.3333*		*104*	*39 - 123*			
LCS (B7J0832-BS1)					Prepared: 10/27/2017 Analyzed: 11/1/2017					
2-Methylnaphthalene	17.2447	5.0	0.60	33.3333		51.7	23 - 127			
Acenaphthene	19.8777	5.0	0.41	33.3333		59.6	35 - 91			
Acenaphthylene	21.5087	5.0	0.41	33.3333		64.5	35 - 92			
Anthracene	21.6807	5.0	0.56	33.3333		65.0	43 - 109			
Benzo(a)anthracene	25.2047	5.0	0.56	33.3333		75.6	46 - 121			
Benzo(a)pyrene	21.1923	5.0	0.69	33.3333		63.6	49 - 126			
Benzo(b)fluoranthene	24.9193	5.0	2.2	33.3333		74.8	34 - 137			
Benzo(g,h,i)perylene	23.6823	5.0	0.80	33.3333		71.0	40 - 124			
Benzo(k)fluoranthene	22.3137	5.0	0.70	33.3333		66.9	21 - 132			
Chrysene	21.0117	5.0	0.61	33.3333		63.0	51 - 124			
Dibenz(a,h)anthracene	28.6913	5.0	0.88	33.3333		86.1	38 - 123			
Fluoranthene	25.5123	5.0	0.45	33.3333		76.5	47 - 105			
Fluorene	24.3607	5.0	0.35	33.3333		73.1	34 - 95			
Indeno(1,2,3-cd)pyrene	26.3273	5.0	0.82	33.3333		79.0	45 - 124			
Naphthalene	23.5117	5.0	0.56	33.3333		70.5	26 - 110			
Phenanthrene	19.8617	5.0	0.34	33.3333		59.6	39 - 108			
Pyrene	24.4370	5.0	0.51	33.3333		73.3	47 - 107			
Surrogate: 1,2-Dichlorobenzene-d	*22.13*			*33.3333*		*66.4*	*29 - 109*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0832 - MSSEMI_S (continued)										
LCS (B7J0832-BS1) - Continued						Prepared: 10/27/2017 Analyzed: 11/1/2017				
Surrogate: 2-Fluorobiphenyl	*31.93*			*33.3333*		*95.8*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*28.51*			*33.3333*		*85.5*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*32.91*			*33.3333*		*98.7*	*39 - 123*			
Matrix Spike (B7J0832-MS1)			**Source: 1703672-05**			Prepared: 10/27/2017 Analyzed: 11/2/2017				
2-Methylnaphthalene	16.5523	5.0	0.60	33.3333	ND	49.7	30 - 141			
Acenaphthene	20.9210	5.0	0.41	33.3333	ND	62.8	9 - 155			
Acenaphthylene	22.2030	5.0	0.41	33.3333	ND	66.6	43 - 110			
Anthracene	23.0497	5.0	0.56	33.3333	ND	69.1	33 - 146			
Benzo(a)anthracene	25.3087	5.0	0.56	33.3333	ND	75.9	49 - 130			
Benzo(a)pyrene	22.0197	5.0	0.69	33.3333	ND	66.1	36 - 134			
Benzo(b)fluoranthene	25.1730	5.0	2.2	33.3333	ND	75.5	26 - 148			
Benzo(g,h,i)perylene	29.1263	5.0	0.80	33.3333	ND	87.4	16 - 156			
Benzo(k)fluoranthene	21.4240	5.0	0.70	33.3333	ND	64.3	29 - 132			
Chrysene	25.6437	5.0	0.61	33.3333	1.90833	71.2	0 - 184			
Dibenz(a,h)anthracene	32.4570	5.0	0.88	33.3333	ND	97.4	29 - 149			
Fluoranthene	34.0057	5.0	0.45	33.3333	1.98000	96.1	14 - 162			
Fluorene	24.8377	5.0	0.35	33.3333	ND	74.5	48 - 111			
Indeno(1,2,3-cd)pyrene	30.0247	5.0	0.82	33.3333	ND	90.1	37 - 135			
Naphthalene	23.0713	5.0	0.56	33.3333	ND	69.2	34 - 126			
Phenanthrene	25.6283	5.0	0.34	33.3333	1.80833	71.5	19 - 155			
Pyrene	31.1040	5.0	0.51	33.3333	0.977333	90.4	13 - 162			
Surrogate: 1,2-Dichlorobenzene-d	*18.07*			*33.3333*		*54.2*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*33.02*			*33.3333*		*99.1*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*25.91*			*33.3333*		*77.7*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*27.60*			*33.3333*		*82.8*	*39 - 123*			
Matrix Spike Dup (B7J0832-MSD1)			**Source: 1703672-05**			Prepared: 10/27/2017 Analyzed: 11/1/2017				
2-Methylnaphthalene	13.0847	5.0	0.60	33.3333	ND	39.3	30 - 141	23.4	20	R
Acenaphthene	15.5903	5.0	0.41	33.3333	ND	46.8	9 - 155	29.2	20	R
Acenaphthylene	17.0913	5.0	0.41	33.3333	ND	51.3	43 - 110	26.0	20	R
Anthracene	16.6153	5.0	0.56	33.3333	ND	49.8	33 - 146	32.4	20	R
Benzo(a)anthracene	18.9587	5.0	0.56	33.3333	ND	56.9	49 - 130	28.7	20	R
Benzo(a)pyrene	16.6467	5.0	0.69	33.3333	ND	49.9	36 - 134	27.8	20	R
Benzo(b)fluoranthene	19.3633	5.0	2.2	33.3333	ND	58.1	26 - 148	26.1	20	R
Benzo(g,h,i)perylene	18.0467	5.0	0.80	33.3333	ND	54.1	16 - 156	47.0	20	R
Benzo(k)fluoranthene	15.7207	5.0	0.70	33.3333	ND	47.2	29 - 132	30.7	20	R
Chrysene	17.4407	5.0	0.61	33.3333	1.90833	46.6	0 - 184	38.1	20	R
Dibenz(a,h)anthracene	20.7883	5.0	0.88	33.3333	ND	62.4	29 - 149	43.8	20	R
Fluoranthene	21.3343	5.0	0.45	33.3333	1.98000	58.1	14 - 162	45.8	20	R
Fluorene	18.9797	5.0	0.35	33.3333	ND	56.9	48 - 111	26.7	20	R
Indeno(1,2,3-cd)pyrene	19.5260	5.0	0.82	33.3333	ND	58.6	37 - 135	42.4	20	R

Leighton Consulting, Inc.
17781 Cowan Street
Irvine , CA 92614

Project Number : POLA Berth 191-193, 11618-005
Report To : Brynn McCulloch
Reported : 11/03/2017

Semivolatile Organic Compounds by EPA 8270/SIM - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B7J0832 - MSSEMI_S (continued)										
Matrix Spike Dup (B7J0832-MSD1) - Continued			**Source: 1703672-05**		Prepared: 10/27/2017 Analyzed: 11/1/2017					
Naphthalene	18.2003	5.0	0.56	33.3333	ND	54.6	34 - 126	23.6	20	R
Phenanthrene	17.8243	5.0	0.34	33.3333	1.80833	48.0	19 - 155	35.9	20	R
Pyrene	20.7030	5.0	0.51	33.3333	0.977333	59.2	13 - 162	40.2	20	R
Surrogate: 1,2-Dichlorobenzene-d	*18.70*			*33.3333*		*56.1*	*29 - 109*			
Surrogate: 2-Fluorobiphenyl	*26.72*			*33.3333*		*80.2*	*39 - 108*			
Surrogate: Nitrobenzene-d5	*22.92*			*33.3333*		*68.8*	*0 - 146*			
Surrogate: 4-Terphenyl-d14	*22.32*			*33.3333*		*66.9*	*39 - 123*			

Certificate of Analysis

Leighton Consulting, Inc.	Project Number : POLA Berth 191-193, 11618-005
17781 Cowan Street	Report To : Brynn McCulloch
Irvine , CA 92614	Reported : 11/03/2017

Notes and Definitions

S4	Surrogate was diluted out.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
E3	Internal standard recoveries did not meet method acceptance due to matrix interference. Result value is estimated.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

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Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attention: Rachelle Arada

Number of Pages	**6**
Date Received	**10/25/2017**
Date Reported	**10/27/2017**

Job Number	Order Date	Client
89990	10/25/2017	ATL

Project ID: 1703672
Project Name: PO# SC12141

Enclosed please find results of analyses of 1 water sample which was analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

American Environmental Testing Laboratory Inc.
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Ordered By

Advanced Technology Laboratories **3275 Walnut Avenue** **Signal Hill, CA 90755-5225**	**Project ID: 1703672** **Date Received 10/25/2017** **Date Reported 10/27/2017**

Telephone: (562)989-4045
Attention: Rachelle Arada

Job Number	Order Date	Client
89990	10/25/2017	ATL

CERTIFICATE OF ANALYSIS
CASE NARRATIVE

AETL received 1 samples with the following specification on 10/25/2017.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
89990.01	1703672-07	10/13/2017	Aqueous	3

Method ^ Submethod	Req Date	Priority	TAT	Units
8260B	10/27/2017	3	Rush	ug/L

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Dire

American Environmental Testing Laboratory Inc.
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ANALYTICAL RESULTS

Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attn: Rachelle Arada
Page: **2**

Project ID: 1703672
Project Name: PO# SC12141

AETL Job Number	Submitted	Client
89990	10/25/2017	ATL

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 1026177A1

Our Lab I.D.			Method Blank	**89990.01**			
Client Sample I.D.				1703672-07			
Date Sampled				**10/13/2017**			
Date Prepared			**10/25/2017**	**10/25/2017**			
Preparation Method			**5030B**	**5030B**			
Date Analyzed			**10/25/2017**	**10/25/2017**			
Matrix			Aqueous	Aqueous			
Units			ug/L	ug/L			
Dilution Factor			1	1			
Analytes	**MDL**	**PQL**	**Results**	**Results**			
Acetone	**10**	**10**	**ND**	**ND**			
Benzene	**0.5**	**1.0**	**ND**	**ND**			
Bromobenzene (Phenyl bromide)	**0.5**	**1.0**	**ND**	**ND**			
Bromochloromethane	**0.5**	**1.0**	**ND**	**ND**			
Bromodichloromethane	**0.5**	**1.0**	**ND**	**ND**			
Bromoform (Tribromomethane)	**2.5**	**5.0**	**ND**	**ND**			
Bromomethane (Methyl bromide)	**1.5**	**3.0**	**ND**	**ND**			
2-Butanone (MEK)	**5.0**	**5.0**	**ND**	**ND**			
n-Butylbenzene	**0.5**	**1.0**	**ND**	**ND**			
sec-Butylbenzene	**0.5**	**1.0**	**ND**	**ND**			
tert-Butylbenzene	**0.5**	**1.0**	**ND**	**ND**			
Carbon Disulfide	**0.5**	**1.0**	**ND**	**ND**			
Carbon tetrachloride	**0.5**	**1.0**	**ND**	**ND**			
Chlorobenzene	**0.5**	**1.0**	**ND**	**ND**			
Chloroethane	**1.5**	**3.0**	**ND**	**ND**			
2-Chloroethyl vinyl ether	**2.5**	**5.0**	**ND**	**ND**			
Chloroform (Trichloromethane)	**0.5**	**1.0**	**ND**	**ND**			
Chloromethane (Methyl chloride)	**1.5**	**3.0**	**ND**	**ND**			
2-Chlorotoluene	**0.5**	**1.0**	**ND**	**ND**			
4-Chlorotoluene	**0.5**	**1.0**	**ND**	**ND**			
1,2-Dibromo-3-chloropropane (DBCP)	**2.5**	**5.0**	**ND**	**ND**			
Dibromochloromethane	**0.5**	**1.0**	**ND**	**ND**			
1,2-Dibromoethane (EDB)	**0.5**	**1.0**	**ND**	**ND**			
Dibromomethane	**0.5**	**1.0**	**ND**	**ND**			
1,2-Dichlorobenzene	**0.5**	**1.0**	**ND**	**ND**			
1,3-Dichlorobenzene	**0.5**	**1.0**	**ND**	**ND**			
1,4-Dichlorobenzene	**0.5**	**1.0**	**ND**	**ND**			
Dichlorodifluoromethane	**1.5**	**3.0**	**ND**	**ND**			

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ANALYTICAL RESULTS

Project ID: 1703672
Project Name: PO# SC12141

AETL Job Number	Submitted	Client
89990	10/25/2017	ATL

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 1026177A1

Our Lab I.D.			Method Blank	89990.01			
Client Sample I.D.				1703672-07			
Date Sampled				10/13/2017			
Date Prepared			10/25/2017	10/25/2017			
Preparation Method			5030B	5030B			
Date Analyzed			10/25/2017	10/25/2017			
Matrix			Aqueous	Aqueous			
Units			ug/L	ug/L			
Dilution Factor			1	1			
Analytes	**MDL**	**PQL**	**Results**	**Results**			
1,1-Dichloroethane	0.5	1.0	ND	ND			
1,2-Dichloroethane (EDC)	0.5	1.0	ND	ND			
1,1-Dichloroethene	0.5	1.0	ND	ND			
cis-1,2-Dichloroethene	0.5	1.0	ND	ND			
trans-1,2-Dichloroethene	0.5	1.0	ND	ND			
1,2-Dichloropropane	0.5	1.0	ND	ND			
1,3-Dichloropropane	0.5	1.0	ND	ND			
2,2-Dichloropropane	0.5	1.0	ND	ND			
1,1-Dichloropropene	0.5	1.0	ND	ND			
cis-1,3-Dichloropropene	0.5	1.0	ND	ND			
trans-1,3-Dichloropropene	0.5	1.0	ND	ND			
Ethylbenzene	0.5	1.0	ND	ND			
Hexachlorobutadiene	1.5	3.0	ND	ND			
2-Hexanone	2.5	5.0	ND	ND			
Iodomethane	0.5	1.0	ND	ND			
Isopropylbenzene	0.5	1.0	ND	ND			
p-Isopropyltoluene	0.5	1.0	ND	ND			
4-Methyl-2-pentanone (MIBK)	2.5	5.0	ND	ND			
Methyl-tert-butyl ether (MTBE)	0.5	1.0	ND	ND			
Methylene chloride (DCM)	2.0	4.0	ND	ND			
Naphthalene	0.5	1.0	ND	ND			
n-Propylbenzene	0.5	1.0	ND	ND			
Styrene	0.5	1.0	ND	ND			
1,1,1,2-Tetrachloroethane	0.5	1.0	ND	ND			
1,1,2,2-Tetrachloroethane	0.5	1.0	ND	ND			
Tetrachloroethene	0.5	1.0	ND	ND			
Toluene (Methyl benzene)	0.5	1.0	ND	ND			
1,2,3-Trichlorobenzene	0.5	1.0	ND	ND			
1,2,4-Trichlorobenzene	0.5	1.0	ND	ND			
1,1,1-Trichloroethane	0.5	1.0	ND	ND			
1,1,2-Trichloroethane	0.5	1.0	ND	ND			
Trichloroethene	0.5	1.0	ND	ND			
Trichlorofluoromethane	0.5	1.0	ND	ND			
1,2,3-Trichloropropane	0.5	1.0	ND	ND			

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ANALYTICAL RESULTS

Project ID: 1703672
Project Name: PO# SC12141

AETL Job Number	Submitted	Client
89990	10/25/2017	ATL

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 1026177A1

Our Lab I.D.			Method Blank	**89990.01**			
Client Sample I.D.				1703672-07			
Date Sampled				**10/13/2017**			
Date Prepared			**10/25/2017**	**10/25/2017**			
Preparation Method			**5030B**	**5030B**			
Date Analyzed			**10/25/2017**	**10/25/2017**			
Matrix			Aqueous	Aqueous			
Units			ug/L	ug/L			
Dilution Factor			1	1			
Analytes	**MDL**	**PQL**	**Results**	**Results**			
Trichlorotrifluoroethane (Freon-113)	**0.5**	**1.0**	**ND**	**ND**			
1,2,4-Trimethylbenzene	**0.5**	**1.0**	**ND**	**ND**			
1,3,5-Trimethylbenzene	**0.5**	**1.0**	**ND**	**ND**			
Vinyl Acetate	**0.5**	**5.0**	**ND**	**ND**			
Vinyl chloride (Chloroethene)	**0.5**	**3.0**	**ND**	**ND**			
o-Xylene	**0.5**	**1.0**	**ND**	**ND**			
m,p-Xylenes	**1.0**	**2.0**	**ND**	**ND**			
Our Lab I.D.			Method Blank	**89990.01**			
Surrogates	**%Rec.Limit**		**% Rec.**	**% Rec.**			
Bromofluorobenzene	**75-125**		**93.1**	**94.1**			
Dibromofluoromethane	**75-125**		**100**	**98.1**			
Toluene-d8	**75-125**		**99.9**	**97.1**			

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QUALITY CONTROL RESULTS

Ordered By

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755-5225

Telephone: (562)989-4045
Attn: Rachelle Arada
Page: **5**

Project ID: 1703672
Project Name: PO# SC12141

AETL Job Number	Submitted	Client
89990	10/25/2017	ATL

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 1026177A1; Dup or Spiked Sample: B1026177A1; LCS: Clean Water; QC Prepared: 10/25/2017;MS Analyzed: 10/25/2017; LCS Analyzed: 10/26/2017; Units: ug/L

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Benzene	0.00	50.0	45.4	90.7	50.0	44.7	89.3	1.6	75-125	<20
Carbon tetrachloride	0.00	50.0	48.7	97.3	50.0	47.6	95.2	2.2	75-125	<20
Chlorobenzene	0.00	50.0	52.0	104	50.0	51.0	102	1.9	75-125	<20
Chloroform (Trichloromethane)	0.00	50.0	47.4	94.7	50.0	45.9	91.8	3.1	75-125	<20
1,2-Dichlorobenzene	0.00	50.0	49.0	97.9	50.0	49.8	99.6	1.7	75-125	<20
1,1-Dichloroethane	0.00	50.0	45.7	91.4	50.0	44.6	89.2	2.4	75-125	<20
1,1-Dichloroethene	0.00	50.0	45.1	90.1	50.0	44.1	88.2	2.1	75-125	<20
cis-1,2-Dichloroethene	0.00	50.0	44.2	88.4	50.0	43.2	86.4	2.3	75-125	<20
Ethylbenzene	0.00	50.0	53.0	106	50.0	52.0	104	1.9	75-125	<20
Methyl-tert-butyl ether (MTBE)	0.00	50.0	45.1	90.1	50.0	45.6	91.2	1.2	75-125	<20
n-Propylbenzene	0.00	50.0	52.0	104	50.0	51.0	102	1.9	75-125	<20
Toluene (Methyl benzene)	0.00	50.0	51.0	102	50.0	50.5	101	<1	75-125	<20
1,1,1-Trichloroethane	0.00	50.0	47.2	94.4	50.0	46.1	92.1	2.5	75-125	<20
1,1,2-Trichloroethane	0.00	50.0	49.3	98.5	50.0	48.3	96.6	1.9	75-125	<20
Trichloroethene	0.00	50.0	48.5	97.0	50.0	57.0	114	16.1	75-125	<20
1,2,4-Trimethylbenzene	0.00	50.0	52.5	105	50.0	51.5	103	1.9	75-125	<20
1,3,5-Trimethylbenzene	0.00	50.0	52.0	104	50.0	52.0	104	<1	75-125	<20
o-Xylene	0.00	50.0	50.5	101	50.0	50.0	100	<1	75-125	<20
m,p-Xylenes	0.00	100	102	102	100	98.4	98.4	3.6	75-125	<20
Surrogates										
Bromofluorobenzene	0.00	50.0	47.1	94.2	50.0	46.4	92.7	1.6	75-125	<20
Dibromofluoromethane	0.00	50.0	47.8	95.5	50.0	43.8	87.6	8.6	75-125	<20
Toluene-d8	0.00	50.0	49.5	99.0	50.0	48.0	96.0	3.1	75-125	<20

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Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

QUALITY CONTROL RESULTS

Project ID: 1703672
Project Name: PO# SC12141

AETL Job Number	Submitted	Client
89990	10/25/2017	ATL

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 1026177A1; Dup or Spiked Sample: B1026177A1; LCS: Clean Water; QC Prepared: 10/25/2017;MS Analyzed: 10/25/2017; LCS Analyzed: 10/26/2017; Units: ug/L

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
Benzene	50.0	46.8	93.6	50.0	46.1	92.1	1.6	75-125	<20	
Carbon tetrachloride	50.0	50.0	100	50.0	49.0	97.9	2.1	75-125	<20	
Chlorobenzene	50.0	52.0	104	50.0	51.5	103	<1	75-125	<20	
Chloroform (Trichloromethane)	50.0	48.4	96.7	50.0	47.7	95.4	1.4	75-125	<20	
1,2-Dichlorobenzene	50.0	49.7	99.3	50.0	49.7	99.3	<1	75-125	<20	
1,1-Dichloroethane	50.0	46.6	93.1	50.0	46.3	92.5	<1	75-125	<20	
1,1-Dichloroethene	50.0	47.4	94.8	50.0	46.3	92.6	2.3	75-125	<20	
cis-1,2-Dichloroethene	50.0	47.0	94.0	50.0	47.1	94.1	<1	75-125	<20	
Ethylbenzene	50.0	53.5	107	50.0	52.0	104	2.8	75-125	<20	
Methyl-tert-butyl ether (MTBE)	50.0	48.4	96.8	50.0	47.9	95.7	1.1	75-125	<20	
n-Propylbenzene	50.0	55.0	110	50.0	52.5	105	4.7	75-125	<20	
Toluene (Methyl benzene)	50.0	51.0	102	50.0	51.0	102	<1	75-125	<20	
1,1,1-Trichloroethane	50.0	47.7	95.4	50.0	47.5	94.9	<1	75-125	<20	
1,1,2-Trichloroethane	50.0	51.0	102	50.0	51.0	102	<1	75-125	<20	
Trichloroethene	50.0	47.6	95.1	50.0	47.9	95.7	<1	75-125	<20	
1,2,4-Trimethylbenzene	50.0	55.0	110	50.0	52.5	105	4.7	75-125	<20	
1,3,5-Trimethylbenzene	50.0	54.5	109	50.0	52.0	104	4.7	75-125	<20	
o-Xylene	50.0	52.0	104	50.0	50.5	101	2.9	75-125	<20	
m,p-Xylenes	100	104	104	100	101	101	2.9	75-125	<20	
Surrogates										
Bromofluorobenzene	50.0	49.0	97.9	50.0	47.4	94.7	3.3	75-125	<20	
Dibromofluoromethane	50.0	49.2	98.3	50.0	47.6	95.2	3.2	75-125	<20	
Toluene-d8	50.0	49.8	99.5	50.0	50.0	99.9	<1	75-125	<20	

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Data Qualifiers and Descriptors

Data Qualifier:

#:	Recovery is not within acceptable control limits.
*:	In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
B:	Analyte was present in the Method Blank.
D:	Result is from a diluted analysis.
E:	Result is beyond calibration limits and is estimated.
H:	Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
J:	Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
M:	Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
MCL:	Maximum Contaminant Level
NS:	No Standard Available
S6:	Surrogate recovery is outside control limits due to matrix interference.
S8:	The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
X:	Results represent LCS and LCSD data.

Definition:

%Limi:	Percent acceptable limits.
%REC:	Percent recovery.
Con.L:	Acceptable Control Limits
Conce:	Added concentration to the sample.
LCS:	Laboratory Control Sample
MDL:	Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.

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Data Qualifiers and Descriptors

MS:	Matrix Spike
MS DU:	Matrix Spike Duplicate
ND:	Analyte was not detected in the sample at or above MDL.
PQL:	Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
Recov:	Recovered concentration in the sample.
RPD:	Relative Percent Difference

ADVANCED TECHNOLOGY LABORATORIES

89990

SUBCONTRACT ORDER

Work Order: 1703672

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Project Manager: Rachelle Arada (Rachelle@atlglobal.com)
Sampler: KCH

RECEIVING LABORATORY:

AETL
2834 North Naomi Street
Burbank, CA 91504
Phone :(818) 845-8200
Fax: (818) 845-8840
PO#: SC12141-RUSH TAT (2P)

IMPORTANT : Please include Work Order # and PO # in your invoice.

Analysis	Due	Expires	Sampled	Comments
ATL Lab#: 1703672-07 / LB34-GW		**Groundwater**	**10/13/17 09:25**	89990.01
8260_SUB	**10/27/17 17:00**	10/27/17 09:25		
[Volatile Organic Compounds]				
3xVoa Vial - HCl				

Released By	10/25/17 1339 Date	Received By	10/25/17 1339 Date
Released By	10/25/17 1650 Date	Received By	10/25/17 1650 Date

Page 1 of 1

American Environmental Testing Laboratory Inc.

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COOLER RECEIPT FORM

Client Name: ATL

Project Name:

AETL Job Number: 89999 & 89991

Date Received: 10/25/17 Received by: Jean Laerde

Carrier: ☒ AETL Courier ☐ Client ☐ GSO ☐ FedEx ☐ UPS
☐ Others:

Samples were received in: ☒ Cooler (1) ☐ Other (Specify):

Inside temperature of shipping container No 1: 2.7°C, No 2: _____, No 3: _____

Type of sample containers: ☒ VOA, ☐ Glass bottles, ☐ Wide mouth jars, ☐ HDPE bottles, ☐ Metal sleeves, ☐ Others (Specify): _____

How are samples preserved: ☐ None, ☐ Ice , ☒ Blue Ice, ☐ Dry Ice
_ None, _ HNO_3, _ NaOH, _ ZnOAc, X HCl, _ $Na_2S_2O_3$, _ MeOH
_ Other (Specify):

	Yes	No, explain below	Name, if client was notified.
1. Are the COCs Correct?	✓		
2. Are the Sample labels legible?	✓		
3. Do samples match the COC?	✓		
4. Are the required analyses clear?	✓		
5. Is there enough samples for required analysis?	✓		
6. Are samples sealed with evidence tape?	NA		
7. Are sample containers in good condition?	✓		
8. Are samples preserved?	✓		
9. Are samples preserved properly for the intended analysis?	✓		
10. Are the VOAs free of headspace?	✓		
11. Are the jars free of headspace?	NA		

Explain all "No" answers for above questions:

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 1

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport	Sample Conditions Upon Receipt					
	Condition	Y	N	Condition	Y	N
☑ Client ☐ ATL	1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
☐ FedEx ☐ OnTrac	2. HEADSPACE (VOA)	☐	☐	6. PRESERVED	☐	☑
☐ GSO	3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:	5.5	
☐ Other:	4. SEALED	☐	☑			

CUSTOMER

Company: Leighton Consulting Inc. Address: 17781 Cowan Tel: 949-253-9836
City: Irvine State: CA Zip: Fax:

SEND REPORT TO:
Attn: Brynn McCulloch Email: BMcCulloch@leightongroup.com
Company: SAME
Address:
City: State: Zip:

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Acct. Payable Email:
Company: SAME
Address:
City: State: Zip:

PROJECT SAMPLES

Project Name: Pola Berth 191-193
Project No.: 11618.005
Sampler: KCH
Quote No:
PO #:
Special Instructions/Comments: 5035 Kits are for 8260 ONLY

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015 ~~(GRO)~~ TPHg/o; 8015 ~~(DRO)~~ TPHo; 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; 8270 SIM PAH

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260	8015 GRO	8015 DRO	8270	8081	8082	6010	TO-15	8270 SIM PAH	SOIL	WIPE	DRINKING	STORM	AQUEOUS	TAT	#	REMARKS
1	1703672-01	LB35-0.5	10/13/17	837	X	X					X			X					5	4	
2	-02	LB35-2.5		839																	
3	-03	LB35-5.0		841																	
4	-04	LB34-0.5		917																	
5	-05	LB34-2.5		920																	
6	-06	LB34-5.0		922																	
7																					
8	-07	LB34-GW	10/13/17	925	X	X					X		X			X			5	9	
9																					
10																					

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab ··· ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for fi ve (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-fi ve (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

K. Hall — Submitter Print Name
Kevin C. Hall — Signature

CUSTODY

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Kevin C. Hall	10/13/17	1146	[illegible]	10/13/17	1146
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

Dominic Mata

From: Brynn McCulloch [bmcculloch@leightongroup.com]
Sent: Thursday, October 26, 2017 5:22 PM
To: Dominic Mata
Subject: RE: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703672)

Dominic,

We need the following additional analyses for the samples listed below.

VOCs (8260B) and PAHs (8270SIM)
LB34-0.5, LB34-2.5
LB35-0.5, LB35-2.5, LB35-5.0

PCBs (8082)
LB34-0.5
LB35-0.5
LB35-5.0

Thank you!

Brynn McCulloch, PG 8798
Associate Geologist
17781 Cowan
Irvine, Ca 92614
Cell – 949.394.2306
Office – 949.681.4287
Fax – 949.250.1114

Leighton
Solutions You Can Build On

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Please don't print this e-mail unless you really need to.

From: Dominic Mata [mailto:dominic@atlglobal.com]
Sent: Wednesday, October 25, 2017 4:27 PM
To: Brynn McCulloch
Cc: customer.relations@atlglobal.com
Subject: Partial Results - POLA Berth 191-193, 11618.005 (ATL# 1703672)

Hi Brynn,

Please find your partial 2 DRO/ORO results for the above project attached. The final report is now pending the 8260 water which has been sub contracted. If I can further assist, please let me know.

Thanks,

JONES ENVIRONMENTAL, INC.

714-449-9937
562-646-1611
805-399-0060

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
WWW.JONESENV.COM

JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan Irvine, CA 92614	**JEL Ref. No.:** **Client Ref. No.:**	E-0786 11618.005
Attn:	Brynn McCulloch	**Date Sampled:** **Date Received:**	10/17/2017 10/17/2017
Project Name:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street Wilmington, CA	**Physical State:**	Soil Gas

ANALYSES REQUESTED

1. EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers.

A tracer gas mixture of n-pentane, n-hexane, and n-heptane was placed at the tubing-surface interface before sampling. These compounds were analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No n-pentane, n-hexane, or n-heptane was found in any of the samples reported herein.

The sampling rate was approximately 200 cc/min, except when noted differently on the chain of custody record, using a glass gas-tight syringe. Purging was completed using a pump set at approximately 200 cc/min, except when noted differently on the chain of custody record. A default of 3 purge volumes was used as recommended by July 2015 DTSC/RWQCB guidance documents.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

No flow conditions occur when a sampling rate greater than 10 mL/min cannot be maintained without applying a vacuum greater than 100 inches of water to the sampling train. The sampling train is left at a vacuum for no less than three minutes. If the vacuum does not subside appreciably after three minutes, the sample location is determined to be a no flow sample.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, a Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity. All samples were injected into the GC/MS system within 30 minutes of sampling.

Approval:

Carolyn Carroll
Stationary Lab Manager

JONES ENVIRONMENTAL, INC.
714-449-9937
562-646-1611
805-399-0060
11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
WWW.JONESENV.COM

JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	E-0786
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	10/17/2017
		Date Received:	10/17/2017
Project:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street	**Physical State:**	Soil Gas
	Wilmington, CA		

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB1-4**	**LB6-4**	**LB13-4**	**LB23-4**	**LB23-4 REP**		
Jones ID:	**E-0786-01**	**E-0786-02**	**E-0786-03**	**E-0786-04**	**E-0786-05**	**Practical Quantitation Limit**	**Units**
Analytes:							
Benzene	**0.024**	ND	ND	ND	ND	0.008	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.008	µg/L
Bromoform	ND	ND	ND	ND	ND	0.008	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
Chloroform	**0.167**	ND	ND	ND	ND	0.008	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.008	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
Dichlorodifluoromethane	**0.027**	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethene	**0.024**	ND	ND	ND	ND	0.008	µg/L
cis-1,2-Dichloroethene	**30.6**	**2.15**	ND	ND	ND	0.008	µg/L
trans-1,2-Dichloroethene	**3.56**	**0.445**	ND	ND	ND	0.008	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB1-4**	**LB6-4**	**LB13-4**	**LB23-4**	**LB23-4 REP**		
Jones ID:	**E-0786-01**	**E-0786-02**	**E-0786-03**	**E-0786-04**	**E-0786-05**	**Practical Quantitation Limit**	**Units**
Analytes:							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
Freon 113	ND	ND	ND	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.008	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.008	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.008	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.040	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
Styrene	ND	ND	ND	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	µg/L
Tetrachloroethene	**148***	ND	**0.305**	ND	ND	0.008	µg/L
Toluene	**0.055**	ND	ND	ND	ND	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.040	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
Trichloroethene	**23.2***	ND	**0.026**	ND	ND	0.008	µg/L
Trichlorofluoromethane	**0.016**	ND	ND	ND	ND	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	**0.008**	ND	ND	ND	ND	0.008	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.008	µg/L
Vinyl chloride	ND	**3.20**	ND	ND	ND	0.008	µg/L
m,p-Xylene	ND	ND	ND	ND	ND	0.008	µg/L
o-Xylene	ND	ND	ND	ND	ND	0.008	µg/L
MTBE	ND	ND	ND	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.400	µg/L
TIC:							
n-Pentane	ND	ND	ND	ND	ND	0.400	µg/L
n-Hexane	ND	ND	ND	ND	ND	0.400	µg/L
n-Heptane	ND	ND	ND	ND	ND	0.400	µg/L
Dilution Factor	1/25*	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	122%	99%	121%	97%	96%	60 - 140	
Toluene-d_8	95%	99%	96%	94%	95%	60 - 140	
4-Bromofluorobenzene	108%	98%	99%	98%	93%	60 - 140	
	E1-101717-E-0786	E2-101717-E-0786	E1-101717-E-0786	E2-101717-E-0786	E2-101717-E-0786		

ND= Not Detected

* = Dilutions for these compound(s); first number for all others

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	E-0786
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	10/17/2017
		Date Received:	10/17/2017
Project:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street	**Physical State:**	Soil Gas
	Wilmington, CA		

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB31-4**	**LB25-4**	**LB27-4**	**LB34-4**		
Jones ID:	**E-0786-06**	**E-0786-07**	**E-0786-08**	**E-0786-09**	**Practical Quantitation Limit**	**Units**
Analytes:						
Benzene	ND	ND	ND	ND	0.008	µg/L
Bromobenzene	ND	ND	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	ND	ND	0.008	µg/L
Bromoform	ND	ND	ND	ND	0.008	µg/L
n-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
sec-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
tert-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	ND	ND	0.008	µg/L
Chloroform	ND	ND	ND	ND	0.008	µg/L
2-Chlorotoluene	ND	ND	ND	ND	0.008	µg/L
4-Chlorotoluene	ND	ND	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	0.008	µg/L
cis-1,2-Dichloroethene	ND	ND	**0.011**	ND	0.008	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB31-4**	**LB25-4**	**LB27-4**	**LB34-4**		
Jones ID:	**E-0786-06**	**E-0786-07**	**E-0786-08**	**E-0786-09**	**Practical Quantitation Limit**	**Units**
Analytes:						
cis-1,3-Dichloropropene	ND	ND	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	0.008	µg/L
Ethylbenzene	ND	ND	**0.030**	ND	0.008	µg/L
Freon 113	ND	ND	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	0.008	µg/L
Isopropylbenzene	ND	ND	ND	ND	0.008	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	0.008	µg/L
Methylene chloride	ND	ND	ND	ND	0.008	µg/L
Naphthalene	ND	ND	ND	ND	0.040	µg/L
n-Propylbenzene	ND	ND	ND	ND	0.008	µg/L
Styrene	ND	ND	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	0.008	µg/L
Tetrachloroethene	ND	**0.262**	**0.102**	**0.274**	0.008	µg/L
Toluene	ND	ND	**0.066**	**0.038**	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	0.040	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	0.008	µg/L
Trichloroethene	ND	**0.021**	**0.029**	**0.029**	0.008	µg/L
Trichlorofluoromethane	ND	ND	ND	ND	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	ND	ND	**0.038**	ND	0.008	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	0.008	µg/L
Vinyl chloride	ND	ND	ND	ND	0.008	µg/L
m,p-Xylene	ND	ND	**0.136**	**0.016**	0.008	µg/L
o-Xylene	ND	ND	**0.038**	ND	0.008	µg/L
MTBE	ND	ND	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	ND	ND	0.400	µg/L
TIC:						
n-Pentane	ND	ND	ND	ND	0.400	µg/L
n-Hexane	ND	ND	ND	ND	0.400	µg/L
n-Heptane	ND	ND	ND	ND	0.400	µg/L
Dilution Factor	1	1	1	1		
Surrogate Recoveries:					**QC Limits**	
Dibromofluoromethane	107%	117%	116%	90%	60 - 140	
Toluene-d_8	94%	97%	97%	94%	60 - 140	
4-Bromofluorobenzene	92%	103%	99%	97%	60 - 140	
	E2-101717-E-0786	E1-101717-E-0786	E1-101717-E-0786	E2-101717-E-0786		

ND= Not Detected

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	E-0786
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	10/17/2017
		Date Received:	10/17/2017
Project:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street	**Physical State:**	Soil Gas
	Wilmington, CA		

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	SAMPLING BLANK	METHOD BLANK	SAMPLING BLANK		
Jones ID:	101717-E1MB1	101717-E1SB1	101717-E2MB1	101717-E2SB1	**Practical Quantitation Limit**	**Units**
Analytes:						
Benzene	ND	ND	ND	ND	0.008	µg/L
Bromobenzene	ND	ND	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	ND	ND	0.008	µg/L
Bromoform	ND	ND	ND	ND	0.008	µg/L
n-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
sec-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
tert-Butylbenzene	ND	ND	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	ND	ND	0.008	µg/L
Chloroform	ND	ND	ND	ND	0.008	µg/L
2-Chlorotoluene	ND	ND	ND	ND	0.008	µg/L
4-Chlorotoluene	ND	ND	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	0.008	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	0.008	µg/L
cis-1,2-Dichloroethene	ND	ND	ND	ND	0.008	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	SAMPLING BLANK	METHOD BLANK	SAMPLING BLANK		
Jones ID:	**101717-E1MB1**	**101717-E1SB1**	**101717-E2MB1**	**101717-E2SB1**	**Practical Quantitation Limit**	**Units**
Analytes:						
cis-1,3-Dichloropropene	ND	ND	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	0.008	µg/L
Ethylbenzene	ND	ND	ND	ND	0.008	µg/L
Freon 113	ND	ND	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	0.008	µg/L
Isopropylbenzene	ND	ND	ND	ND	0.008	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	0.008	µg/L
Methylene chloride	ND	ND	ND	ND	0.008	µg/L
Naphthalene	ND	ND	ND	ND	0.040	µg/L
n-Propylbenzene	ND	ND	ND	ND	0.008	µg/L
Styrene	ND	ND	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	0.008	µg/L
Tetrachloroethene	ND	ND	ND	ND	0.008	µg/L
Toluene	ND	ND	ND	ND	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	0.040	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	0.008	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	0.008	µg/L
Trichloroethene	ND	ND	ND	ND	0.008	µg/L
Trichlorofluoromethane	ND	ND	ND	ND	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	0.008	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	0.008	µg/L
Vinyl chloride	ND	ND	ND	ND	0.008	µg/L
m,p-Xylene	ND	ND	ND	ND	0.008	µg/L
o-Xylene	ND	ND	ND	ND	0.008	µg/L
MTBE	ND	ND	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	ND	ND	0.400	µg/L
TIC:						
n-Pentane	ND	ND	ND	ND	0.400	µg/L
n-Hexane	ND	ND	ND	ND	0.400	µg/L
n-Heptane	ND	ND	ND	ND	0.400	µg/L
Dilution Factor	1	1	1	1		
Surrogate Recoveries:					**QC Limits**	
Dibromofluoromethane	119%	121%	132%	97%	60 - 140	
Toluene-d_8	88%	92%	96%	104%	60 - 140	
4-Bromofluorobenzene	92%	103%	84%	100%	60 - 140	
	E1-101717-E-0786	E1-101717-E-0786	E2-101717-E-0786	E2-101717-E-0786		

ND= Not Detected

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	E-0786
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	10/17/2017
		Date Received:	10/17/2017
Project:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street	**Physical State:**	Soil Gas
	Wilmington, CA		

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Batch ID: E1-101717-E-0786

Jones ID:	**101717-E1LCS1**	**101717-E1LCSD1**			**101717-E1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	92%	90%	2.1%	70 - 130	87%	80 - 120
1,1-Dichloroethene	115%	102%	12.0%	70 - 130	99%	80 - 120
Cis-1,2-Dichloroethene	130%	116%	11.1%	70 - 130	109%	80 - 120
1,1,1-Trichloroethane	117%	106%	9.4%	70 - 130	102%	80 - 120
Benzene	125%	109%	13.4%	70 - 130	106%	80 - 120
Trichloroethene	122%	105%	14.6%	70 - 130	108%	80 - 120
Toluene	129%	121%	6.0%	70 - 130	110%	80 - 120
Tetrachloroethene	123%	118%	4.5%	70 - 130	107%	80 - 120
Chlorobenzene	129%	120%	7.8%	70 - 130	112%	80 - 120
Ethylbenzene	126%	116%	8.5%	70 - 130	105%	80 - 120
1,2,4 Trimethylbenzene	130%	117%	11.3%	70 - 130	104%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	116%	114%		60 - 140	110%	60 - 140
Toluene-d_8	97%	97%		60 - 140	94%	60 - 140
4-Bromofluorobenzene	98%	100%		60 - 140	103%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	10/17/2017
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	E-0786 11618.005
Attn:	Brynn McCulloch	**Date Sampled:** **Date Received:**	10/17/2017 10/17/2017
Project:	Berth 191-193	**Date Analyzed:**	10/17/2017
Project Address:	Yacht Street & Canal Street Wilmington, CA	**Physical State:**	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Batch ID: E2-101717-E-0786

Jones ID:	**101717-E2LCS1**	**101717-E2LCSD1**			**101717-E2CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	85%	92%	8.0%	70 - 130	88%	80 - 120
1,1-Dichloroethene	87%	89%	2.8%	70 - 130	112%	80 - 120
Cis-1,2-Dichloroethene	103%	110%	6.2%	70 - 130	126%	80 - 120
1,1,1-Trichloroethane	93%	99%	5.7%	70 - 130	94%	80 - 120
Benzene	85%	91%	7.1%	70 - 130	102%	80 - 120
Trichloroethene	82%	86%	5.0%	70 - 130	102%	80 - 120
Toluene	82%	87%	5.8%	70 - 130	106%	80 - 120
Tetrachloroethene	84%	83%	1.8%	70 - 130	104%	80 - 120
Chlorobenzene	83%	86%	3.6%	70 - 130	98%	80 - 120
Ethylbenzene	89%	85%	4.7%	70 - 130	98%	80 - 120
1,2,4 Trimethylbenzene	82%	74%	9.3%	70 - 130	94%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	113%	114%		60 - 140	92%	60 - 140
Toluene-d_8	96%	95%		60 - 140	96%	60 - 140
4-Bromofluorobenzene	98%	96%		60 - 140	97%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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Soil-Gas Chain-of-Custody Record

Client: LEIGHTON ASSOCIATES, INC
Project Name: BERTH 1191-193
Project Address: BERTH 193
WILMINGTON, CA
Email:
Phone: 949-681-4287
Report To: BRYNN MCCULLOCH
Sampler: JSB

Date: 10/17/2017
Client Project #: 11618.005.

Purge Number: □ 1P ☒ 3P □ 7P □ 10P
Shut-In Test: (Y) / N

Report Options: EDD ____ EDF* - 10% Surcharge____ *Global ID _____

Turn Around Requested: □ Immediate Attention □ Rush 24 Hours □ Rush 48 Hours □ Rush 72 Hours □ Normal ☒ Mobile Lab

Tracer: ☒ n-pentane ☒ n-hexane ☒ n-heptane □ Helium □ 1,1-DFA □ _____

Reporting Limits Requested: □ Commercial ☒ Residential
Units: ug/L

LAB USE ONLY
Jones Project # E-0786

Page 1 of 1
Sample Container: GLASS GAS-TIGHT SYRINGE
If different than above, see Notes.

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample ID	Purge Rate (mL/min)	Pump Used	Magnehelic	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	Analysis Requested: EPA 8260B					Magnehelic Vacuum (in/H_2O)	Number of Containers	Notes & Special Instructions
LB1-4	3	1290	10/17/17	8:04	8:11	E-0786-01	200	JOSH2	M100.102	SG	X					98	2	VERY LOW FLOW, LOTS OF WATER IN PROBE(>50mL)
LB6-4	3	1290	10/17/17	8:07	8:13	E-0786-02	200	STEVE2	M100.120	SG	X					82	2	WATER IN PROBE (~40mL)
LB13-4	3	1290	10/17/17	8:32	8:43	E-0786-03	200	JOSH2	M100.102	SG	X					12	2	
LB23-4	3	1290	10/17/17	8:36	8:45	E-0786-04	200	STEVE2	M100.120	SG	X					16	2	
LB1-4 DIL	-	-	10/17/17	8:50	9:00	-	-	-	M100.102	SG	X					98	1	VERY LOW FLOW, STILL LOTS OF WATER IN PROBE(>50mL), SEEMS TO REGENERATE
LB23-4 REP	3	1290	10/17/17	8:53	9:02	E-0786-05	200	JOSH2	M100.102	SG	X					16	2	
LB31-4	3	1290	10/17/17	9:20	9:27	E-0786-06	200	STEVE2	M100.120	SG	X					8	2	
LB25-4	3	1290	10/17/17	9:22	9:32	E-0786-07	200	JOSH2	M100.102	SG	X					10	2	
LB27-4	3	1290	10/17/17	9:38	9:44	E-0786-08	200	STEVE2	M100.120	SG	X					8	2	
LB34-4	3	1290	10/17/17	10:20	10:45	E-0786-09	200	JOSH2	M100.102	SG	X					10	2	

Relinquished By (Signature) Kevin C. Hall	Printed Name Kevin Hall	Received By (Signature)	Printed Name JOSH BASS	19	Total Number of Containers
Company LCI	Date 10/17/17 Time 1113	Company Jones Environmental	Date 10/17/17 Time 1117		
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.	
Company	Date Time	Company	Date Time		

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/18/2017
Client Address:	17781 Cowan Irvine, CA 92614	**JEL Ref. No.:**	F-0087
		Client Ref. No.:	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	12/18/2017
		Date Received:	12/18/2017
Project Name:	390-400 Yacht St.	**Date Analyzed:**	12/18/2017
Project Address:	Wilmington, CA	**Physical State:**	Soil Gas

ANALYSES REQUESTED

1. EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers.

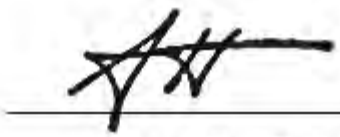
A tracer gas mixture of n-pentane, n-hexane, and n-heptane was placed at the tubing-surface interface before sampling. These compounds were analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No n-pentane, n-hexane, or n-heptane was found in any of the samples reported herein.

The sampling rate was approximately 200 cc/min, except when noted differently on the chain of custody record, using a glass gas-tight syringe. Purging was completed using a pump set at approximately 200 cc/min, except when noted differently on the chain of custody record. A default of 3 purge volumes was used as recommended by July 2015 DTSC/RWQCB guidance documents.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

No flow conditions occur when a sampling rate greater than 10 mL/min cannot be maintained without applying a vacuum greater than 100 inches of water to the sampling train. The sampling train is left at a vacuum for no less than three minutes. If the vacuum does not subside appreciably after three minutes, the sample location is determined to be a no flow sample.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. In addition, a Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were analyzed with each batch of Soil Gas samples. A duplicate/replicate sample was analyzed each day of the sampling activity. All samples were injected into the GC/MS system within 30 minutes of sampling.

Approval: 

Angela Haar, Ph. D.
Mobile Lab Manager

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/18/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	F-0087
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	12/18/2017
		Date Received:	12/18/2017
Project:	390-400 Yacht St	**Date Analyzed:**	12/18/2017
Project Address:	Wilmington, CA	**Physical State:**	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB43-4'**	**LB38-3'**	**LB36-4'**	**LB39-4'**	**LB40-4'**		
Jones ID:	**F-0087-01**	**F-0087-02**	**F-0087-03**	**F-0087-04**	**F-0087-05**	**Practical Quantitation Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	0.008	µg/L
Bromobenzene	**0.009**	ND	ND	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.008	µg/L
Bromoform	ND	ND	ND	ND	ND	0.008	µg/L
n-Butylbenzene	**0.013**	ND	ND	ND	ND	0.008	µg/L
sec-Butylbenzene	**0.014**	ND	ND	ND	ND	0.008	µg/L
tert-Butylbenzene	**0.013**	ND	ND	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
Chloroform	ND	ND	ND	**0.026**	ND	0.008	µg/L
2-Chlorotoluene	**0.009**	ND	ND	ND	ND	0.008	µg/L
4-Chlorotoluene	**0.010**	ND	ND	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.008	µg/L
Dichlorodifluoromethane	**0.011**	**0.011**	**0.010**	**0.010**	**0.009**	0.008	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloroethene	ND	ND	ND	**0.056**	ND	0.008	µg/L
cis-1,2-Dichloroethene	ND	ND	ND	**70.1***	**0.218**	0.008	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	**2.67**	**0.012**	0.008	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB43-4'**	**LB38-3'**	**LB36-4'**	**LB39-4'**	**LB40-4'**		
Jones ID:	**F-0087-01**	**F-0087-02**	**F-0087-03**	**F-0087-04**	**F-0087-05**	**Practical Quantitation Limit**	**Units**
Analytes:							
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.008	µg/L
Ethylbenzene	**0.012**	ND	**0.019**	ND	ND	0.008	µg/L
Freon 113	ND	ND	ND	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.008	µg/L
Isopropylbenzene	**0.012**	ND	**0.011**	ND	ND	0.008	µg/L
4-Isopropyltoluene	**0.026**	**0.106**	**0.771**	**0.023**	ND	0.008	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.008	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.040	µg/L
n-Propylbenzene	**0.014**	ND	**0.012**	ND	ND	0.008	µg/L
Styrene	ND	ND	**0.009**	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	**0.011**	ND	ND	0.008	µg/L
Tetrachloroethene	**0.011**	ND	**0.141**	**8.75**	**0.243**	0.008	µg/L
Toluene	**0.021**	**0.016**	**0.081**	**0.011**	ND	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	**0.118**	ND	**0.304**	**0.015**	**0.012**	0.008	µg/L
Trichloroethene	ND	ND	ND	**18.4**	**0.146**	0.008	µg/L
Trichlorofluoromethane	**0.009**	**3.71**	**3.59**	ND	**0.010**	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	**0.021**	**0.036**	**0.234**	ND	ND	0.008	µg/L
1,3,5-Trimethylbenzene	**0.013**	ND	**0.010**	ND	ND	0.008	µg/L
Vinyl chloride	ND	ND	ND	**0.014**	ND	0.008	µg/L
m,p-Xylene	**0.021**	ND	**0.046**	ND	ND	0.008	µg/L
o-Xylene	**0.011**	ND	**0.019**	ND	ND	0.008	µg/L
MTBE	ND	ND	ND	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.400	µg/L
TIC:							
n-Pentane	ND	ND	ND	ND	ND	0.400	µg/L
n-Hexane	ND	ND	ND	ND	ND	0.400	µg/L
n-Heptane	ND	ND	ND	ND	ND	0.400	µg/L
Dilution Factor	1	1	1	1/25*	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	102%	102%	103%	104%	101%	60 - 140	
Toluene-d_8	98%	98%	97%	95%	98%	60 - 140	
4-Bromofluorobenzene	97%	95%	101%	99%	96%	60 - 140	
	F1-121817-F-0087	F1-121817-F-0087	F1-121817-F-0087	F1-121817-F-0087	F1-121817-F-0087		

ND= Not Detected

* = Dilutions for these compound(s); first number for all others

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/18/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	F-0087
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	12/18/2017
		Date Received:	12/18/2017
Project:	Berth 191-193	**Date Analyzed:**	12/18/2017
Project Address:	Wilmington, CA	**Physical State:**	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**LB42-4'**	**LB42-4' REP**	**LB49-4'**		
Jones ID:	**F-0087-06**	**F-0087-07**	**F-0087-08**	**Practical Quantitation Limit**	**Units**
Analytes:					
Benzene	ND	ND	ND	0.008	µg/L
Bromobenzene	ND	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	ND	0.008	µg/L
Bromoform	ND	ND	ND	0.008	µg/L
n-Butylbenzene	ND	ND	ND	0.008	µg/L
sec-Butylbenzene	ND	ND	ND	0.008	µg/L
tert-Butylbenzene	ND	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	ND	0.008	µg/L
Chloroform	ND	ND	ND	0.008	µg/L
2-Chlorotoluene	ND	ND	ND	0.008	µg/L
4-Chlorotoluene	ND	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	ND	0.008	µg/L
Dichlorodifluoromethane	ND	ND	ND	0.008	µg/L
1,1-Dichloroethane	ND	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	ND	0.008	µg/L
1,1-Dichloroethene	ND	ND	ND	0.008	µg/L
cis-1,2-Dichloroethene	**0.110**	**0.133**	**0.100**	0.008	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	0.008	µg/L
1,2-Dichloropropane	ND	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	LB42-4'	LB42-4' REP	LB49-4'		
Jones ID:	**F-0087-06**	**F-0087-07**	**F-0087-08**	**Practical Quantitation Limit**	**Units**
Analytes:					
cis-1,3-Dichloropropene	ND	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	0.008	µg/L
Ethylbenzene	ND	ND	ND	0.008	µg/L
Freon 113	ND	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	ND	0.008	µg/L
Isopropylbenzene	ND	ND	ND	0.008	µg/L
4-Isopropyltoluene	**0.206**	**0.206**	**0.014**	0.008	µg/L
Methylene chloride	ND	ND	ND	0.008	µg/L
Naphthalene	ND	ND	ND	0.040	µg/L
n-Propylbenzene	ND	ND	ND	0.008	µg/L
Styrene	ND	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.008	µg/L
Tetrachloroethene	**0.066**	**0.075**	**0.090**	0.008	µg/L
Toluene	**0.010**	**0.012**	ND	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	0.040	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	0.030	µg/L
1,1,1-Trichloroethane	ND	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	ND	ND	ND	0.008	µg/L
Trichloroethene	**0.014**	**0.030**	**0.064**	0.008	µg/L
Trichlorofluoromethane	**0.052**	**0.054**	ND	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	**0.066**	**0.070**	ND	0.008	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	0.008	µg/L
Vinyl chloride	ND	ND	**0.021**	0.008	µg/L
m,p-Xylene	ND	ND	ND	0.008	µg/L
o-Xylene	ND	ND	ND	0.008	µg/L
MTBE	ND	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	ND	0.400	µg/L
TIC:					
n-Pentane	ND	ND	ND	0.400	µg/L
n-Hexane	ND	ND	ND	0.400	µg/L
n-Heptane	ND	ND	ND	0.400	µg/L
Dilution Factor	1	1	1		
Surrogate Recoveries:				**QC Limits**	
Dibromofluoromethane	101%	100%	101%	60 - 140	
Toluene-d_8	95%	98%	94%	60 - 140	
4-Bromofluorobenzene	100%	96%	97%	60 - 140	
	F1-121817-F-0087	F1-121817-F-0087	F1-121817-F-0087		

ND= Not Detected

* = Dilutions for these compound(s); first number for all others

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/18/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	F-0087
	Irvine, CA 92614	**Client Ref. No.:**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	12/18/2017
		Date Received:	12/18/2017
Project:	Berth 191-193	**Date Analyzed:**	12/18/2017
Project Address:	Wilmington, CA	**Physical State:**	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	**METHOD BLANK**	**SAMPLING BLANK**		
Jones ID:	**121817-F1MB1**	**121817-F1SB1**	**Practical Quantitation Limit**	**Units**
Analytes:				
Benzene	ND	ND	0.008	µg/L
Bromobenzene	ND	ND	0.008	µg/L
Bromodichloromethane	ND	ND	0.008	µg/L
Bromoform	ND	ND	0.008	µg/L
n-Butylbenzene	ND	ND	0.008	µg/L
sec-Butylbenzene	ND	ND	0.008	µg/L
tert-Butylbenzene	ND	ND	0.008	µg/L
Carbon tetrachloride	ND	ND	0.008	µg/L
Chlorobenzene	ND	ND	0.008	µg/L
Chloroform	ND	ND	0.008	µg/L
2-Chlorotoluene	ND	ND	0.008	µg/L
4-Chlorotoluene	ND	ND	0.008	µg/L
Dibromochloromethane	ND	ND	0.008	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	0.008	µg/L
1,2-Dibromoethane (EDB)	ND	ND	0.008	µg/L
Dibromomethane	ND	ND	0.008	µg/L
1,2- Dichlorobenzene	ND	ND	0.008	µg/L
1,3-Dichlorobenzene	ND	ND	0.008	µg/L
1,4-Dichlorobenzene	ND	ND	0.008	µg/L
Dichlorodifluoromethane	ND	ND	0.008	µg/L
1,1-Dichloroethane	ND	ND	0.008	µg/L
1,2-Dichloroethane	ND	ND	0.008	µg/L
1,1-Dichloroethene	ND	ND	0.008	µg/L
cis-1,2-Dichloroethene	ND	ND	0.008	µg/L
trans-1,2-Dichloroethene	ND	ND	0.008	µg/L
1,2-Dichloropropane	ND	ND	0.008	µg/L
1,3-Dichloropropane	ND	ND	0.008	µg/L
2,2-Dichloropropane	ND	ND	0.008	µg/L
1,1-Dichloropropene	ND	ND	0.008	µg/L

JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	SAMPLING BLANK		
Jones ID:	**121817-F1MB1**	**121817-F1SB1**	**Practical Quantitation Limit**	**Units**
Analytes:				
cis-1,3-Dichloropropene	ND	ND	0.008	µg/L
trans-1,3-Dichloropropene	ND	ND	0.008	µg/L
Ethylbenzene	ND	ND	0.008	µg/L
Freon 113	ND	ND	0.040	µg/L
Hexachlorobutadiene	ND	ND	0.008	µg/L
Isopropylbenzene	ND	ND	0.008	µg/L
4-Isopropyltoluene	ND	ND	0.008	µg/L
Methylene chloride	ND	ND	0.008	µg/L
Naphthalene	ND	ND	0.040	µg/L
n-Propylbenzene	ND	ND	0.008	µg/L
Styrene	ND	ND	0.008	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	0.008	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	0.008	µg/L
Tetrachloroethene	ND	ND	0.008	µg/L
Toluene	ND	ND	0.008	µg/L
1,2,3-Trichlorobenzene	ND	ND	0.040	µg/L
1,2,4-Trichlorobenzene	ND	ND	0.030	µg/L
1,1,1-Trichloroethane	ND	ND	0.008	µg/L
1,1,2-Trichloroethane	ND	ND	0.008	µg/L
Trichloroethene	ND	ND	0.008	µg/L
Trichlorofluoromethane	ND	ND	0.008	µg/L
1,2,3-Trichloropropane	ND	ND	0.008	µg/L
1,2,4-Trimethylbenzene	ND	ND	0.008	µg/L
1,3,5-Trimethylbenzene	ND	ND	0.008	µg/L
Vinyl chloride	ND	ND	0.008	µg/L
m,p-Xylene	ND	ND	0.008	µg/L
o-Xylene	ND	ND	0.008	µg/L
MTBE	ND	ND	0.040	µg/L
Ethyl-tert-butylether	ND	ND	0.040	µg/L
Di-isopropylether	ND	ND	0.040	µg/L
tert-amylmethylether	ND	ND	0.040	µg/L
tert-Butylalcohol	ND	ND	0.400	µg/L
TIC:				
n-Pentane	ND	ND	0.400	µg/L
n-Hexane	ND	ND	0.400	µg/L
n-Heptane	ND	ND	0.400	µg/L
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
Dibromofluoromethane	104%	106%	60 - 140	
Toluene-d_8	94%	95%	60 - 140	
4-Bromofluorobenzene	98%	98%	60 - 140	
	F1-121817-F-0087	F1-121817-F-0087		

ND= Not Detected

* = Dilutions for these compound(s); first number for all others

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/18/2017
Client Address:	17781 Cowan	**Jones Ref. No.:**	F-0087
	Irvine, CA 92614	**11618.005**	11618.005
Attn:	Brynn McCulloch	**Date Sampled:**	12/18/2017
		Date Received:	12/18/2017
Project:	Berth 191-193	**Date Analyzed:**	12/18/2017
Project Address:	Wilmington, CA	**Physical State:**	Soil Gas

EPA 8260B – Volatile Organics by GC/MS + Oxygenates

Batch ID: F1-121817-F-0087

Jones ID:	**121817-F1LCS1**	**121817-F1LCSD1**			**121817-F1CCV1**	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	37.9%	34.3%	9.8%	70 - 130	113.4%	80 - 120
1,1-Dichloroethene	95%	106%	11.0%	70 - 130	108%	80 - 120
Cis-1,2-Dichloroethene	103%	95%	8.7%	70 - 130	107%	80 - 120
1,1,1-Trichloroethane	111%	103%	7.9%	70 - 130	115%	80 - 120
Benzene	95%	89%	7.3%	70 - 130	99%	80 - 120
Trichloroethene	113%	106%	5.9%	70 - 130	119%	80 - 120
Toluene	95%	90%	6.0%	70 - 130	93%	80 - 120
Tetrachloroethene	111%	106%	5.3%	70 - 130	109%	80 - 120
Chlorobenzene	93%	88%	6.0%	70 - 130	92%	80 - 120
Ethylbenzene	94%	87%	7.3%	70 - 130	92%	80 - 120
1,2,4 Trimethylbenzene	90%	83%	7.9%	70 - 130	82%	80 - 120
Surrogate Recovery:						
Dibromofluoromethane	107%	103%		60 - 140	107%	60 - 140
Toluene-d_8	94%	96%		60 - 140	95%	60 - 140
4-Bromofluorobenzene	98%	100%		60 - 140	96%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

JONES ENVIRONMENTAL, INC.

11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Soil-Gas Chain-of-Custody Record

Client
LEIGHTON CONSULTING

Project Name
390-400 YACHT ST

Project Address
390-400 YACHT ST

WILMINGTON, CA

Email

Phone

Report To
BRYNN MCCULLOCH

Sampler
JSB

Date
12/18/2017

Client Project #
11618. 005

Purge Number:
□ 1P ☒ 3P □ 7P □ 10P

Shut-In Test: Y / N

Report Options
EDD ____
EDF* - 10% Surcharge____
*Global ID _____

LAB USE ONLY
Jones Project #
F-0087

Page 1 of 2

Sample Container:
GLASS GAS-TIGHT SYRINGE
If different than above, see Notes.

Turn Around Requested
□ Immediate Attention
□ Rush 24 Hours
□ Rush 48 Hours
□ Rush 72 Hours
□ Normal
☒ Mobile Lab

Tracer
☒ n-pentane
☒ n-hexane
☒ n-heptane
□ Helium
□ 1,1-DFA
□ _____

Reporting Limits Requested
□ Commercial ☒ Residential

Units ug/L

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample ID	Purge Rate (mL/min)	Pump Used	Magnehelic	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	EPA 8260B				Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
LB43-4'	3	1610	12/18/17	7:14	7:19	F-0087-01	200	JOSH1	118001	SG	X				10	2	
LB38-3'	3	1590	12/18/17	7:30	7:35	F-0087-02	200	JOSH1	118001	SG	X				4	2	
LB38-3' REP	3	1590	12/18/17	7:52	7:55	-	200	JOSH1	118001	SG	X				4	2	REP FAILED, TRYING ANOTHER
LB36-4'	3	1610	12/18/17	8:06	8:12	F-0087-03	200	JOSH1	118001	SG	X				66	2	LOW FLOW
LB39-4'	3	1610	12/18/17	8:25	8:31	F-0087-04	200	JOSH1	118001	SG	X				10	2	
LB40-4'	3	1610	12/18/17	8:50	8:53	F-0087-05	200	JOSH1	118001	SG	X				16	2	
LB39-4' DIL	-	-	12/18/17	9:04	9:09	-	-	-	118001	SG	X				10	2	
LB42-4'	3	1610	12/18/17	9:22	9:27	F-0087-06	200	JOSH1	118001	SG	X				144	2	
LB42-4' REP	3	1610	12/18/17	9:40	9:47	F-0087-07	200	JOSH1	118001	SG	X				14	2	
LB49-4'	3	1610	12/18/17	10:00	10:03	F-0087-08	200	JOSH1	118001	SG	X				90	2	VERY LOW FLOW

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name JOSH BASS
Company	Date / Time	Company JONES ENVIRONMENTAL	Date / Time 12-18-17 11:00
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
Company	Date / Time	Company	Date / Time

20 Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

JONES ENVIRONMENTAL, INC.
11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Soil-Gas Chain-of-Custody Record

Client: LEIGHTON CONSULTING
Project Name: 390-400 YACHT ST
Project Address: 390-400 YACHT ST, WILMINGTON, CA
Email:
Phone:
Report To: BRYNN MCCULLOCH
Sampler: JSB

Date: 12/18/2017
Client Project #: 11618. 005

Purge Number: □ 1P ☒ 3P □ 7P □ 10P
Shut-In Test: (Y) / N

Report Options: EDD ____ EDF* - 10% Surcharge____ *Global ID _____

Turn Around Requested:
- □ Immediate Attention
- □ Rush 24 Hours
- □ Rush 48 Hours
- □ Rush 72 Hours
- □ Normal
- ☒ Mobile Lab

Tracer:
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- □ Helium
- □ 1,1-DFA
- □ _____

Reporting Limits Requested: □ Commercial ☒ Residential
Units: ug/L

LAB USE ONLY
Jones Project #: F-0087
Page 2 of 2
Sample Container: GLASS GAS-TIGHT SYRINGE
If different than above, see Notes.

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample ID	Purge Rate (mL/min)	Pump Used	Magnehelic	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	EPA 8260B				Magnehelic Vacuum (in/H_2O)	Number of Containers	Notes & Special Instructions
LB37-4'	-	-	12/18/17	8:20	-	F-0087-09	-	-	118001	SG	X				>100	0	NO FLOW, WATER IN PROBE
LB41-4'	-	-	12/18/17	9:02	-	F-0087-10	-	-	118001	SG	X				>100	0	NO FLOW, WATER IN PROBE
LB44-4'	-	-	12/18/17	9:50	-	F-0087-11	-	-	118001	SG	X				>100	0	NO FLOW, WATER IN PROBE
LB48-4'	-	-	12/18/17	9:54	-	F-0087-12	-	-	118001	SG	X				>100	0	NO FLOW, WATER IN PROBE

10 of 10

Relinquished By (Signature): _____ **Printed Name:** _____
Company: _____ **Date:** _____ **Time:** _____

Received By (Signature): _____ **Printed Name:** JOSH BAS
Company: Jones Environmental **Date:** 12-18-17 **Time:** 11:00

Relinquished By (Signature): _____ **Printed Name:** _____
Company: _____ **Date:** _____ **Time:** _____

Received By Laboratory (Signature): _____ **Printed Name:** _____
Company: _____ **Date:** _____ **Time:** _____

Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

APPENDIX B

2018 Human Health Risk Assessment

Leighton

ENVIRO-TOX
services, inc.

Human Health Risk Assessment
Berths 191 – 193
Wilmington, California

Prepared for

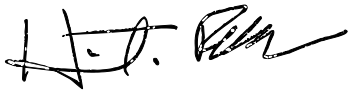
Leighton Consulting, Inc.
17781 Cowan
Irvine, California 92614-6009

Prepared by:

Enviro-Tox Services, Inc.
20 Corporate Park, Suite 220
Irvine, California 92606

June 18, 2018

This Report has been prepared for the exclusive use of City of Los Angeles, Harbor Department as it pertains to Berths 191 – 193 at the Port of Los Angeles in Wilmington, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other scientists, geologists and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice presented in this report.



Heriberto Robles, Ph.D., D.A.B.T.
Board Certified Toxicologist
Enviro-Tox Services, Inc.

June 18, 2018

CONTENTS

1.0 Introduction....1

2.0 Site Characterization....3

2.1 Background....3
2.2 Site Assessment....3

3.0 Selection of Chemicals of Potential Concern....6

3.1 Selection of Chemicals of Potential Concern for Soil Matrix....7
3.2 Selection of Chemicals of Potential Concern in Soil Gas....7
3.3 Selection of Chemicals of Potential Concern in Groundwater....8

4.0 Exposure Assessment....9

4.1 Conceptual Site Model....9
4.2 Potential Receptors....10

5.0 Toxicity Assessment....12

5.1 Toxicity Values for Non-Carcinogens....12
5.2 Toxicity Values for Carcinogens....12

6.0 Fate and Transport Modeling....14

6.1 Chemical Emissions to Indoor Air....14

7.0 Risk Characterization....17

7.1 Risk Characterization For Soil And Dust Exposure....17
7.2 Vapor Intrusion Health Risks and Hazards....18

8.0 Conclusions and Recommendations....21

9.0 Uncertainty Analysis....24

10.0 References....25

TABLES

Table 1 Summary of Soil Metal Analytical Results

Table 2 Summary of Total Petroleum Hydrocarbon in Soil Analytical Results

Table 3 Summary of Volatile Organic Compound in Soil Analytical Results

Table 4 Summary of Semivolatile Organic Compounds in Soil Analytical Results

Table 5 Summary of Polychlorinated Biphenyls in Soil Analytical Results

Table 6 Summary of Volatile Organic Compounds in Soil Gas Analytical Results

Table 7 Summary of Volatile Organic Compounds in Groundwater Analytical Results

Table 8 Summary of Semivolatile Organic Compounds in Groundwater Analytical Results

Table 9 Exposure Parameters for Onsite Receptors

Table 10 Toxicity Criteria for Chemicals of Potential Concern

Table 11 Estimated Incremental Cancer Risks and Hazard Quotients per Unit Concentration for VOCs Detected in Soil Gas

Table 12 Estimated Incremental Cancer Risks and Hazard Quotients per Unit Concentration for VOCs Detected in Groundwater

Table 13 Estimated Cancer Risks per Sampling Location for VOCs Detected in Soil Gas

Table 14 Estimated Cancer Risks per Sampling Location for VOCs Detected in Groundwater

Table 15 Estimated Hazard Quotients per Sampling Location for VOCs Detected in Soil Gas

Table 16 Estimated Hazard Quotients per Sampling Location for VOCs Detected in Groundwater

Table 17 Virtual Remediation of Diesel Range Organics in Soil

ILLUSTRATIONS

Figure 1 – Sampling Location Map (provided by Leighton Consulting, Inc.)

Figure 2 – Conceptual Site Model

APPENDICES

Appendix A – Johnson and Ettinger Modeling Spreadsheets

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1.0 Introduction

At the request of Leighton Consulting, Inc. (Leighton), Enviro-Tox Services, Inc. (Enviro-Tox) conducted a Human Health Risk Assessment (HHRA) for the City of Los Angeles, Harbor Department (Harbor Department) Berths 191-193 in Wilmington, California (the Site). The objective of the risk assessment was to determine whether metals, petroleum hydrocarbons, polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and volatile organic compounds (VOCs) detected in soil, soil gas and groundwater represent a health threat to human health.

In an effort to assess environmental conditions at the Site, Leighton conducted an environmental investigation at the site. During the investigation, soil, soil gas and groundwater samples were collected from borings drilled at the Site. Soil samples were taken at various depths down to a maximum depth of about five feet below ground surface (bgs). The purpose of the sampling was to assess the vertical and lateral extent of chemical-impacted soil, soil gas and groundwater and to establish a baseline for the future Site occupants. Results of environmental investigations are summarized in Leighton's (2018) report. Results indicate that soils at the Site are impacted by total petroleum hydrocarbons (TPH) as well as by traces of a few metals and VOCs. In addition, the environmental investigation revealed the presence of VOCs at relatively high concentrations in a few soil gas and groundwater monitoring sampling locations (Leighton, 2018).

The HHRA was performed in conformance with the following guidance from the U.S. Environmental Protection Agency (USEPA) and the California Department of Toxic Substances Control (DTSC):

- California Department of Toxic Substances Control. 2015. *Preliminary Endangerment Assessment Guidance Manual.*
- California Department of Toxic Substances Control. 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air.*
- U.S. Environmental Protection Agency. 1989. *Risk Assessment Guidance for Superfund: Volume l - Human Health Evaluation Manual.*

- U.S. Environmental Protection Agency. 2002. *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites.*
- U.S. Environmental Protection Agency. 2018. *Regional Screening Levels.*

As required by the USEPA and DTSC, this HHRA quantitatively evaluates the potential health impacts associated with human exposure to chemicals detected in soil, soil gas and groundwater at the Site. Site characterization data collected during the most recent Site investigation was compiled into a database and analyzed to establish representative chemical concentrations. Then, where appropriate, environmental fate and transport models were used to estimate the concentrations of the chemicals to which human receptors might be exposed.

Conservative methods, models, and assumptions have been utilized to prepare this HHRA in accordance with the guidelines of the USEPA and DTSC. In addition, the risk assessment incorporates, to the extent possible, recent improvements and refinements in the practice of risk assessment. Current regulatory guidance requires risk assessments to be conservative in nature and to overestimate potential health risks. Therefore, actual risks associated with conditions evaluated in this risk assessment are likely to be lower than those described herein.

2.0 Site Characterization

A brief summary of the Site history and previous investigation activities is presented below. Details on Site investigation activities are presented in Leighton Consulting's concurrent *Baseline Environmental Site Characterization Report.*

2.1 Background

The Site encompasses roughly 6.8 acres and is located east of Canal Street and south of Yacht Street in Wilmington, California. Historically, the Site was associated with the Former Wilmington Liquid Bulk Terminals, Inc., a yacht club, docks for boats, and a marine gas and oil station.

2.2 Site Assessment

Leighton Consulting, Inc. (Leighton) completed a Baseline Environmental Site Characterization Report for the Site in April 2018. Site characterization activities including grab groundwater, soil, and vapor sampling. The results of the assessment are summarized below.

Soil

Diesel range petroleum hydrocarbons (DRO) were detected above the Environmental Protection Agency (EPA) Region IX Regional Screening Level (RSL) for industrial soil in 14 of the 104 soil samples analyzed during the investigation. While there was no discernable trend in DRO impacted soil, DRO was found primarily within the surficial soil in the northern portion of the Site and in deeper soil (5 feet bgs) in the southern portion of the Site (Leighton, 2018).

Copper and lead exceeded the soluble threshold limit concentration (STLC) waste extraction test (WET) limits in of 5.0 milligrams per liter (mg/L) in soil samples collected from borings LB5, LB11, LB17, LB31, and LB33 (Figure 1). Soil in the vicinity of these borings may be classified as non-RCRA hazardous waste (California hazardous) if removed from the Site. The copper and lead-impacted soil appears to be limited to the upper 3 feet bgs (Leighton, 2018).

GRO, ORO, VOCs, PAHs, PCBs, and dioxin/furans were not detected in the soil samples analyzed during the investigation at concentrations exceeding their respective industrial screening levels (Leighton, 2018).

Soil gas

Four VOCs – cis-1,2-dichloroethene, PCE, TCE, and vinyl chloride – were detected in soil gas at concentrations above their respective adjusted Department of Toxic Substances Control (DTSC) Office of Human and Ecological Risk (HERO) Note Numbers 3 and 5 for soil gas in an industrial setting in three borings (LB1, LB6, and LB39). Elevated concentrations of the same VOCs were detected in groundwater samples collected at these three locations and it is likely that the impacted soil gas is a result of off-gassing of the contaminated groundwater (Leighton, 2018).

Groundwater

Total petroleum hydrocarbons (TPH) were detected in a majority of the groundwater samples analyzed during this investigation. One groundwater sample, LB1, had a concentration of gasoline range petroleum hydrocarbons (GRO) and DRO exceeding the Environmental Screening Levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board. Based on the site-wide TPH impacts to groundwater, it is likely that the Site is located within a regional plume of TPH-impacted groundwater (Leighton, 2018).

Elevated levels of copper, nickel, and zinc were detected in groundwater samples collected from borings LB1, LB6, LB25, and LB27 at concentrations exceeding the ESLs. Since the groundwater beneath the Site is non-beneficial for municipal use and direct contact with groundwater beneath the Site is unlikely, it was determined that these elevated concentrations of metals in groundwater should not pose a risk to future commercial/industrial occupants of the Site (Leighton, 2018).

Two VOCs – PCE and TCE – were detected in groundwater at concentrations above their respective ESL screening criteria from three borings (LB1, LB37, and LB39). The elevated concentrations of VOCs in groundwater were limited to the northern portion of the Site. The

primary VOC contaminants of concern in groundwater are PCE and TCE; however, other chlorinated VOCs such as cis- and trans-1,2-dichloroethene, 1,2-dichloroethane, 1,1-dichloroethee, and vinyl chloride were detected along with fuel constituents such as benzene and MTBE (Leighton, 2018).

PAHs were not detected in the groundwater samples analyzed during this investigation (Leighton, 2018).

3.0 Selection of Chemicals of Potential Concern

All chemicals detected at the Site by Leighton (2018) were included in a formal selection of chemicals of potential concern (COPC). Copies of Leighton Consulting, Inc. soil, soil gas and groundwater data tables for the Site are included in Appendix A.

As described in current USEPA and DTSC risk assessment guidance, the purpose of selecting COPCs is to focus the assessment on those chemicals that could reasonably be expected to pose a significant health risk. COPCs were selected so that the most prevalent, and potentially toxic, compounds detected at the Site (i.e., those chemicals that represent the greatest potential threat to human health) were quantitatively evaluated in the health risk evaluation.

Current risk assessment guidance (DTSC 2018) state that chemicals deemed to pose no significant health risk can be eliminated from consideration in a risk assessment. Specifically, chemicals detected at a site can be eliminated from consideration if their maximum detected concentrations are at or below concentrations known to regulatory agencies to pose no significant risk.

For this evaluation, all chemicals detected in soil, soil gas and groundwater were screened by comparing their maximum detected concentrations to screening levels published by the USEPA and the DTSC. The screening levels selected for this evaluation were:

1. The DTSC-modified Screening Levels (DTSC-LSs) for industrial land use published in the DTSC's (2018) HHRA Note No. 3; and,

2. The USEPA's Regional Screening Levels for industrial sites (RSL-ind).

It should be noted all screening levels used here are considered to be conservative. Under most circumstances, the presence of a chemical in environmental media at concentrations below their corresponding screening level can be assumed to not pose a significant, long-term (chronic) threat to human health and the environment. In general, California regulatory agencies do not require additional evaluation at sites where a chemical is present at concentrations below their corresponding, media-specific screening levels. In fact, regulatory agencies like to compare

maximum detected concentrations to screening levels at commercial/industrial sites with limited impacts, where the preparation of a more formal environmental assessment may not be warranted or feasible due to time and cost constraints.

3.1 Selection of Chemicals of Potential Concern for Soil Matrix

In a conventional risk assessment, metal elements detected in soil at concentrations deemed to be within natural, background concentrations are excluded from the risk evaluation (USEPA 1989 and DTSC 2015). In this HHRA the only metal that was excluded from evaluation was arsenic. According to DTSC (2009) risk assessment guidance, arsenic in soil should not be included in risk evaluations when arsenic is found to be within natural, background concentrations. The background arsenic concentration at the Site is unknown. However, it is well accepted that soils in Southern California are naturally rich in arsenic and that the upper background concentration is about 12 milligrams per kilogram (mg/kg; https://dtsc.ca.gov/upload/Background-Arsenic.pdf. The maximum detected soil arsenic concentration at the site was 12 mg/kg (Table 1). Therefore, arsenic in soil at the Site is considered to be well within background levels and was not included in this HHRA. Other than arsenic, all metals reportedly detected in soil were included in the risk evaluation.

Organic and inorganic chemicals detected in soil at the Site are summarized in Tables 1 through 5. In each table, maximum detected concentrations are presented along with their corresponding screening levels. As can be seen in the tables, the only chemical whose maximum detected concentration exceeded its corresponding screening level was TPH as Diesel Range Organics (DRO; Table 2). Therefore, other than DRO, all metals, TPH fractions, PCBs, SVOCs and VOCs detected in soils are deemed to pose no significant risk or hazard to onsite workers and were not considered to be COPCs in this HHRA.

3.2 Selection of Chemicals of Potential Concern in Soil Gas

VOCs detected in soil gas at the Site are summarized in Table 6. Maximum detected concentrations and their corresponding screening levels are also summarized in Table 6. The only chemicals detected in soil gas at concentrations that exceeded their corresponding screening

levels were cis-1,2-dichloroethylene, tetrachloroethylene (PCE), trichloroethylene (TCE), and vinyl chloride. Therefore, only cis-1,2-dichloroethylene, PCE, TCE and vinyl chloride were retained as soil gas COPCs. Potential health risks and hazards posed by the four VOCs retained as COPCs were evaluated in this HHRA.

3.3 Selection of Chemicals of Potential Concern in Groundwater

A few metals and TPH were detected in groundwater. Since local groundwater is not a source of drinking water, potential health risks and hazards posed by metals and TPH were not evaluated in this HHRA. Only volatile chemicals that could volatilize from groundwater and eventually impact indoor air were evaluated here.

VOCs detected in groundwater are summarized in Table 7. Maximum detected concentrations and their corresponding screening levels are also summarized in Table 7. The only chemicals detected in groundwater at concentrations that exceeded their corresponding screening levels were:

- 1,1-Dichlroethylene,
- 1,2-Dichloroethane,
- cis-1,2-Dichlroethylene,
- Methyl tert-butyl ether (MTBE)
- PCE,
- trans-1,2-Dichloroethylene,
- TCE, and
- Vinyl chloride

Therefore, the eight VOCs listed above were retained as COPCs in groundwater. Potential health risks and hazards posed by the eight VOCs retained as COPCs for groundwater were evaluated in this HHRA.

4.0 Exposure Assessment

California health and environmental protection agencies require the remediation of chemical spills and leaks if the release represents a threat to human health and the environment. Similarly, cleanup of an accidental release has to be conducted to the extent that the threat posed by the release is reduced to acceptable levels. The purpose of this HHRA was to determine if COPCs detected in soil, soil gas and groundwater at the Site represents a threat to onsite workers.

4.1 Conceptual Site Model

A Conceptual Site Model (CSM) shows all potentially complete exposure pathways for a given environmental source. The CSM identifies potential chemical sources, release mechanisms, transport media, routes of chemical migration through the environment, exposure media, and potential receptors. The CSM for the Site under current land use conditions is presented in Figure 2. The following paragraphs define the exposure pathways evaluated in this HHRA and present the rationale for their inclusion or elimination from consideration.

The Site is located in an industrial zone within the Port of Los Angeles, Wilmington, California. Therefore, the Site is likely to continue to operate as an industrial facility.

Most of the Site is likely to be covered by buildings, parking lots, roads, machinery, and landscaped areas. Under these conditions, workers at the Site do not come in contact with surface soils. However, in an effort to assess potential health risks posed by soil exposure, it was assumed that onsite workers could be exposed to surface soils while working at the Site. In addition to onsite workers, utility maintenance workers might come in contact with soil during trenching or utility maintenance work. Therefore, the dermal and ingestion pathways are considered to be complete for maintenance workers as well as for onsite industrial workers (Figure 2).

Groundwater under the Site is known to be impacted by metals, TPH and VOCs (Leighton; 2018). It is safe to assume that onsite workers receive their drinking water from municipal sources and do not depend on onsite groundwater wells for their drinking water. Therefore, direct contact with groundwater exposure pathway is not considered to be a complete exposure pathway. However, VOCs may volatilize and flow from groundwater to soil gas and then into indoor air (Figure 2). This HHRA evaluated the potential risks and hazards posed by VOCs detected in groundwater by modeling the migration and vapor intrusion of VOCs detected in both, soil gas and groundwater.

Since VOCs were detected in groundwater and soil gas samples collected at the Site, this HHRA assumed that a potential source of VOCs exists under the Site. It was also assumed that this potential VOC source would be active for the next 25 years and that VOC vapors may migrate up to the surface and enter a building through cracks in its foundation. Thus, the volatilization and vapor intrusion into onsite buildings is considered to be a potential exposure pathway and is evaluated in this HHRA.

4.2 Potential Receptors

As stated earlier, the Site is located within an industrial zone within the city of Wilmington, California. Therefore, onsite receptors are expected to be only workers employed at an industrial establishment at the Site. It is highly unlikely that the Site will be redeveloped in the future to accommodate a residential development. Therefore, the potential receptors evaluated included:

- Onsite industrial workers, and
- Onsite construction/maintenance workers.

Exposure parameters used to define the onsite industrial and maintenance workers are presented in Table 9.

Although offsite residential and/or industrial receptors may also be exposed to Site chemicals, their exposure should be substantially less than that estimated for onsite receptors because of

wind dispersion and dilution. Therefore, only exposures to onsite receptors were quantitatively evaluated in this HHRA.

5.0 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a COPC and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – non-carcinogens and carcinogens. Toxicity values/exposure criteria are generally developed based on the threshold approach for non-carcinogenic effects and the non-threshold approach for carcinogenic effects. Toxicity values may be based on epidemiological studies, short-term human studies, and sub-chronic or chronic animal data.

5.1 Toxicity Values for Non-Carcinogens

For the purpose of assessing risks associated with non-carcinogenic effects, the USEPA has adopted a science policy position that protective mechanisms such as repair, detoxification, and compensation must be overcome before an adverse health effect is manifested. Therefore, there is a range of exposures, from zero to some finite value (a threshold), that can be tolerated by the organism without appreciable risk of adverse effects occurring.

Non-carcinogenic effects were evaluated using reference doses (RfDs) developed by the USEPA. The RfD is a health-based criterion based on the assumption that thresholds exist for non-carcinogenic toxic effects (e.g., liver or kidney damage). In general, the RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime of exposure (USEPA, 1989). RfDs are expressed as acceptable daily doses in milligrams of compound per kilogram of body weight per day (mg/kg-day). Table 10 presents the RfDs used in this assessment.

5.2 Toxicity Values for Carcinogens

Certain chemicals are regulated as carcinogens based on the likelihood that exposure could cause cancer in humans. Numerical estimates of cancer potency for these chemicals are presented as

cancer slope factors (CSFs). The CSF defines the cancer risk due to constant lifetime exposure to one unit of a carcinogen (in units of risk per mg/kg-day). CSFs are derived by calculating the 95% UCL on the slope of the linearized portion of the dose-response curve using the multistage cancer model on study data. Use of the 95% UCL of the slope means that there is only a 5% chance that the probability of a response could be greater than the estimated value for the experimental data used. This is a conservative approach and may overestimate the actual risk, given that the actual risk is expected to be between zero and the calculated value. Carcinogenic slope factors assume no threshold for effect; therefore, if there are in fact thresholds for carcinogenicity, the true risks could be zero at sufficiently low doses. Table 10 presents the CSFs used in this assessment.

6.0 Fate and Transport Modeling

Chemical, physical, and biological processes can affect the fate and transport of chemicals in water, soil, and air. VOCs tend to volatilize rapidly from subsurface soil and groundwater because of the relatively high vapor pressure of these compounds. Subsequent to volatilization, these compounds can affect ambient air where human receptors can be exposed through the inhalation pathway. The magnitude of potential vapor emissions is estimated in the following sections.

6.1 Chemical Emissions to Indoor Air

It is known that chemicals may migrate through environmental media from their source to some point where human receptors may be exposed. Therefore, it was necessary to determine if the VOCs detected in soil gas – given their residual concentrations, locations, soil physical characteristics, weather conditions, etc. – could potentially migrate up to the surface (where human receptors may be exposed).

Screening-level models were used to predict indoor air concentrations that may result from the chemical vapors potentially released from groundwater and soil gas under the Site. The estimated vapor flux and indoor air concentrations were then used to estimate potential health risks that may result from onsite exposures. For purposes of this evaluation, it was assumed that the land use would be commercial/industrial into the foreseeable future.

The potential migration of VOC vapors into indoor air was estimated using the Johnson and Ettinger (J&E) model (1991), modified to incorporate DTSC toxicity values (GW-SCREEN, DTSC version 3.0 last modified December 2014 and SG-SCREEN, DTSC Version 2.0-last modified December 2014). Copies of the J&E models used in the evaluation are included in Appendix A. The estimated VOC flux and ambient concentrations were then used to estimate potential health risks and hazards that may result from site exposure to estimated VOC concentrations in indoor air. The J&E model is based on the following assumptions:

- Chemical-containing groundwater occur at a defined and constant depth of 5 feet bgs.
- Chemical-containing soil gas occur at a defined and constant depth of 4 feet bgs.
- The gas-phase chemical migrates vertically through soil pore space up to the ground surface by steady-state diffusion.
- The soil between the chemical sources and the ground surface is assumed to be homogeneous.
- Vapor diffusion is described by a single chemical-specific effective diffusion coefficient.
- No retardation of the soil gas occurs as the chemical migrates from soil gas sources up to the ground surface.
- Vapor migrates through cracks in the building foundation and mixes instantaneously with indoor air resulting in an ambient indoor air concentration.

The method assumes that the source chemical concentrations do not decrease over time (i.e.; no mass depletion) and the depth to the top of the chemical sources remain constant, which results in an overestimate of long-term exposure effects.

The J&E models were run using default soil physical parameters as recommended by the DTSC (2011). Soils at the Site have been described as sandy silty soils. Default soil physical parameters for sandy loam were obtained from the J&E VLOOKUP table.

The J&E model assumes that the concentrations in indoor air are proportional to the flux throughout the soil column, and that a gas infiltrating into the building through the foundation floor is uniformly and instantaneously mixed within the air space above the lowest occupied floor of the building. Because this model ignores a number of possible attenuating factors, it is likely that it over-predicts the chemical flux to indoor air. However, because of its simplicity, this approach provides a simple method to estimate the likely maximum rate at which chemicals

would be transported to the surface soils and into a building. Copies of the J&E models used are included in Appendix A.

The indoor air chemical concentrations estimated to result from the volatilization of VOCs could be considered to represent a "worst-case" estimate. In the calculations it was assumed that single chemical compounds are volatilizing, traveling alone through the vadose zone and escaping to ambient air. In reality, all chemicals detected at the Site are competing with each other for available soil-pore space. It is well known that chemical volatilization and migration is limited by the vapor saturation in the vadose zone.

Given the variable chemical composition and concentrations found in all groundwater and soil gas sampling points, VOC data was not pooled and averaged to obtain a "site wide" VOC exposure point concentration. Instead, it was assumed that VOC vapors could migrate vertically and impact indoor air directly above the area where those VOCs were detected. For this evaluation, potential vapor emissions and associated health risks and hazards were estimated separately for each groundwater and soil gas sampling point.

The point of departure for chemical volatilization modeling was the groundwater and soil gas data collected at the Site (Tables 6 and 7). Groundwater and soil gas data represent volatile chemicals that have the potential to migrate from the subsurface up to the ambient air.

7.0 Risk Characterization

The risk characterization section provides a quantitative estimation of the health risks associated with chemical exposure. The risk characterization used the toxicity information from Section 5.0; the exposure factors estimated in Section 4.0; and the estimated chemical exposure point concentrations to evaluate both non-carcinogenic and carcinogenic health effects. Non-carcinogenic health effects were characterized with respect to established regulatory criteria and carcinogenic health risks were characterized with respect to acceptable cancer risks.

Health risk estimates presented in this section have been developed for onsite workers. The health risks were estimated assuming:

1. ***Exposure to Chemical-Affected Soil and Dust***. It was assumed that the upper 5 feet of chemical-affected soil would be exposed to the surface. Under these conditions, it was assumed that onsite receptors have direct contact with soil and dust through the ingestion, dermal contact, and inhalation pathways; and

2. ***Exposure to Chemical-Affected Indoor Air***. It was assumed that the Site will operate as an industrial facility into the foreseeable future. Under these conditions, VOCs detected in groundwater and soil gas were assumed to enter an onsite building through cracks in its foundation. Onsite receptors could then be exposed to VOCs while indoors.

7.1 Risk Characterization for Soil and Dust Exposure

Current risk assessment guidance (DTSC 2016 and 2018) state that chemicals deemed to pose no significant health risk can be eliminated from consideration in a risk assessment. Specifically, chemicals detected at a Site can be eliminated from consideration if their maximum detected concentrations are at or below concentrations known to regulatory agencies to pose no significant risk.

For this evaluation, metals, TPH fractions, PCBs, SVOCs and VOC compounds detected in soil matrix were evaluated by comparing the data to soil screening levels developed by the USEPA and the DTSC.

Maximum detected soil chemical concentrations are presented in Tables 1 through 5. The same tables present their corresponding screening levels. The only chemical whose maximum detected concentration exceeded its corresponding screening level was TPH as DRO (Table 2). It should be noted this HHRA assumes onsite workers are exposed to DRO-impacted soil through ingestion, dermal contact and inhalation of particles. In reality, DRO is not volatile so DRO in soil would not pose a health threat if such soils are inaccessible to onsite receptors. Inaccessible soil are soils covered by buildings, paved roads, paved parking lots, buildings, landscaped areas or covered by at least four feet of soil.

7.2 Vapor Intrusion Health Risks and Hazards

Vapor intrusion risk characterization involves estimating the magnitude of the potential adverse health effects that could occur as a result of chronic, long-term exposure to chemicals identified in groundwater and soil gas at the Site. Summaries of the VOCs detected in soil gas and groundwater at the Site are presented in Tables 6 and 7, respectively.

The J&E model contains a module for estimating potential doses as well as cancer risks and health hazards associated with a given dose. For this assessment, the J&E model was used to estimate the potential health risks and hazards associated with indoor VOC exposures. For each chemical detected, a soil gas or groundwater chemical concentration of one microgram per liter (1 ug/L) was used as the subsurface soil gas or groundwater chemical concentration. The estimated "cancer risk per unit concentration" factors were used to estimate potential cancer risks associated with chemicals detected in either soil gas or groundwater at the Site. "Hazard quotients per unit concentration" factors were also estimated for each VOC detected in either soil gas or groundwater samples. These "hazard quotients per unit concentration" factors were used to estimate hazard quotients associated with each VOC detected in either groundwater or soil gas at the Site. Estimated cancer risks (and hazard quotients) per unit factors for VOCs detected in soil gas are presented in Table 11. Estimated cancer risks (and hazard quotients) per

unit factors for VOCs detected in groundwater are presented in Table 12. Supporting calculations are presented in Appendix A.

Point-by-point cancer risk evaluations for all sampling points were obtained by multiplying the cancer unit risk factors by its corresponding soil gas or groundwater chemical concentration to obtain the cancer risk for each chemical and sampling point. Point-by-point estimated cancer risks for VOCs detected in soil gas are summarized in Table 13. Point-by-point estimated cancer risks for VOCs detected in groundwater are summarized in Table 14.

The estimated cancer risks were compared to the risk level considered acceptable by federal and state regulatory agencies. The U.S. Environmental Protection Agency has established acceptable incremental cancer risk levels to be within the risk range of 1 in 10,000 (1.0E-04) and 1.0E-06; risks greater than 1.0E-04 are generally considered unacceptable. Thus, although agencies will exercise caution in determining whether risks within the range of 1.0E-04 and 1.0E-06 require additional investigation or some form of risk management, there is a general precedent that predicted cancer risks below 1E-05 are considered acceptable for worker exposure scenarios.

The health risk evaluation presented in this HHRA evaluated the potential health risks posed by the presence of VOCs detected in either soil gas or groundwater under the Site. The assessment included the evaluation of potential health risks to onsite workers. In this evaluation it was assumed that onsite workers are exposed for up to 25 years to chemical vapors that may enter onsite buildings. Although it is extremely unlikely that significant amounts of vapors are intruding into the buildings, a conservative fate and transport model was used to simulate potential concentrations that may result from chemical volatilization. The modeling parameters and assumptions used in this assessment were conservative in order not to underestimate potential risks.

According to the results of the HHRA, exposure to VOCs detected in soil gas sampling location LB1-4 had an estimated incremental cancer risk of 4E-05 (Table 13). Estimated cancer risks for all other soil gas sampling locations were equal to or below 1E-05 (Table 13).

Also, according to the vapor intrusion model for chemicals detected in groundwater, exposure to VOCs detected in groundwater at sampling points LB1-GW, LB6-GW, LB37-GW, LB39-GW,

LB40-GW, LB41-GW, LB48-GW, and LB49-GW could pose a potential cancer risks higher than 1E-05 (Table 14). More than 99 percent of the estimated cancer risks in the samples was contributed by PCE, TCE and vinyl chloride.

For each sampling point, chemical and source evaluated, the hazard quotient per sample was obtained by multiplying the hazard quotient per unit concentration by the chemical concentration detected in the sample to obtain the hazard quotient for each chemical and sampling point. Estimated "point-by-point" hazard quotients for VOCs detected in soil gas are summarized in Table 15. Estimated "point-by-point" hazard quotients for VOCs detected in groundwater are summarized in Table 16.

The estimated hazard quotients were compared to an acceptable hazard level. Implicit in the calculation is the assumption of a threshold level of exposure below which no adverse effects are expected to occur. For example, hazard quotients equal to or less than 1.0 indicate that no adverse health effects are expected to occur from exposure to chemicals at the Site.

According to the results of the HHRA, exposure to VOCs detected in soil gas sampling locations LB1-4 and LB39-4 had estimated hazard quotients of about 2 (Table 15). Estimated hazard quotients for all other soil gas sampling locations were all equal to or below 1 (Table 15).

Also, according to the vapor intrusion model for chemicals detected in groundwater, exposure to VOCs detected in groundwater at sampling points LB1-GW, LB37-GW, LB39-GW, and LB41-GW could result in hazard quotients higher than 1 (Table 16).

8.0 Conclusions and Recommendations

The HHRA presented in this report evaluated the potential health risks posed by the presence of metals, TPH fractions, PCBs, SVOCs and VOCs in soil, soil gas and groundwater at the Site. In this assessment it was assumed that onsite workers might come in contact with chemical-impacted soils through the ingestion, dermal contact and inhalation of vapors and dust. The HHRA was conducted in accordance with established DTSC (2015) and USEPA (1989) risk assessment guidance. Based on the assessment of all potentially complete exposure pathways, potential health risks were evaluated due to the presence of anthropogenic chemicals detected in soil (upper 5 feet), groundwater and soil gas at the Site.

The evaluation included the assessment of potential health risks under the following two distinct exposure scenarios.

1. ***Exposure to Chemical-Affected Soil and Dust.*** It was assumed that chemically affected soil is found within the upper 5 feet of soils and those chemical-impacted soils are accessible to onsite workers. Under these conditions, it was assumed that onsite workers have direct contact with soil and dust through the ingestion, dermal contact and inhalation pathway.

2. ***Exposure to Chemical-Affected Indoor Air.*** It was assumed that indoor workers such as office and shop workers spend most of their time indoors. It was also assumed that VOCs detected in soil gas or groundwater may enter an onsite building through cracks in its foundation and indoor workers are exposed to VOCs while indoors.

For this assessment, conservative fate and transport models were used to simulate potential chemical exposures, chemical volatilization and vapor intrusion. Results of the fate and transport modeling were used to estimate potential chemical doses that may be received by onsite workers while at the Site. In all cases, modeling parameters and assumptions used in this assessment were conservative in order not to underestimate potential health risks.

It should be noted that the HHRA was based on site-specific data as well as conservative (health-protective) assumptions, estimates, models and parameters. Therefore, the results are not absolute estimates of health risks at the Site but are health protective estimates.

Based on the exposure scenarios and fate and transport modeling described above, the following conclusions can be drawn from the evaluation.

- According to the results of the HHRA, exposure to VOCs detected in soil gas sampling location LB1-4 had an estimated incremental cancer risk of 4E-05 (Table 13). Estimated cancer risks for all other soil gas sampling locations were equal to or below 1E-05 (Table 13). Also, according to the vapor intrusion model for chemicals detected in groundwater, exposure to VOCs detected in groundwater at sampling points LB1-GW, LB6-GW, LB37-GW, LB39-GW, LB40-GW, LB41-GW, LB48-GW, and LB49-GW could pose a potential cancer risks higher than 1E-05 (Table 14). More than 99 percent of the estimated cancer risks in the samples was contributed by PCE, TCE, and vinyl chloride.

- As for non-cancer hazard quotients, soil gas sampling locations LB1-4 and LB39-4 had estimated hazard quotients of about 2 (Table 15). Estimated hazard quotients for all other soil gas sampling locations were within acceptable levels (Table 15). Also, according to the vapor intrusion model for chemicals detected in groundwater, exposure to VOCs detected in groundwater at sampling points LB1-GW, LB37-GW, LB39-GW, and LB41-GW could result in hazard quotients higher than 1 (Table 16).

- Based on the results of this HHRA, it seems prudent to recommend that some form of vapor mitigation measures (such as an impermeable membrane and passive venting system) be implemented at and around the soil gas and groundwater sampling locations mentioned above. For the rest of the Site, the results of the modeling indicate that there is no significant health risk associated with vapor intrusion into future onsite buildings as normally constructed (i.e., without special mitigation measures or engineering controls).

- Results of the HHRA indicate that DRO detected in soil at the Site could exceed levels considered acceptable to California health and environmental protection agencies. In light of these results, a virtual remediation was conducted by gradually removing from the assessment maximum detected soil DRO concentrations. The virtual remediation was conducted until the estimated 95-percent upper confidence limit (95UCL) soil DRO concentration was below its soil screening level of 400 mg/Kg (Table 17). According to

the HHRA, when the DRO samples LB28-5.0 and LB35-5.0 were removed from the evaluation, the estimated DRO 95UCL concentration remaining in soil at the Site is 353.50 mg/kg (Table 17). The estimated residual DRO concentration is below its established soil screening level (USEPA 2017) and therefore within levels considered acceptable to California health and environmental protection agencies. It should be noted that as long as soil samples LB28 and LB35 remain covered by at least four feet of soil, paving or buildings, DRO in those samples would not pose a health threat to onsite receptors. Thus, it is recommended that soil samples LB28 and LB35 not be disturbed during redevelopment of the site. In the event that redevelopment activities require soil excavation, the excavation and removal of samples LB28 and LB35 should be considered.

All conclusions and recommendations presented in this report are based on reported chemical concentrations and the current land use of the Site. In this risk assessment, all fate-and-transport models, parameters, toxicity data and assumptions were used in accordance with federal and state regulatory guidelines. These guidelines are meant to protect the public and tend to overestimate potential health risks. As such, this risk assessment provides an estimate of the upper boundary of potential health risks, rather than an accurate representation of true health risks posed by the Site. In reality, the actual health risks could be as low as zero.

9.0 Uncertainty Analysis

This risk assessment was based on Site-specific data, laboratory analytical results, and assumed values and conditions. Site-specific data and laboratory results were validated and are supported by quality control and quality assurance documentation. Although professional judgment was used in the selection of each exposure assumption, some argument can be made regarding the validity of each assumption. The purpose of this section is to provide information concerning the validity of each assumption (including the effect of each assumption on the overall risk), the major data gaps, and the effect of these data gaps on the accuracy or reasonableness of the risk assessment.

It is important to fully specify the assumptions and uncertainties inherent in the risk assessment for two reasons: (1) to place the risk estimates in proper perspective, and (2) to identify key Site-related variables and assumptions that contributed most to the conclusions reached in the risk assessment. The focus of this section is also to highlight parameters and Site conditions that contributed most to the predicted risks and that can be further studied with a limited investment of resources. Another use of the uncertainty analysis can be to identify areas where a moderate amount of additional data collection might significantly improve the prediction ability of the risk assessment process.

There is always some doubt as to how well an exposure model or its mathematical expression approximates true relationships between environmental media and Site-specific conditions. Ideally, one would like to use a fully validated model that accounts for all the known factors involved. At present, however, only simple, partially validated models are available and commonly used.

10.0 References

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TABLES

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury
USEPA RSL Industrial Soil			mg/kg	470	12.0	220,000	2,300	980	1,800,000	350	47,000	800	46
LB1-0.5	0.5	10/11/17	mg/kg	ND	**2.6**	**50**	ND	ND	**9.2**	**5.1**	**29**	**22**	**0.17**
LB1-2.5	2.5	10/11/17	mg/kg	ND	**1.7**	**28**	ND	ND	**6.3**	**2.9**	**2.9**	ND	**0.17**
LB1-5.0	5	10/11/17	mg/kg	ND	**2**	**26**	ND	ND	**6.7**	**3.5**	**3.8**	ND	ND
LB2-0.5	0.5	10/11/17	mg/kg	ND	**4**	**93**	ND	ND	**29**	**7.2**	**670**	**110**	**0.28**
LB2-2.5	2.5	10/11/17	mg/kg	ND	**1.7**	**50**	ND	ND	**7.9**	**4**	**5.2**	**5.8**	**0.16**
LB2-5.0	5	10/11/17	mg/kg	ND	**3.5**	**25**	ND	**1.2**	**7.5**	**4.8**	**4.2**	**1.7**	**0.11**
LB3-0.5	0.5	10/11/17	mg/kg	ND	**2.2**	**53**	ND	ND	**10**	**4**	**8.8**	**29**	**0.25**
LB3-2.5	2.5	10/11/17	mg/kg	ND	**2**	**29**	ND	ND	**6.1**	**3.6**	**3.5**	ND	**0.15**
LB3-5.0	5	10/11/17	mg/kg	ND	**1.4**	**33**	ND	ND	**6.6**	**3.6**	**3.1**	ND	**0.12**
LB4-0.5	0.5	10/11/17	mg/kg	**5.1**	**2.3**	**96**	ND	ND	**16**	**3.9**	**58**	**130**	**0.72**
LB4-2.5	2.5	10/11/17	mg/kg	ND	**2.3**	**51**	ND	ND	**7.4**	**3**	**11**	**20**	**0.34**
LB4-3.5	3.5	10/11/17	mg/kg	ND	**8**	**94**	ND	ND	**8.5**	**4.5**	**590**	**5**	**0.13**
LB5-0.5	0.5	10/11/17	mg/kg	ND	**2.8**	**73**	ND	ND	**13**	**5.7**	**22**	**14**	ND
LB5-2.5	2.5	10/11/17	mg/kg	**2.5**	**5.5**	**89**	ND	ND	**12**	**5.1**	**51**	**99**	**1.4**
LB5-5.0	5	10/11/17	mg/kg	ND	**1.6**	**47**	ND	ND	**9.5**	**5.3**	**6.3**	ND	**0.18**
LB6-0.5	0.5	10/12/17	mg/kg	ND	ND	**12**	ND	ND	**2.9**	**1.2**	**2.4**	**7.3**	**0.16**
LB6-2.5	2.5	10/12/17	mg/kg	ND	ND	**9.8**	ND	ND	**2.1**	**1.2**	ND	ND	**0.16**
LB6-5.0	5	10/12/17	mg/kg	ND	ND	**9.1**	ND	ND	**1.7**	ND	ND	ND	**0.2**
LB7-0.5	0.5	10/12/17	mg/kg	ND	ND	**110**	ND	ND	**12**	**11**	**27**	**16**	ND
LB7-2.5	2.5	10/12/17	mg/kg	ND	**1.5**	**52**	ND	ND	**9.3**	**4.5**	**50**	**49**	**0.25**
LB7-5.0	5	10/12/17	mg/kg	ND	ND	**29**	ND	ND	**6.6**	**3.5**	**4.1**	**1**	ND
LB8-0.5	0.5	10/11/17	mg/kg	ND	**5**	**100**	ND	ND	**17**	**6.1**	**42**	**29**	**0.21**
LB8-2.5	2.5	10/11/17	mg/kg	ND	**2.9**	**34**	ND	ND	**6.9**	**3.4**	**3.5**	**1.4**	ND
LB8-5.0	5	10/11/17	mg/kg	ND	**2.9**	**26**	ND	ND	**6.8**	**3.1**	**3.1**	**2**	ND
LB9-0.5	0.5	10/11/17	mg/kg	ND	**2.7**	**90**	ND	ND	**13**	**6.2**	**19**	**13**	**0.12**
LB9-2.5	2.5	10/11/17	mg/kg	ND	**3.2**	**55**	ND	ND	**11**	**5.9**	**14**	**13**	**0.27**
LB9-5.0	5	10/11/17	mg/kg	ND	**2**	**21**	ND	ND	**5.8**	**3.1**	**2.6**	ND	**0.12**
LB10-0.5	0.5	10/12/17	mg/kg	ND	ND	**21**	ND	ND	**3.1**	**1.6**	**5.7**	**5**	**0.21**
LB10-2.5	2.5	10/12/17	mg/kg	ND	ND	**21**	ND	ND	**3.8**	**2.2**	**2.3**	ND	**0.51**
LB10-5.0	5	10/12/17	mg/kg	ND	ND	**11**	ND	ND	**2.4**	**1.3**	ND	ND	**0.24**
LB11-0.5	0.5	10/12/17	mg/kg	ND	**12**	**61**	ND	ND	**25**	**5.1**	**890**	**150**	**2.2**
LB11-2.5	2.5	10/12/17	mg/kg	ND	**5**	**79**	ND	ND	**14**	**9**	**16**	**3.9**	ND
LB11-5.0	5	10/12/17	mg/kg	ND	**2.9**	**110**	ND	ND	**19**	**9.3**	**19**	**3.9**	ND

Table 1
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Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury
USEPA RSL Industrial Soil			mg/kg	470	12.0	220,000	2,300	980	1,800,000	350	47,000	800	46
LB12-0.5	0.5	10/11/17	mg/kg	ND	**5.4**	**140**	ND	ND	**18**	**6.3**	**52**	**38**	**0.34**
LB12-2.5	2.5	10/11/17	mg/kg	ND	**3.4**	**30**	ND	ND	**7.9**	**2.6**	ND	**1.2**	ND
LB12-5.0	5	10/11/17	mg/kg	ND	**3.7**	**46**	ND	ND	**8.5**	**4.6**	**4.7**	**1.6**	**0.17**
LB13-0.5	0.5	10/11/17	mg/kg	ND	**4.8**	**100**	ND	ND	**15**	**5.5**	**34**	**42**	**0.62**
LB13-2.5	2.5	10/11/17	mg/kg	ND	**3.7**	**47**	ND	ND	**9.3**	**4.9**	**6.3**	**6.3**	ND
LB13-5.0	5	10/11/17	mg/kg	ND	**2.8**	**25**	ND	ND	**6.7**	**3.1**	**2**	**1.2**	ND
LB14-0.5	0.5	10/11/17	mg/kg	ND	**3.6**	**84**	ND	ND	**24**	**6.7**	**33**	**28**	**0.28**
LB14-2.5	2.5	10/11/17	mg/kg	ND	ND	**97**	ND	ND	**8.5**	**4.2**	**9.3**	ND	**0.15**
LB14-5.0	5	10/11/17	mg/kg	ND	**1.5**	**57**	ND	ND	**11**	**6.2**	**7.8**	ND	**0.21**
LB15-0.5	0.5	10/12/17	mg/kg	ND	ND	**78**	ND	ND	**7.8**	**3.9**	**9.2**	**4.5**	ND
LB15-2.5	2.5	10/12/17	mg/kg	ND	ND	**15**	ND	ND	**2.9**	**1.8**	**2.1**	ND	**0.22**
LB15-5.0	5	10/12/17	mg/kg	ND	ND	**8.3**	ND	ND	**1.7**	ND	ND	ND	**0.17**
LB16-0.5	0.5	10/12/17	mg/kg	ND	**2.2**	**74**	ND	ND	**6.7**	**6**	**27**	**5**	ND
LB16-2.5	2.5	10/12/17	mg/kg	ND	**2.5**	**78**	ND	ND	**10**	**5.6**	**19**	**33**	ND
LB16-5.0	5	10/12/17	mg/kg	ND	**2.4**	**65**	ND	ND	**7.3**	**3.7**	**12**	**4.9**	ND
LB17-0.5	0.5	10/11/17	mg/kg	ND	**1.4**	**75**	ND	ND	**14**	**4**	**16**	**51**	**0.73**
LB17-2.5	2.5	10/11/17	mg/kg	ND	**1.3**	**46**	ND	ND	**9.1**	**4.9**	**6**	ND	ND
LB17-5.0	5	10/11/17	mg/kg	ND	**1**	**51**	ND	ND	**8.5**	**5.1**	**5.3**	ND	**0.1**
LB18-0.5	0.5	10/11/17	mg/kg	ND	**2.5**	**99**	ND	ND	**35**	**7.3**	**100**	**33**	**0.23**
LB18-2.5	2.5	10/11/17	mg/kg	ND	**2.1**	**28**	ND	ND	**7**	**3.3**	**3.1**	ND	ND
LB18-5.0	5	10/11/17	mg/kg	ND	**2.2**	**35**	ND	ND	**7.5**	**4.3**	**3.9**	ND	ND
LB19-0.5	0.5	10/11/17	mg/kg	ND	**3.1**	**37**	ND	ND	**7.5**	**3.7**	**3.6**	**1.6**	ND
LB19-2.5	2.5	10/11/17	mg/kg	ND	**3.4**	**20**	ND	ND	**6**	**2.9**	ND	**1.4**	ND
LB19-5.0	5	10/11/17	mg/kg	ND	**3**	**33**	ND	ND	**6.6**	**3.8**	**3.2**	**1.1**	ND
LB20-0.5	0.5	10/11/17	mg/kg	ND	**3.7**	**52**	ND	ND	**15**	**6.1**	**39**	**35**	**0.22**
LB20-2.5	2.5	10/11/17	mg/kg	ND	**3.3**	**30**	ND	ND	**6.6**	**3.4**	**3**	**1.8**	ND
LB20-5.0	5	10/11/17	mg/kg	ND	**2.9**	**36**	ND	ND	**7.1**	**3.7**	**3.1**	**2.3**	ND
LB21-0.5	0.5	10/12/17	mg/kg	ND	**1.3**	**20**	ND	ND	**5.6**	**2.8**	**3.1**	ND	ND
LB21-2.5	2.5	10/12/17	mg/kg	ND	**2.1**	**38**	ND	ND	**8.1**	**4.4**	**4.8**	ND	ND
LB21-5.0	5	10/12/17	mg/kg	ND	**2.4**	**65**	ND	ND	**11**	**6.5**	**8.3**	ND	ND
LB22-0.5	0.5	10/12/17	mg/kg	ND	**2.3**	**50**	ND	ND	**11**	**5.3**	**9.8**	**5.5**	ND
LB22-2.5	2.5	10/12/17	mg/kg	ND	ND	**69**	ND	ND	**15**	**7.1**	**12**	**1.3**	**0.17**
LB22-5.0	5	10/12/17	mg/kg	ND	**1.7**	**19**	ND	ND	**4.1**	**2.1**	**2.5**	ND	ND

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury
USEPA RSL Industrial Soil			mg/kg	470	12.0	220,000	2,300	980	1,800,000	350	47,000	800	46
LB23-0.5	0.5	10/11/17	mg/kg	ND	ND	**24**	ND	ND	**6**	**2.4**	**2.8**	ND	ND
LB23-2.5	2.5	10/11/17	mg/kg	ND	**1.1**	**36**	ND	ND	**8.4**	**4.2**	**5.9**	ND	**0.1**
LB23-5.0	5	10/11/17	mg/kg	ND	**1.7**	**28**	ND	ND	**5.8**	**2.9**	**2.6**	ND	ND
LB24-0.5	0.5	10/11/17	mg/kg	ND	**4.5**	**59**	ND	ND	**12**	**6.7**	**9.7**	**2.9**	ND
LB24-2.5	2.5	10/11/17	mg/kg	ND	**3.3**	**36**	ND	ND	**7.2**	**3.7**	**3.3**	**1.5**	ND
LB24-5.0	5	10/11/17	mg/kg	ND	**4.4**	**23**	ND	ND	**5.8**	**2.9**	ND	**1.2**	ND
LB25-0.5	0.5	10/11/17	mg/kg	ND	**2.8**	**18**	ND	ND	**5.8**	**2.6**	**2.4**	**1.9**	ND
LB25-2.5	2.5	10/11/17	mg/kg	ND	**3.4**	**48**	ND	ND	**8.6**	**5**	**4.7**	**1.8**	ND
LB25-5.0	5	10/11/17	mg/kg	ND	**2.4**	**24**	ND	ND	**5.6**	**2.6**	ND	**1.1**	ND
LB26-0.5	0.5	12-Oct-17	mg/kg	ND	**2.2**	**13**	ND	ND	**4.2**	**2.1**	**2.4**	**1.1**	ND
LB26-2.5	2.5	12-Oct-17	mg/kg	ND	**2**	**23**	ND	ND	**5.5**	**2.6**	**2.7**	ND	ND
LB26-5.0	5	12-Oct-17	mg/kg	ND	**1.6**	**62**	ND	ND	**9.8**	**5.8**	**7**	ND	ND
LB27-0.5	0.5	12-Oct-17	mg/kg	ND	**4**	**98**	ND	ND	**18**	**8.7**	**28**	**130**	ND
LB27-2.5	2.5	12-Oct-17	mg/kg	ND	**2.1**	**43**	ND	ND	**9.4**	**5.5**	**6.5**	ND	ND
LB27-5.0	5	12-Oct-17	mg/kg	ND	**1.1**	**16**	ND	ND	**3.8**	**1.8**	ND	ND	ND
LB28-0.5	0.5	12-Oct-17	mg/kg	ND	**4.2**	**45**	ND	ND	**8.3**	**4.1**	**17**	**85**	ND
LB28-2.5	2.5	12-Oct-17	mg/kg	ND	**5**	**63**	ND	ND	**13**	**5.3**	**27**	**53**	ND
LB28-5.0	5	12-Oct-17	mg/kg	ND	**2.5**	**81**	ND	ND	**19**	**4.1**	**9.2**	**4**	ND
LB29-0.5	0.5	12-Oct-17	mg/kg	ND	**2.4**	**17**	ND	ND	**4.1**	**2.2**	**10**	**10**	ND
LB29-2.5	2.5	12-Oct-17	mg/kg	ND	**2.1**	**18**	ND	ND	**5.1**	**2.3**	**2.1**	ND	ND
LB29-5.0	5	12-Oct-17	mg/kg	ND	**1.4**	**35**	ND	ND	**7**	**3.8**	**4.4**	ND	ND
LB30-0.5	0.5	12-Oct-17	mg/kg	ND	**1.6**	**48**	ND	ND	**10**	**4.6**	**8.3**	**5**	ND
LB30-2.5	2.5	12-Oct-17	mg/kg	ND	**1.6**	**82**	ND	ND	**16**	**5.4**	**91**	**180**	**0.25**
LB30-5.0	5	12-Oct-17	mg/kg	ND	ND	**44**	ND	ND	**10**	**7**	**8.1**	**3**	ND
LB31-0.5	0.5	12-Oct-17	mg/kg	ND	**4.3**	**63**	ND	ND	**12**	**5.2**	**110**	**110**	**0.89**
LB31-2.5	2.5	12-Oct-17	mg/kg	ND	ND	**13**	ND	ND	**3.6**	**1.8**	**2.2**	ND	ND
LB31-5.0	5	12-Oct-17	mg/kg	ND	**1.6**	**53**	ND	ND	**9.6**	**5.8**	**6.8**	ND	ND
LB32-0.5	0.5	12-Oct-17	mg/kg	ND	**3.7**	**60**	ND	ND	**13**	**6.1**	**29**	**7.5**	ND
LB32-2.5	2.5	12-Oct-17	mg/kg	ND	**1.6**	**28**	ND	ND	**5.9**	**3**	**3.3**	ND	ND
LB32-5.0	5	12-Oct-17	mg/kg	ND	**1.7**	**63**	ND	ND	**11**	**6.6**	**9.7**	ND	ND
LB33-0.5	0.5	12-Oct-17	mg/kg	ND	**1.7**	**44**	ND	ND	**13**	**6.2**	**6.1**	**1.5**	ND
LB33-2.5	2.5	12-Oct-17	mg/kg	ND	**6.9**	**73**	ND	ND	**14**	**9**	**230**	**110**	**0.23**
LB33-5.0	5	12-Oct-17	mg/kg	ND	**2**	**55**	ND	ND	**9.7**	**6.1**	**7.9**	ND	ND

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury
USEPA RSL Industrial Soil			mg/kg	470	12.0	220,000	2,300	980	1,800,000	350	47,000	800	46
LB34-0.5	0.5	13-Oct-17	mg/kg	ND	**3.1**	**100**	ND	ND	**20**	**5.1**	**23**	**25**	ND
LB34-2.5	2.5	13-Oct-17	mg/kg	ND	ND	**99**	ND	ND	**7.5**	**3.7**	**7.6**	ND	ND
LB34-5.0	5	13-Oct-17	mg/kg	ND	**1.7**	**52**	ND	ND	**8.7**	**5.2**	**6.8**	ND	ND
LB35-0.5	0.5	13-Oct-17	mg/kg	ND	ND	**71**	ND	ND	**6.7**	**4.6**	**8.1**	**4.1**	ND
LB35-2.5	2.5	13-Oct-17	mg/kg	ND	ND	**67**	ND	ND	**6.1**	**3.7**	**5.3**	**1.1**	ND
LB35-5.0	5	13-Oct-17	mg/kg	ND	ND	**39**	ND	ND	**6.7**	**3.2**	**5.1**	**8.5**	ND

Minimum SL	470	12	220,000	2,300	980	1,800,000	350	47,000	800	46
Max. Conc.	5.1	12	140	0	1.2	35	11	890	180	2.2
Is Max > SL ?	No	No	No	No	No	No	No	No	No	No

Notes:
bgs = below ground
surface
ND<0.44 = Not detected above the laboratory reporting limit.
RSL = USEPA Regional Screening Level, industrial (November 2017)
mg/kg = milligrams per kilogram

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	5,800	22,000	5,800	5,800	12	5,800	350,000
LB1-0.5	0.5	10/11/17	mg/kg	ND	**11**	ND	ND	ND	**23**	**40**
LB1-2.5	2.5	10/11/17	mg/kg	ND	**4**	ND	ND	ND	**13**	**14**
LB1-5.0	5	10/11/17	mg/kg	ND	**4.3**	ND	ND	ND	**15**	**16**
LB2-0.5	0.5	10/11/17	mg/kg	**1.9**	**22**	ND	ND	ND	**30**	**120**
LB2-2.5	2.5	10/11/17	mg/kg	ND	**5.6**	ND	ND	ND	**15**	**32**
LB2-5.0	5	10/11/17	mg/kg	ND	**5.6**	ND	ND	ND	**15**	**17**
LB3-0.5	0.5	10/11/17	mg/kg	ND	**7.9**	ND	ND	ND	**20**	**65**
LB3-2.5	2.5	10/11/17	mg/kg	ND	**4.6**	ND	ND	ND	**12**	**18**
LB3-5.0	5	10/11/17	mg/kg	ND	**4.8**	ND	ND	ND	**12**	**18**
LB4-0.5	0.5	10/11/17	mg/kg	ND	**11**	ND	ND	ND	**18**	**160**
LB4-2.5	2.5	10/11/17	mg/kg	ND	**6.2**	ND	ND	ND	**13**	**43**
LB4-3.5	3.5	10/11/17	mg/kg	ND	**8**	ND	ND	ND	**23**	**43**
LB5-0.5	0.5	10/11/17	mg/kg	ND	**12**	ND	ND	ND	**23**	**51**
LB5-2.5	2.5	10/11/17	mg/kg	ND	**12**	ND	ND	ND	**23**	**160**
LB5-5.0	5	10/11/17	mg/kg	ND	**7.2**	ND	ND	ND	**17**	**25**
LB6-0.5	0.5	10/12/17	mg/kg	ND	**2.1**	ND	ND	ND	**4.9**	**16**
LB6-2.5	2.5	10/12/17	mg/kg	ND	**1.6**	ND	ND	ND	**3.7**	**6.7**
LB6-5.0	5	10/12/17	mg/kg	ND	**1.2**	ND	ND	ND	**3**	**5.3**
LB7-0.5	0.5	10/12/17	mg/kg	ND	**12**	ND	ND	ND	**36**	**71**
LB7-2.5	2.5	10/12/17	mg/kg	ND	**14**	ND	**1.5**	ND	**16**	**89**
LB7-5.0	5	10/12/17	mg/kg	ND	**5**	ND	ND	ND	**13**	**19**
LB8-0.5	0.5	10/11/17	mg/kg	ND	**15**	ND	ND	ND	**27**	**170**
LB8-2.5	2.5	10/11/17	mg/kg	ND	**4.6**	ND	ND	ND	**15**	**18**
LB8-5.0	5	10/11/17	mg/kg	ND	**3.9**	ND	ND	ND	**19**	**15**
LB9-0.5	0.5	10/11/17	mg/kg	ND	**12**	ND	ND	ND	**27**	**44**
LB9-2.5	2.5	10/11/17	mg/kg	ND	**9.7**	ND	ND	ND	**22**	**46**
LB9-5.0	5	10/11/17	mg/kg	ND	**3.8**	ND	ND	ND	**13**	**14**
LB10-0.5	0.5	10/12/17	mg/kg	ND	**4.7**	ND	ND	ND	**6.3**	**18**
LB10-2.5	2.5	10/12/17	mg/kg	ND	**3**	ND	ND	ND	**6.5**	**11**
LB10-5.0	5	10/12/17	mg/kg	ND	**1.6**	ND	ND	ND	**3.8**	**6.4**
LB11-0.5	0.5	10/12/17	mg/kg	ND	**11**	ND	ND	ND	**17**	**780**
LB11-2.5	2.5	10/12/17	mg/kg	ND	**13**	ND	ND	ND	**32**	**38**
LB11-5.0	5	10/12/17	mg/kg	ND	**14**	ND	ND	ND	**33**	**46**

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	5,800	22,000	5,800	5,800	12	5,800	350,000
LB12-0.5	0.5	10/11/17	mg/kg	ND	**16**	ND	ND	ND	**28**	**200**
LB12-2.5	2.5	10/11/17	mg/kg	ND	**3.1**	ND	ND	ND	**28**	**13**
LB12-5.0	5	10/11/17	mg/kg	ND	**6**	ND	ND	ND	**19**	**23**
LB13-0.5	0.5	10/11/17	mg/kg	ND	**13**	ND	ND	ND	**27**	**210**
LB13-2.5	2.5	10/11/17	mg/kg	ND	**7.4**	ND	ND	ND	**22**	**31**
LB13-5.0	5	10/11/17	mg/kg	ND	**4**	ND	ND	ND	**17**	**15**
LB14-0.5	0.5	10/11/17	mg/kg	ND	**16**	ND	ND	ND	**27**	**86**
LB14-2.5	2.5	10/11/17	mg/kg	ND	**5.6**	ND	ND	ND	**18**	**26**
LB14-5.0	5	10/11/17	mg/kg	ND	**8.3**	ND	ND	ND	**21**	**30**
LB15-0.5	0.5	10/12/17	mg/kg	ND	**6.4**	ND	ND	ND	**15**	**31**
LB15-2.5	2.5	10/12/17	mg/kg	ND	**2.3**	ND	ND	ND	**5.6**	**8.7**
LB15-5.0	5	10/12/17	mg/kg	ND	**1.2**	ND	ND	ND	**2.8**	**4.6**
LB16-0.5	0.5	10/12/17	mg/kg	ND	**7.1**	ND	ND	ND	**17**	**180**
LB16-2.5	2.5	10/12/17	mg/kg	ND	**11**	ND	ND	ND	**18**	**160**
LB16-5.0	5	10/12/17	mg/kg	ND	**6.5**	ND	ND	ND	**14**	**39**
LB17-0.5	0.5	10/11/17	mg/kg	ND	**10**	ND	ND	ND	**22**	**250**
LB17-2.5	2.5	10/11/17	mg/kg	ND	**6.7**	ND	ND	ND	**20**	**24**
LB17-5.0	5	10/11/17	mg/kg	ND	**6.6**	ND	ND	ND	**16**	**24**
LB18-0.5	0.5	10/11/17	mg/kg	**3.5**	**32**	ND	ND	ND	**23**	**150**
LB18-2.5	2.5	10/11/17	mg/kg	ND	**4.5**	ND	ND	ND	**16**	**16**
LB18-5.0	5	10/11/17	mg/kg	ND	**5.3**	ND	ND	ND	**17**	**18**
LB19-0.5	0.5	10/11/17	mg/kg	ND	**4.9**	ND	ND	ND	**19**	**21**
LB19-2.5	2.5	10/11/17	mg/kg	ND	**3.3**	ND	ND	ND	**17**	**14**
LB19-5.0	5	10/11/17	mg/kg	ND	**4.9**	ND	ND	ND	**14**	**19**
LB20-0.5	0.5	10/11/17	mg/kg	ND	**21**	ND	ND	ND	**32**	**110**
LB20-2.5	2.5	10/11/17	mg/kg	ND	**4.5**	ND	ND	ND	**13**	**17**
LB20-5.0	5	10/11/17	mg/kg	ND	**4.8**	ND	ND	ND	**15**	**18**
LB21-0.5	0.5	10/12/17	mg/kg	ND	**3.8**	ND	ND	ND	**12**	**14**
LB21-2.5	2.5	10/12/17	mg/kg	ND	**6.2**	ND	ND	ND	**14**	**22**
LB21-5.0	5	10/12/17	mg/kg	ND	**8.9**	ND	ND	ND	**19**	**33**
LB22-0.5	0.5	10/12/17	mg/kg	ND	**8.7**	ND	ND	ND	**19**	**97**
LB22-2.5	2.5	10/12/17	mg/kg	ND	**11**	ND	ND	ND	**23**	**40**
LB22-5.0	5	10/12/17	mg/kg	ND	**2.9**	ND	ND	ND	**7.2**	**10**

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	5,800	22,000	5,800	5,800	12	5,800	350,000
LB23-0.5	0.5	10/11/17	mg/kg	ND	**3**	ND	ND	ND	**14**	**11**
LB23-2.5	2.5	10/11/17	mg/kg	ND	**5.7**	ND	ND	ND	**15**	**20**
LB23-5.0	5	10/11/17	mg/kg	ND	**4**	ND	ND	ND	**10**	**15**
LB24-0.5	0.5	10/11/17	mg/kg	ND	**9.4**	ND	ND	ND	**28**	**35**
LB24-2.5	2.5	10/11/17	mg/kg	ND	**5.2**	ND	ND	ND	**14**	**19**
LB24-5.0	5	10/11/17	mg/kg	ND	**3.6**	ND	ND	ND	**15**	**14**
LB25-0.5	0.5	10/11/17	mg/kg	ND	**3.2**	ND	ND	ND	**17**	**12**
LB25-2.5	2.5	10/11/17	mg/kg	ND	**6.5**	ND	ND	ND	**18**	**25**
LB25-5.0	5	10/11/17	mg/kg	ND	**3.5**	ND	ND	ND	**12**	**14**
LB26-0.5	0.5	12-Oct-17	mg/kg	ND	**2.7**	ND	ND	ND	**8**	**11**
LB26-2.5	2.5	12-Oct-17	mg/kg	ND	**3.8**	ND	ND	ND	**8.8**	**14**
LB26-5.0	5	12-Oct-17	mg/kg	ND	**7.7**	ND	ND	ND	**18**	**30**
LB27-0.5	0.5	12-Oct-17	mg/kg	ND	**15**	ND	ND	ND	**32**	**120**
LB27-2.5	2.5	12-Oct-17	mg/kg	ND	**7.1**	ND	ND	ND	**16**	**26**
LB27-5.0	5	12-Oct-17	mg/kg	ND	**2.4**	ND	ND	ND	**6.7**	**9.5**
LB28-0.5	0.5	12-Oct-17	mg/kg	ND	**12**	ND	ND	ND	**16**	**190**
LB28-2.5	2.5	12-Oct-17	mg/kg	ND	**13**	ND	ND	ND	**20**	**120**
LB28-5.0	5	12-Oct-17	mg/kg	ND	**11**	ND	ND	ND	**18**	**50**
LB29-0.5	0.5	12-Oct-17	mg/kg	ND	**4**	ND	ND	ND	**9.7**	**43**
LB29-2.5	2.5	12-Oct-17	mg/kg	ND	**3**	ND	ND	ND	**9.9**	**11**
LB29-5.0	5	12-Oct-17	mg/kg	ND	**5.3**	ND	ND	ND	**12**	**19**
LB30-0.5	0.5	12-Oct-17	mg/kg	ND	**6.5**	ND	ND	ND	**18**	**26**
LB30-2.5	2.5	12-Oct-17	mg/kg	ND	**24**	ND	ND	ND	**38**	**130**
LB30-5.0	5	12-Oct-17	mg/kg	ND	**7.4**	ND	ND	ND	**18**	**29**
LB31-0.5	0.5	12-Oct-17	mg/kg	ND	**9.7**	ND	ND	ND	**21**	**140**
LB31-2.5	2.5	12-Oct-17	mg/kg	ND	**2.2**	ND	ND	ND	**6.8**	**8.3**
LB31-5.0	5	12-Oct-17	mg/kg	ND	**7.8**	ND	ND	ND	**17**	**29**
LB32-0.5	0.5	12-Oct-17	mg/kg	ND	**11**	ND	ND	ND	**22**	**48**
LB32-2.5	2.5	12-Oct-17	mg/kg	ND	**4.4**	ND	ND	ND	**10**	**19**
LB32-5.0	5	12-Oct-17	mg/kg	ND	**9.1**	ND	ND	ND	**20**	**32**
LB33-0.5	0.5	12-Oct-17	mg/kg	ND	**9.3**	ND	ND	ND	**22**	**34**
LB33-2.5	2.5	12-Oct-17	mg/kg	ND	**20**	ND	ND	ND	**22**	**790**
LB33-5.0	5	12-Oct-17	mg/kg	ND	**8**	ND	ND	ND	**19**	**29**

Table 1
Summary of Soil Metal Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
USEPA RSL Industrial Soil			mg/kg	5,800	22,000	5,800	5,800	12	5,800	350,000
LB34-0.5	0.5	13-Oct-17	mg/kg	ND	**12**	ND	ND	ND	**20**	**79**
LB34-2.5	2.5	13-Oct-17	mg/kg	ND	**5.8**	ND	ND	ND	**15**	**26**
LB34-5.0	5	13-Oct-17	mg/kg	ND	**7**	ND	ND	ND	**15**	**27**
LB35-0.5	0.5	13-Oct-17	mg/kg	ND	**15**	ND	ND	ND	**24**	**30**
LB35-2.5	2.5	13-Oct-17	mg/kg	ND	**13**	ND	ND	ND	**19**	**74**
LB35-5.0	5	13-Oct-17	mg/kg	ND	**12**	ND	ND	ND	**17**	**29**
Minimum SL				5,800	22,000	5,800	5,800	12	5,800	350,000
Max. Conc.				3.5	32	0	1.5	0	38	790
Is Max > SL ?				No	No	No	No	No	No	No

Notes:
bgs = below ground
surface
ND<0.44 = Not detected above the laboratory reporting limit.
RSL = USEPA Regional Screening Level, industrial (November 2017)
mg/kg = milligrams per kilogram

Table 2
Summary of Total Petroleum Hydrocarbon in Soil Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB1-0.5	0.5	10/11/17	mg/kg	ND<0.20	**200**	**460**	**660**
LB1-2.5	2.5	10/11/17	mg/kg	ND<0.20	**8.4**	**7.1**	**15.5**
LB1-5.0	5	10/11/17	mg/kg	ND<0.20	**5.0**	**4.4**	**9.4**
LB2-0.5	0.5	10/11/17	mg/kg	ND<0.20	**720**	**1,700**	**2,420**
LB2-2.5	2.5	10/11/17	mg/kg	ND<0.20	**8.7**	**13**	**21.7**
LB2-5.0	5	10/11/17	mg/kg	ND<0.20	**8.1**	**8.3**	**16.4**
LB3-0.5	0.5	10/11/17	mg/kg	ND<0.20	**20**	**41**	**61**
LB3-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.1**	**5.4**	**11.5**
LB3-5.0	5	10/11/17	mg/kg	ND<0.20	**10**	**9.1**	**19.1**
LB4-0.5	0.5	10/11/17	mg/kg	ND<0.20	**640**	**1,900**	**2,540**
LB4-2.5	2.5	10/11/17	mg/kg	ND<0.20	**22**	**52**	**74**
LB4-3.5	3.5	10/11/17	mg/kg	ND<0.20	**70**	**140**	**210**
LB5-0.5	0.5	10/11/17	mg/kg	ND<0.21	**470**	**1,500**	**1,970**
LB5-2.5	2.5	10/11/17	mg/kg	ND<0.18	**20**	**46**	**66**
LB5-5.0	5	10/11/17	mg/kg	ND<0.21	**19**	**15**	**34**
LB6-0.5	0.5	10/12/17	mg/kg	ND<0.20	**7.1**	**16**	**23.1**
LB6-2.5	2.5	10/12/17	mg/kg	ND<0.20	**6.8**	**5.1**	**11.9**
LB6-5.0	5	10/12/17	mg/kg	ND<0.20	**1.2**	**1.6**	**2.8**
LB7-0.5	0.5	10/12/17	mg/kg	ND<0.20	**270**	**630**	**900**
LB7-2.5	2.5	10/12/17	mg/kg	ND<0.20	**92**	**130**	**222**
LB7-5.0	5	10/12/17	mg/kg	ND<0.20	**10**	**11**	**21**
LB8-0.5	0.5	10/11/17	mg/kg	ND<0.20	**180**	**580**	**760**
LB8-2.5	2.5	10/11/17	mg/kg	ND<0.20	**4.8**	**5.0**	**9.8**
LB8-5.0	5	10/11/17	mg/kg	ND<0.20	**3.7**	**3.7**	**7.4**
LB9-0.5	0.5	10/11/17	mg/kg	ND<0.22	**690**	**2,500**	**3,190**
LB9-2.5	2.5	10/11/17	mg/kg	ND<0.19	**75**	**160**	**235**
LB9-5.0	5	10/11/17	mg/kg	ND<0.17	**8.9**	**5.7**	**14.6**
LB10-0.5	0.5	10/12/17	mg/kg	ND<0.20	**840**	**3,800**	**4,640**
LB10-2.5	2.5	10/12/17	mg/kg	ND<0.20	**5.2**	**7.3**	**12.5**
LB10-5.0	5	10/12/17	mg/kg	ND<0.20	**1.3**	**1.5**	**2.8**
LB11-0.5	0.5	10/12/17	mg/kg	ND<0.20	**310**	**730**	**1,040**
LB11-2.5	2.5	10/12/17	mg/kg	ND<0.20	**8.6**	**7.9**	**16.5**
LB11-5.0	5	10/12/17	mg/kg	ND<0.20	**12**	**9.3**	**21.3**
LB12-0.5	0.5	10/11/17	mg/kg	ND<0.20	**180**	**420**	**600**
LB12-2.5	2.5	10/11/17	mg/kg	ND<0.20	**5.7**	**5.7**	**11.4**

Table 2
Summary of Total Petroleum Hydrocarbon in Soil Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB12-5.0	5	10/11/17	mg/kg	ND<0.20	**6.4**	**6.6**	**13**
LB13-0.5	0.5	10/11/17	mg/kg	ND<0.20	**350**	**1,200**	**1,550**
LB13-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.9**	**8.4**	**15.3**
LB13-5.0	5	10/11/17	mg/kg	ND<0.20	**6.7**	**6.7**	**13.4**
LB14-0.5	0.5	10/11/17	mg/kg	ND<0.20	**160**	**440**	**600**
LB14-2.5	2.5	10/11/17	mg/kg	ND<0.24	**9.2**	**15**	**24.2**
LB14-5.0	5	10/11/17	mg/kg	ND<0.20	**3.6**	**3.1**	**6.7**
LB15-0.5	0.5	10/12/17	mg/kg	ND<0.20	**20**	**35**	**55**
LB15-2.5	2.5	10/12/17	mg/kg	ND<0.20	**4.0**	**4.6**	**8.6**
LB15-5.0	5	10/12/17	mg/kg	ND<0.20	**2.9**	**2.5**	**5.4**
LB16-0.5	0.5	10/12/17	mg/kg	ND<0.20	**7.7**	**10**	**17.7**
LB16-2.5	2.5	10/12/17	mg/kg	ND<0.20	**390**	**1,100**	**1,490**
LB16-5.0	5	10/12/17	mg/kg	ND<0.20	**63**	**130**	**193**
LB17-0.5	0.5	10/11/17	mg/kg	ND<0.20	**1,400**	**3,400**	**4,800**
LB17-2.5	2.5	10/11/17	mg/kg	ND<0.20	**11**	**9.6**	**20.6**
LB17-5.0	5	10/11/17	mg/kg	ND<0.20	**6.7**	**6.2**	**12.9**
LB18-0.5	0.5	10/11/17	mg/kg	ND<0.20	**110**	**280**	**390**
LB18-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.1**	**5.9**	**12**
LB18-5.0	5	10/11/17	mg/kg	ND<0.20	**11**	**9.8**	**20.8**
LB19-0.5	0.5	10/11/17	mg/kg	ND<0.20	**8.8**	**7.9**	**16.7**
LB19-2.5	2.5	10/11/17	mg/kg	ND<0.20	**3.3**	**3.7**	**7.0**
LB19-5.0	5	10/11/17	mg/kg	ND<0.20	**3.9**	**4.0**	**7.9**
LB20-0.5	0.5	10/11/17	mg/kg	ND<0.20	**14**	**26**	**40**
LB20-2.5	2.5	10/11/17	mg/kg	ND<0.20	**3.2**	**3.7**	**6.9**
LB20-5.0	5	10/11/17	mg/kg	ND<0.20	**4.2**	**3.1**	**7.3**
LB21-0.5	0.5	10/12/17	mg/kg	ND<0.20	**9.1**	**9.9**	**19**
LB21-2.5	2.5	10/12/17	mg/kg	ND<0.20	**20**	**17**	**37**
LB21-5.0	5	10/12/17	mg/kg	ND<0.20	**7.2**	**8.5**	**15.7**
LB22-0.5	0.5	10/12/17	mg/kg	ND<0.20	**11**	**21**	**32**
LB22-2.5	2.5	10/12/17	mg/kg	ND<0.20	**8.6**	**10**	**18.6**
LB22-5.0	5	10/12/17	mg/kg	ND<0.20	**9.6**	**9.2**	**18.8**
LB23-0.5	0.5	10/11/17	mg/kg	ND<0.20	**14**	**12**	**26**
LB23-2.5	2.5	10/11/17	mg/kg	ND<0.20	**6.3**	**7.1**	**13.4**
LB23-5.0	5	10/11/17	mg/kg	ND<0.20	**8.7**	**7.6**	**16.3**
LB24-0.5	0.5	10/11/17	mg/kg	ND<0.20	**5.1**	**6.2**	**11.3**

Table 2
Summary of Total Petroleum Hydrocarbon in Soil Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--
LB24-2.5	2.5	10/11/17	mg/kg	ND<0.20	**5.6**	**5.6**	**11.2**
LB24-5.0	5	10/11/17	mg/kg	ND<0.20	**4.3**	**4.7**	**9.0**
LB25-0.5	0.5	10/11/17	mg/kg	ND<0.20	**2.6**	**2.2**	**4.8**
LB25-2.5	2.5	10/11/17	mg/kg	ND<0.20	**2.1**	**1.9**	**4.0**
LB25-5.0	5	10/11/17	mg/kg	ND<0.20	**2.4**	**2.6**	**5.0**
LB26-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**11**	**14**	**25**
LB26-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**12**	**12**	**24**
LB26-5.0	5	12-Oct-17	mg/kg	ND<0.20	**20**	**18**	**38**
LB27-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**41**	**80**	**121**
LB27-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**9.5**	**11**	**20.5**
LB27-5.0	5	12-Oct-17	mg/kg	ND<0.20	**8.1**	**8.4**	**16.5**
LB28-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**530**	**930**	**1,460**
LB28-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**480**	**1,000**	**1,480**
LB28-5.0	5	12-Oct-17	mg/kg	**400**	**11,000**	**5,600**	**16,600**
LB29-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**54**	**100**	**154**
LB29-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**8.8**	**8.8**	**17.6**
LB29-5.0	5	12-Oct-17	mg/kg	ND<0.20	**5.4**	**5.6**	**11**
LB30-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**32**	**36**	**68**
LB30-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**220**	**450**	**670**
LB30-5.0	5	12-Oct-17	mg/kg	ND<0.20	**9.2**	**13**	**22.2**
LB31-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**230**	**490**	**720**
LB31-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**5.7**	**6.0**	**11.7**
LB31-5.0	5	12-Oct-17	mg/kg	ND<0.20	**9.3**	**9.4**	**18.7**
LB32-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**170**	**360**	**530**
LB32-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**6.8**	**9.5**	**16.3**
LB32-5.0	5	12-Oct-17	mg/kg	ND<0.20	**13**	**12**	**25**
LB33-0.5	0.5	12-Oct-17	mg/kg	ND<0.20	**78**	**160**	**238**
LB33-2.5	2.5	12-Oct-17	mg/kg	ND<0.20	**2,500**	**6,800**	**9,300**
LB33-5.0	5	12-Oct-17	mg/kg	ND<0.20	**9.0**	**8.1**	**17.1**
LB34-0.5	0.5	13-Oct-17	mg/kg	ND<0.20	**1,100**	**4,000**	**5,100**
LB34-2.5	2.5	13-Oct-17	mg/kg	ND<0.20	**30**	**59**	**89**
LB34-5.0	5	13-Oct-17	mg/kg	ND<0.20	**5.0**	**7.1**	**12.1**
LB35-0.5	0.5	13-Oct-17	mg/kg	ND<0.20	**2,400**	**7,800**	**10,200**
LB35-2.5	2.5	13-Oct-17	mg/kg	ND<0.20	**1,800**	**7,400**	**9,200**
LB35-5.0	5	13-Oct-17	mg/kg	ND<0.20	**6,300**	**17,000**	**23,300**

Table 2
Summary of Total Petroleum Hydrocarbon in Soil Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	GRO	DRO	ORO	Total TPH
USEPA RSL Industrial Soil			mg/kg	420	440	33,000	--

Notes:
bgs = below ground surface
mg/kg = milligrams per kilogram
RSL = USEPA Regional Screening Level, industrial (November 2017). Most conservative value between aromatic/aliphatic
ND<0.20 = Not detected above the reporting detection limit.
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons

Table 3
Summary of Volatile Organic Compound Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Carbon Disulfide	Tetrachloroethene
USEPA RSL Industrial Soil			ug/kg	3,500,000	100,000
LB2-0.5	0.5	10/11/17	ug/kg	**5.3**	ND<1.5
LB2-2.5	2.5	10/11/17	ug/kg	**7.4 H7**	ND<1.4 H7
LB4-0.5	0.5	10/11/17	ug/kg	ND<3.5	**27**
LB4-2.5	2.5	10/11/17	ug/kg	ND<3.3	ND<1.5
LB5-0.5	0.5	10/11/17	ug/kg	ND<3.2	ND<1.4
LB5-2.5	2.5	10/11/17	ug/kg	ND<3.7	ND<1.7
LB9-0.5	0.5	10/11/17	ug/kg	ND<3.3	ND<1.5
LB9-2.5	2.5	10/11/17	ug/kg	ND<3.7	ND<1.7
LB10-0.5	0.5	10/12/17	ug/kg	ND<3.4	ND<1.5
LB10-2.5	2.5	10/12/17	ug/kg	**13**	ND<1.4
LB11-0.5	0.5	10/12/17	ug/kg	ND<3.4	ND<1.5
LB11-2.5	2.5	10/12/17	ug/kg	ND<3.4	ND<1.5
LB13-0.5	0.5	10/11/17	ug/kg	ND<3.3	ND<1.5
LB13-2.5	2.5	10/11/17	ug/kg	ND<3.8	ND<1.7
LB16-2.5	2.5	10/12/17	ug/kg	ND<3.4	ND<1.5
LB16-5.0	5	10/12/17	ug/kg	ND<3.3	ND<1.5
LB17-0.5	0.5	10/11/17	ug/kg	**12**	ND<1.6
LB17-2.5	2.5	10/11/17	ug/kg	ND<3.9	ND<1.7
LB28-0.5	0.5	10/12/17	ug/kg	ND<3.7	ND<1.7
LB28-2.5	2.5	10/12/17	ug/kg	ND<3.5	ND<1.5
LB28-5.0	5	10/12/17	ug/kg	ND<3.9	ND<1.7
LB33-2.5	2.5	10/12/17	ug/kg	ND<3.3	ND<1.5
LB33-5.0	5	10/12/17	ug/kg	ND<3.7	ND<1.6
LB34-0.5	0.5	10/13/17	ug/kg	ND<3.9	ND<1.7
LB34-2.5	2.5	10/13/17	ug/kg	ND<4.8	ND<2.1
LB34-5.0	5	10/13/17	ug/kg	ND<4.3	ND<1.9
LB35-0.5	0.5	10/13/17	ug/kg	ND<4.5	ND<2.0
LB35-2.5	2.5	10/13/17	ug/kg	ND<4.5	ND<2.0
LB35-5.0	5	10/13/17	ug/kg	ND<3.9	ND<1.7

Notes:
bgs = below ground surface
ug/kg = micrograms per kilogram
ND<0.88 = Not detected above the laboratory reporting limit
RSL = USEPA Regional Screening Level, industrial (November 2017)

Table 4
Summary of Semivolatile Organic Compounds Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	2-Methylnaphthalene	Benzo(b)fluoranthene	Fluoranthene	Pyrene
USEPA RSL Industrial Soil			ug/kg	3,000,000	21,000	30,000,000	23,000,000
LB2-2.5	2.5	11-Oct-17	ug/kg	ND	**10**	**12**	**11**
LB28-5.0	5	12-Oct-17	ug/kg	**7800**	ND	ND	ND

Notes:
bgs = below ground surface
ug/kg = micrograms per kilogram
ND<0.88 = Not detected above the laboratory reporting limit
RSL = USEPA Regional Screening Level, industrial (June, 2017)

Table 5
Summary of Polychlorinated Biphenyls in Soil Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268
USEPA RSL Industrial Soil			ug/kg	27,000	830	720	950	950	970	990	--	--
LB2-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB4-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	**79**	ND	ND
LB5-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB9-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB10-0.5	0.5	10/12/17	ug/kg	ND	ND	ND	ND	ND	ND	**19**	ND	ND
LB11-0.5	0.5	10/12/17	ug/kg	ND	ND	ND	ND	ND	**870**	ND	ND	ND
LB13-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	**21**	ND	ND
LB16-2.5	2.5	10/12/17	ug/kg	ND	ND	ND	ND	ND	**110**	ND	ND	ND
LB17-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	**32**	ND	ND
LB19-0.5	0.5	10/11/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB28-5.0	5	10/12/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB33-2.5	2.5	10/12/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB34-0.5	0.5	10/13/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB35-0.5	0.5	10/13/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB35-5.0	5	10/13/17	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND
LB45-0.5	0.5	12/13/17	ug/kg	16	16	16	16	16	16	**68**	16	16
LB46-0.5	0.5	12/13/17	ug/kg	16	16	16	16	16	16	16	16	16
LB47-0.5	0.5	12/13/17	ug/kg	16	16	16	16	16	16	**180**	16	16

Notes:

bgs = below ground surface

ug/kg = micrograms per kilogram

ND = Not detected above the reporting limit.

RSL = USEPA Regional Screening Level, industrial (November 2017)

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Benzene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	2-Chlorotoluene	4-Chlorotoluene	Dichlorodifluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
Region IX RSL industrial*				3.2	520	520	520	520	1.06	2200	2200	880	1760	--	--
HERO Note 3 industrial*				0.84	--	--	--	--	--	--	--	--	620	70	700
HERO Note 5 industrial*				--	--	--	--	--	--	--	--	--	--	--	--
LB1-4	10/17/17	4.0	ug/L	**0.024**	<0.008	<0.008	<0.008	<0.008	**0.167**	<0.008	<0.008	**0.027**	**0.024**	**30.6**	**3.56**
LB6-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**2.15**	**0.445**
LB13-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB23-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB23-4 REP	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB25-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB27-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.011**	<0.008
LB31-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB34-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB36-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.010**	<0.008	<0.008	<0.008
LB38-3'	12/18/17	3.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.011**	<0.008	<0.008	<0.008
LB39-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	**0.026**	<0.008	<0.008	**0.010**	**0.056**	**70.1**	**2.67**
LB40-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.009**	<0.008	**0.218**	**0.012**
LB42-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.110**	<0.008
LB42-4' REP	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.133**	<0.008
LB43-4'	12/18/17	4.0	ug/L	<0.008	**0.009**	**0.013**	**0.014**	**0.013**	<0.008	**0.009**	**0.010**	**0.011**	<0.008	<0.008	<0.008
LB49-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.100**	<0.008

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Benzene	Bromobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	2-Chlorotoluene	4-Chlorotoluene	Dichlorodifluoromethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
Screening Criteria															
EPA Region IX RSL industrial*				3.2	520	--	--	--	1.06	--	--	880	1,760	--	--
DTSC HERO Note 3 industrial*				0.84	--	--	--	--	--	--	--	--	620	70	700
DTSC HERO Note 5 residential*									--					--	--
DTSC HERO Note 5 industrial*				--	--	--	--	--	--	--	--	--	--	--	--
EPA Region 9 RSL residential*									0.12					--	--
EPA Region 9 RSL industrial*				3.2					1.06			880	1760	--	--
Minimum Screening Level (SL)				0.8	520.0	520.0	520.0	520.0	1.1	2200.0	2200.0	880.0	620.0	70.0	700.0
Maximum Detected Conc.				0.024	0.009	0.013	0.014	0.013	0.167	0.009	0.01	0.027	0.056	70.1	3.56
Does Max Exceed SLs?				No	No	No	No	No	No	No	No	No	No	Yes	No

Surrogates:
Isopropylbenzene for 4-Isopropyltoluene
Bromobenzene for butylbenzenes
1,4-Dichlorobenzen for Dichlorotoulenes

*= Screening levels are adjusted using a 0.0005 attenuation factor for future commerical/industrial use are from Table 2 of the 2011 Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)
ug/L = micrograms per liter
bgs = below ground surface

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,4-Trimethylbenzene
Region IX RSL industrial*				9.8	3600	3600	8800	8800	0.42	94	44000	1.54	6	--	520
HERO Note 3 industrial*				--	--	--	--	7800	--	4	2600	--	--	10800	--
HERO Note 5 industrial*				--	--	--	--	--	--	--	--	--	16	--	--
LB1-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**148**	**0.055**	<0.008	**23.2**	**0.016**	**0.008**
LB6-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB13-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.035**	<0.008	<0.008	**0.026**	<0.008	<0.008
LB23-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB23-4 REP	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB25-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.262**	<0.008	<0.008	**0.021**	<0.008	<0.008
LB27-4	10/17/17	4.0	ug/L	**0.030**	<0.008	<0.008	<0.008	<0.008	<0.008	**0.102**	**0.066**	<0.008	**0.029**	<0.008	**0.038**
LB31-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
LB34-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.274**	**0.038**	<0.008	**0.029**	<0.008	<0.008
LB36-4'	12/18/17	4.0	ug/L	**0.019**	**0.011**	**0.771**	**0.012**	**0.009**	**0.011**	**0.141**	**0.081**	**0.304**	<0.008	**3.59**	**0.234**
LB38-3'	12/18/17	3.0	ug/L	<0.008	<0.008	**0.106**	<0.008	<0.008	<0.008	<0.008	**0.016**	<0.008	<0.008	**3.71**	**0.036**
LB39-4'	12/18/17	4.0	ug/L	<0.008	<0.008	**0.023**	<0.008	<0.008	<0.008	**8.75**	**0.011**	**0.015**	**18.4**	<0.008	<0.008
LB40-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	**0.243**	<0.008	**0.012**	**0.146**	**0.010**	<0.008
LB42-4'	12/18/17	4.0	ug/L	<0.008	<0.008	**0.206**	<0.008	<0.008	<0.008	**0.066**	**0.010**	<0.008	**0.014**	**0.052**	**0.066**
LB42-4' REP	12/18/17	4.0	ug/L	<0.008	<0.008	**0.206**	<0.008	<0.008	<0.008	**0.075**	**0.012**	<0.008	**0.030**	**0.054**	**0.070**
LB43-4'	12/18/17	4.0	ug/L	**0.012**	**0.012**	**0.026**	**0.014**	<0.008	<0.008	**0.011**	**0.021**	**0.118**	<0.008	**0.009**	**0.021**
LB49-4'	12/18/17	4.0	ug/L	<0.008	<0.008	**0.014**	<0.008	<0.008	<0.008	**0.090**	<0.008	<0.008	**0.064**	<0.008	<0.008

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	n-Propylbenzene	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,4-Trimethylbenzene
Screening Criteria															
EPA Region IX RSL industrial*				9.8	3,600	--	8,800	8,800	0.42	94	44,000	1.54	6	--	520
DTSC HERO Note 3 industrial*				--	--	--	--	7,800	--	4.0	2,600	--	--	10,800	--
DTSC HERO Note 5 residential*										--	--		2.0	--	--
DTSC HERO Note 5 industrial*				--	--	--	--	--	--	--	--	--	16	--	--
EPA Region 9 RSL residential*										11	5,200		0.48	--	63
EPA Region 9 RSL industrial*				9.8						94	44,000		6.0	--	520
Minimum Screening Level (SL)				9.8	3600.0	3600.0	8800.0	7800.0	0.4	4.0	2600.0	1.5	2.0	10800.0	520.0
Maximum Detected Conc.				0.03	0.012	0.771	0.014	0.009	0.011	148	0.081	0.304	23.2	3.71	0.234
Does Max Exceed SLs?				No	No	No	No	No	No	Yes	No	No	Yes	No	No

Surrogates:
Isopropylbenzene for 4-Isopropyltoluene
Bromobenzene for butylbenzenes
1,4-Dichlorobenzen for Dichlorotoulenes

*= Screening levels are adjusted using a 0.0005
2011 Final Guidance for the Evaluation and M
ug/L = micrograms per liter
bgs = below ground surface

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	1,3,5-Trimethylbenzene	Vinyl Chloride	m,p-Xylene	o-Xylene
Region IX RSL industrial*				520	5.6	880	880
HERO Note 3 industrial*				--	0.32	--	--
HERO Note 5 industrial*				--	--	--	--
LB1-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB6-4	10/17/17	4.0	ug/L	<0.008	**3.20**	<0.008	<0.008
LB13-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB23-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB23-4 REP	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB25-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB27-4	10/17/17	4.0	ug/L	<0.008	<0.008	**0.136**	**0.038**
LB31-4	10/17/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB34-4	10/17/17	4.0	ug/L	<0.008	<0.008	**0.016**	<0.008
LB36-4'	12/18/17	4.0	ug/L	**0.010**	<0.008	**0.046**	**0.019**
LB38-3'	12/18/17	3.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB39-4'	12/18/17	4.0	ug/L	<0.008	**0.014**	<0.008	<0.008
LB40-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB42-4'	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB42-4' REP	12/18/17	4.0	ug/L	<0.008	<0.008	<0.008	<0.008
LB43-4'	12/18/17	4.0	ug/L	**0.013**	<0.008	**0.021**	**0.011**
LB49-4'	12/18/17	4.0	ug/L	<0.008	**0.021**	<0.008	<0.008

Table 6
Summary of Volatile Organic Compounds in Soil Gas Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Depth (feet bgs)	Units	1,3,5-Trimethylbenzene	Vinyl Chloride	m,p-Xylene	o-Xylene
Screening Criteria							
EPA Region IX RSL industrial*				520	5.6	880	880
DTSC HERO Note 3 industrial*				--	0.32	--	--
DTSC HERO Note 5 residential*						--	--
DTSC HERO Note 5 industrial*				--	--	--	--
EPA Region 9 RSL residential*						100	100
EPA Region 9 RSL industrial*					5.6	880	880
Minimum Screening Level (SL)				520.0	0.3	880.0	880.0
Maximum Detected Conc.				0.013	3.2	0.136	0.038
Does Max Exceed SLs?				No	Yes	No	No

Surrogates:
Isopropylbenzene for 4-Isopropyltoluene
Bromobenzene for butylbenzenes
1,4-Dichlorobenzen for Dichlorotoulenes

*= Screening levels are adjusted using a 0.0005
2011 Final Guidance for the Evaluation and M
ug/L = micrograms per liter
bgs = below ground surface

Table 7
Summary of Volatile Organic Compounds in Groundwater Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Units	1,1-Dichloroethene	1,2-Dichloroethane	Benzene	Bromodichloromethane	Bromoform	Carbon disulfide	cis-1,2-Dichloroethene	Dibromochloromethane	MTBE	Tetrachloroethene
California MCLs		ug/L	6.0	0.5	1.0	80	80	--	6.0	80	13.0	5.0
LB1-GW	10/11/17	ug/L	ND<14	ND<20	ND<10	ND<16	ND<7.0	ND<11	**3300**	ND<5.3	ND<4.6	**19,000**
LB6-GW	10/12/17	ug/L	ND<0.28	ND<0.39	**0.81**	ND<0.32	ND<0.14	ND<0.21	**78**	ND<0.11	**19**	ND<0.18
LB13-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	0.61	ND<0.11	ND<0.09	**2**
LB23-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	**1.3**
LB25-GW	10/11/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	**1.5**	ND<0.11	ND<0.09	**6.2**
LB27-GW	10/12/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	ND<0.18
LB31-GW	10/12/17	ug/L	ND<0.28	ND<0.39	ND<0.21	ND<0.32	ND<0.14	ND<0.21	ND<0.39	ND<0.11	ND<0.09	ND<0.18
LB34-GW	10/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
LB36-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**7.6**	ND<0.5	**1.3**	**2.6**
LB37-GW	12/13/17	ug/L	**7.2**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**2,400**	ND<0.5	ND<0.5	**440**
LB38-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	**0.70**	**4.2**	ND<0.5	**24**	**2.7**	ND<0.5	ND<0.5
LB39-GW	12/13/17	ug/L	**9.6**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**4,900**	ND<0.5	**1.2**	**380**
LB40-GW	12/13/17	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	**3.5**	**380**	<1.0	**2.0**	**12**
LB41-GW	12/13/17	ug/L	**13**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**8,500**	ND<0.5	ND<0.5	**40**
LB42-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**4.7**	ND<0.5
LB43-GW	12/13/17	ug/L	ND<0.5	**1.1**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**5.9**	ND<0.5	**15**	ND<0.5
LB44-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**17**	ND<0.5	**6.3**	ND<0.5
LB48-GW	12/13/17	ug/L	**2.8**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**1,100**	ND<0.5	ND<0.5	**7.6**
LB49-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**180**	ND<0.5	**6.8**	**0.52**
Min Screening Criteria			6.0	0.5	1.0	80.0	80.0	0.0	6.0	80.0	13.0	5.0
Max. Conc.			13	1.1	0.81	0.7	4.2	3.5	8500	2.7	19	19000
			Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes

Notes:
ug/L = micrograms per liter
ND<0.13 = Not detected above laboratory reporting limit

Table 7
Summary of Volatile Organic Compounds in Groundwater Analytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Units	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
California MCLs		ug/L	10.0	5.0	0.5
LB1-GW	10/11/17	ug/L	**210**	**7,900**	ND<13
LB6-GW	10/12/17	ug/L	**33**	ND<0.15	**43**
LB13-GW	10/11/17	ug/L	ND<0.15	**1.6**	ND<0.25
LB23-GW	10/11/17	ug/L	ND<0.15	**0.78**	ND<0.25
LB25-GW	10/11/17	ug/L	ND<0.15	**3.5**	ND<0.25
LB27-GW	10/12/17	ug/L	ND<0.15	ND<0.15	ND<0.25
LB31-GW	10/12/17	ug/L	ND<0.15	ND<0.15	ND<0.25
LB34-GW	10/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5
LB36-GW	12/13/17	ug/L	**0.50**	**3.8**	**0.73**
LB37-GW	12/13/17	ug/L	**230**	**870**	**4.0**
LB38-GW	12/13/17	ug/L	**0.78**	ND<0.5	**2.7**
LB39-GW	12/13/17	ug/L	**220**	**890**	**7.7**
LB40-GW	12/13/17	ug/L	**19**	**21**	**11**
LB41-GW	12/13/17	ug/L	**290**	**110**	**57**
LB42-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5
LB43-GW	12/13/17	ug/L	ND<0.5	ND<0.5	**2.4**
LB44-GW	12/13/17	ug/L	ND<0.5	ND<0.5	ND<0.5
LB48-GW	12/13/17	ug/L	**38**	**10**	**8.3**
LB49-GW	12/13/17	ug/L	**35**	**1.8**	**57**
Min Screening Criteria			10.0	5.0	0.5
Max. Conc.			290	7900	57
			Yes	Yes	Yes

Notes:
ug/L = micrograms per liter
ND<0.13 = Not detected above laboratory reporting limi

Table 8
Summary of Semivolatile Organic Compounds in Groundwater Aalytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Units	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene
California MCLs		ug/L	--	--	--	--	--	0.2	--	--	--	--	--
LB1-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB6-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB13-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB23-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB25-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB27-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB31-GW	10/13/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB34-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.01	ND<0.01	ND<0.01	ND<0.06	ND<0.02	ND<0.02	ND<0.02	ND<0.02

Notes:
ug/L = micrograms per liter
MCLs = Maximum Contaminant Level (Sept. 2016)
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable

Table 8
Summary of Semivolatile Organic Compounds in Groundwater Aalytical Results
Berth 191 - 193
Port of Los Angeles
Wilmington, California

Sample ID	Date	Units	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
California MCLs		ug/L	--	--	--	--	--	--
LB1-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB6-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB13-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB23-GW	10/11/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB25-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB27-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB31-GW	10/13/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02
LB34-GW	10/12/17	ug/L	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02

Notes:
ug/L = micrograms per liter
MCLs = Maximum Contaminant Level (Sept. 2016)
ND<0.13 = Not detected above laboratory reporting limit
-- = not applicable

Table 9
Exposure Parameters for Onsite Receptors
Berths 191 - 193
Port of Los Angeles, California
Wilmington, California

Exposure/Site Specific Parameters	Units	Exposure Parameters		
		Indoor Worker	Maintenance Worker	Source
Chemical Concentration in Air (CA)		--	--	chemical-specific
Exposure Frequency (EF)	days/year	250	250	DTSC 2004
Exposure Duration (ED)	years	25	25	DTSC 2004
Exposure Time (ET)	hr/day	8	8	Default
Averaging Time for Noncarcinogens (AT_n)	hours	219,000	219,000	USEPA 2009
Averaging Time for Carcinogens (AT_c)	hours	613,200	613,200	USEPA 2009

Table 10
Toxicity Criteria of Chemicals of Potential Concern
Berths 191 - 193
Port of Los Angeles
Wilmington, California

Chemical	Chronic Inhalation Reference Concentration (RfC) (mg/m^3)		Inhalation Unit Risk ($(ug/m^3)^{-1}$)	
VOCs				
1,1-Dichloroethylene	7.0E-02	c	0.0E+00	c
1,2-Dichloroethane	7.0E-03	c	2.6E-05	c
1,2-Dichloroethylene (cis)	8.0E-03	c	0.0E+00	c
1,2-Dichloroethylene (trans)	8.0E-02	c	0.0E+00	c
MTBE	3.0E+00	c	2.6E-07	c
Tetrachloroethylene	4.0E-02	c	6.1E-06	c
Trichloroethylene	2.0E-03	c	4.1E-06	c
Vinyl chloride	1.0E-01	c	7.8E-05	c

Notes:
mg/m^3 = Milligrams per cubic meter
NA = Not applicable or not available
ug/m^3 = Micrograms per cubic meter
Sources:
c = Human Health Risk Assessment (HHRA) Note Number: 3. DTSC-modified Screening Levels (DTSC-SLs), January 2018. Or the Cal-EPA (2018) OEHHA, Toxicity Criteria Database www.oehha.ca.gov/risk/chemicalDB/index.asp

e = USEPA, 2017: Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. November. www.epa.gov/region09/superfund/prg

Table 11
Estimated Incremental Cancer Risks and Hazard Quotients per Unit Concentration
VOCs Detected in Soil Gas
Berths 191 - 193
Port of Los Angeles
Wilmington, California

Chemical of Potential Concern (COPC)	CAS Number	Exposure to Indoor Air			
		Soil-Gas Concentration (µg/L)	Indoor Chemical Air Concentration (ug/m^3)	Cancer Risk per Unit Concentration Factor (Risk / ug/L)	Hazard Quotient per Unit Concentration Factor (HI / ug/L)
1,1-Dichloroethylene	75354	1	6.08E-01	NA	2.0E-03
1,2-Dichloroethane	107062	1	6.06E-01	1.3E-06	2.0E-02
1,2-Dichloroethylene (cis)	156592	1	6.16E-01	NA	1.8E-02
1,2-Dichloroethylene (trans)	156605	1	6.13E-01	NA	1.7E-03
MTBE	1634044	1	5.66E-01	1.2E-08	4.3E-05
Tetrachloroethylene	127184	1	4.48E-01	2.2E-07	2.6E-03
Trichloroethylene	79016	1	5.39E-01	1.8E-07	6.1E-02
Vinyl chloride	75014	1	6.74E-01	4.3E-06	1.5E-03

Notes:
µg/L = micrograms per liter
NA = Not applicable or not available

Table 12
Estimated Incremental Cancer Risks and Hazard Quotients per Unit Concentration
VOCs Detected in Groundwater
Berths 191 - 193
Port of Los Angeles
Wilmington, California

Chemical of Potential Concern (COPC)	CAS Number	Exposure to Indoor Air			
		Soil-Gas Concentration (µg/L)	Indoor Chemical Air Concentration (ug/m^3)	Cancer Risk per Unit Concentration Factor (Risk / ug/L)	Hazard Quotient per Unit Concentration Factor (HI / ug/L)
1,1-Dichloroethylene	75354	1	2.15E-01	NA	7.0E-04
1,2-Dichloroethane	107062	1	9.73E-03	2.1E-08	3.2E-04
1,2-Dichloroethylene (cis)	156592	1	3.42E-02	NA	9.8E-04
1,2-Dichloroethylene (trans)	156605	1	3.41E-02	NA	9.7E-05
MTBE	1634044	1	4.46E-03	9.4E-11	3.4E-07
Tetrachloroethylene	127184	1	9.22E-02	4.6E-08	5.3E-04
Trichloroethylene	79016	1	6.70E-02	2.2E-08	7.6E-03
Vinyl chloride	75014	1	2.73E-01	1.7E-06	6.2E-04

Notes:
µg/L = micrograms per liter
NA = Not applicable or not available

Table 13
Estimated Cancer Risk per Sampling Location
For VOCs Detected in Soil Gas
Berths 191 - 193
Port of Los Angeles
Wilmington, California

Sample Location	Volatile Organic Compounds (ug/L)								Total Cancer Risk per Sample Location
	1,1-Dichloroethylene	1,2-Dichloroethane	1,2-Dichloroethylene (cis)	1,2-Dichloroethylene (trans)	MTBE	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride	
Cancer Risk per Unit Concentration Factor (risk/ug/L)	NA	1.3E-06	NA	NA	1.2E-08	2.2E-07	1.8E-07	4.3E-06	
LB1-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.3E-05	4.2E-06	0.0E+00	4.E-05
LB6-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-05	1.E-05
LB13-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.8E-09	4.7E-09	0.0E+00	1.E-08
LB23-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB25-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.8E-08	3.8E-09	0.0E+00	6.E-08
LB27-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-08	5.2E-09	0.0E+00	3.E-08
LB31-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB34-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.1E-08	5.2E-09	0.0E+00	7.E-08
LB36-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.1E-08	0.0E+00	0.0E+00	3.E-08
LB38-3'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB39-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.9E-06	3.3E-06	6.0E-08	5.E-06
LB40-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.4E-08	2.6E-08	0.0E+00	8.E-08
LB42-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-08	5.4E-09	0.0E+00	2.E-08
LB43-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-09	0.0E+00	0.0E+00	2.E-09
LB49-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-08	1.2E-08	9.0E-08	1.E-07

Notes:
Highlighted sampling locations exceed acceptable risk values.

Table 14
Estimated Cancer Risk per Sampling Location
For VOCs Detected in Groundwater
Port of Los Angeles
Wilmington, California

Sample Location	Volatile Organic Compounds (ug/L)								Total Cancer Risk per Sample Location
	1,1-Dichloroethylene	1,2-Dichloroethane	1,2-Dichloroethylene (cis)	1,2-Dichloroethylene (trans)	MTBE	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride	
Cancer Risk per Unit Concentration Factor (risk/ug/L)	NA	2.1E-08	NA	NA	9.4E-11	4.6E-08	2.2E-08	1.7E-06	
LB1-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.7E-04	1.8E-04	0.0E+00	1.E-03
LB6-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-09	0.0E+00	0.0E+00	7.5E-05	7.E-05
LB13-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.2E-08	3.6E-08	0.0E+00	1.E-07
LB23-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.0E-08	1.7E-08	0.0E+00	8.E-08
LB25-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E-07	7.8E-08	0.0E+00	4.E-07
LB36-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.2E-10	1.2E-07	8.5E-08	1.3E-06	1.E-06
LB37-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	1.9E-05	6.9E-06	5.E-05
LB38-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.7E-06	5.E-06
LB39-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-10	1.7E-05	2.0E-05	1.3E-05	5.E-05
LB40-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.9E-10	5.5E-07	4.7E-07	1.9E-05	2.E-05
LB41-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-06	2.5E-06	9.9E-05	1.E-04
LB42-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.4E-10	0.0E+00	0.0E+00	0.0E+00	4.E-10
LB43-GW	0.0E+00	2.3E-08	0.0E+00	0.0E+00	1.4E-09	0.0E+00	0.0E+00	4.2E-06	4.E-06
LB44-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.0E-10	0.0E+00	0.0E+00	0.0E+00	6.E-10
LB48-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-07	2.2E-07	1.4E-05	1.E-05
LB49-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.4E-10	2.4E-08	4.0E-08	9.9E-05	1.E-04

Notes:
Highlighted sampling locations exceed acceptable risk values.

Table 15
Estimated Hazard Quotient per Sampling Location
For VOCs Detected in Soil Gas
Port of Los Angeles
Wilmington, California

Sample Location	Volatile Organic Compounds (ug/L)								Total Hazard Quotient per Sample Location
	1,1-Dichloroethylene	1,2-Dichloroethane	1,2-Dichloroethylene (cis)	1,2-Dichloroethylene (trans)	MTBE	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride	
Hazard Quotient per Unit Concentration Factor (risk/ug/L)	2.0E-03	2.0E-02	1.8E-02	1.7E-03	4.3E-05	2.6E-03	6.1E-02	1.5E-03	
LB1-4	4.8E-05	0.0E+00	5.4E-01	6.2E-03	0.0E+00	3.8E-01	1.4E+00	0.0E+00	2.E+00
LB6-4	0.0E+00	0.0E+00	3.8E-02	7.8E-04	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.E-02
LB13-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.9E-05	1.6E-03	0.0E+00	2.E-03
LB23-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB25-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.7E-04	1.3E-03	0.0E+00	2.E-03
LB27-4	0.0E+00	0.0E+00	1.9E-04	0.0E+00	0.0E+00	2.6E-04	1.8E-03	0.0E+00	2.E-03
LB31-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB34-4	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.0E-04	1.8E-03	0.0E+00	2.E-03
LB36-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.6E-04	0.0E+00	0.0E+00	4.E-04
LB38-3'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.E+00
LB39-4'	1.1E-04	0.0E+00	1.2E+00	4.7E-03	0.0E+00	2.2E-02	1.1E+00	2.2E-05	2.E+00
LB40-4'	0.0E+00	0.0E+00	3.8E-03	2.1E-05	0.0E+00	6.2E-04	9.0E-03	0.0E+00	1.E-02
LB42-4'	0.0E+00	0.0E+00	2.3E-03	0.0E+00	0.0E+00	1.9E-04	1.8E-03	0.0E+00	4.E-03
LB43-4'	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E-05	0.0E+00	0.0E+00	3.E-05
LB49-4'	0.0E+00	0.0E+00	1.8E-03	0.0E+00	0.0E+00	2.3E-04	3.9E-03	3.2E-05	6.E-03

Notes:
Highlighted sampling locations exceed acceptable hazard values.

Table 16
Estimated Hazard Quotient per Sampling Location
For VOCs Detected in Groundwater
Port of Los Angeles
Wilmington, California

Sample Location	Volatile Organic Compounds (ug/L)								Total Hazard Quotient per Sample Location
	1,1-Dichloroethylene	1,2-Dichloroethane	1,2-Dichloroethylene (cis)	1,2-Dichloroethylene (trans)	MTBE	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride	
Hazard Quotient per Unit	7.0E-04	3.2E-04	9.8E-04	9.7E-05	3.4E-07	5.3E-04	7.6E-03	6.2E-04	
LB1-GW	0.0E+00	0.0E+00	3.2E+00	2.0E-02	0.0E+00	1.0E+01	6.0E+01	0.0E+00	7.E+01
LB6-GW	0.0E+00	0.0E+00	7.6E-02	3.2E-03	6.4E-06	0.0E+00	0.0E+00	2.7E-02	1.E-01
LB13-GW	0.0E+00	0.0E+00	6.0E-04	0.0E+00	0.0E+00	1.1E-03	1.2E-02	0.0E+00	1.E-02
LB23-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.8E-04	6.0E-03	0.0E+00	7.E-03
LB25-GW	0.0E+00	0.0E+00	1.5E-03	0.0E+00	0.0E+00	3.3E-03	2.7E-02	0.0E+00	3.E-02
LB36-GW	0.0E+00	0.0E+00	7.4E-03	4.9E-05	4.4E-07	1.4E-03	2.9E-02	4.5E-04	4.E-02
LB37-GW	5.1E-03	0.0E+00	2.3E+00	2.2E-02	0.0E+00	2.3E-01	6.7E+00	2.5E-03	9.E+00
LB38-GW	0.0E+00	0.0E+00	2.3E-02	7.6E-05	0.0E+00	0.0E+00	0.0E+00	1.7E-03	3.E-02
LB39-GW	6.7E-03	0.0E+00	4.8E+00	2.1E-02	4.1E-07	2.0E-01	6.8E+00	4.8E-03	1.E+01
LB40-GW	0.0E+00	0.0E+00	3.7E-01	1.8E-03	6.8E-07	6.3E-03	1.6E-01	6.9E-03	5.E-01
LB41-GW	9.1E-03	0.0E+00	8.3E+00	2.8E-02	0.0E+00	2.1E-02	8.4E-01	3.6E-02	9.E+00
LB42-GW	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.6E-06	0.0E+00	0.0E+00	0.0E+00	2.E-06
LB43-GW	0.0E+00	3.5E-04	5.8E-03	0.0E+00	5.1E-06	0.0E+00	0.0E+00	1.5E-03	8.E-03
LB44-GW	0.0E+00	0.0E+00	1.7E-02	0.0E+00	2.1E-06	0.0E+00	0.0E+00	0.0E+00	2.E-02
LB48-GW	2.0E-03	0.0E+00	1.1E+00	3.7E-03	0.0E+00	4.0E-03	7.6E-02	5.2E-03	1.E+00
LB49-GW	0.0E+00	0.0E+00	1.8E-01	3.4E-03	2.3E-06	2.7E-04	1.4E-02	3.6E-02	2.E-01

Notes:
Highlighted sampling locations exceed acceptable hazard values.

Table 17
Virtual Remediation of Diesel Range Organics in Soil
Berth 191-193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	DRO
USEPA RSL Industrial Soil			mg/kg	440
LB1-0.5	0.5	10/11/17	mg/kg	**200**
LB1-2.5	2.5	10/11/17	mg/kg	**8.4**
LB1-5.0	5	10/11/17	mg/kg	**5.0**
LB2-0.5	0.5	10/11/17	mg/kg	**720**
LB2-2.5	2.5	10/11/17	mg/kg	**8.7**
LB2-5.0	5	10/11/17	mg/kg	**8.1**
LB3-0.5	0.5	10/11/17	mg/kg	**20**
LB3-2.5	2.5	10/11/17	mg/kg	**6.1**
LB3-5.0	5	10/11/17	mg/kg	**10**
LB4-0.5	0.5	10/11/17	mg/kg	**640**
LB4-2.5	2.5	10/11/17	mg/kg	**22**
LB4-3.5	3.5	10/11/17	mg/kg	**70**
LB5-0.5	0.5	10/11/17	mg/kg	**470**
LB5-2.5	2.5	10/11/17	mg/kg	**20**
LB5-5.0	5	10/11/17	mg/kg	**19**
LB6-0.5	0.5	10/12/17	mg/kg	**7.1**
LB6-2.5	2.5	10/12/17	mg/kg	**6.8**
LB6-5.0	5	10/12/17	mg/kg	**1.2**
LB7-0.5	0.5	10/12/17	mg/kg	**270**
LB7-2.5	2.5	10/12/17	mg/kg	**92**
LB7-5.0	5	10/12/17	mg/kg	**10**
LB8-0.5	0.5	10/11/17	mg/kg	**180**
LB8-2.5	2.5	10/11/17	mg/kg	**4.8**
LB8-5.0	5	10/11/17	mg/kg	**3.7**
LB9-0.5	0.5	10/11/17	mg/kg	**690**
LB9-2.5	2.5	10/11/17	mg/kg	**75**
LB9-5.0	5	10/11/17	mg/kg	**8.9**
LB10-0.5	0.5	10/12/17	mg/kg	**840**
LB10-2.5	2.5	10/12/17	mg/kg	**5.2**
LB10-5.0	5	10/12/17	mg/kg	**1.3**
LB11-0.5	0.5	10/12/17	mg/kg	**310**
LB11-2.5	2.5	10/12/17	mg/kg	**8.6**
LB11-5.0	5	10/12/17	mg/kg	**12**
LB12-0.5	0.5	10/11/17	mg/kg	**180**
LB12-2.5	2.5	10/11/17	mg/kg	**5.7**
LB12-5.0	5	10/11/17	mg/kg	**6.4**
LB13-0.5	0.5	10/11/17	mg/kg	**350**
LB13-2.5	2.5	10/11/17	mg/kg	**6.9**
LB13-5.0	5	10/11/17	mg/kg	**6.7**
LB14-0.5	0.5	10/11/17	mg/kg	**160**
LB14-2.5	2.5	10/11/17	mg/kg	**9.2**
LB14-5.0	5	10/11/17	mg/kg	**3.6**
LB15-0.5	0.5	10/12/17	mg/kg	**20**
LB15-2.5	2.5	10/12/17	mg/kg	**4**
LB15-5.0	5	10/12/17	mg/kg	**2.9**
LB16-0.5	0.5	10/12/17	mg/kg	**7.7**
LB16-2.5	2.5	10/12/17	mg/kg	**390**

Table 17
Virtual Remediation of Diesel Range Organics in Soil
Berth 191-193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	DRO
USEPA RSL Industrial Soil			mg/kg	440
LB16-5.0	5	10/12/17	mg/kg	**63**
LB17-0.5	0.5	10/11/17	mg/kg	**1,400**
LB17-2.5	2.5	10/11/17	mg/kg	**11**
LB17-5.0	5	10/11/17	mg/kg	**6.7**
LB18-0.5	0.5	10/11/17	mg/kg	**110**
LB18-2.5	2.5	10/11/17	mg/kg	**6.1**
LB18-5.0	5	10/11/17	mg/kg	**11**
LB19-0.5	0.5	10/11/17	mg/kg	**8.8**
LB19-2.5	2.5	10/11/17	mg/kg	**3.3**
LB19-5.0	5	10/11/17	mg/kg	**3.9**
LB20-0.5	0.5	10/11/17	mg/kg	**14**
LB20-2.5	2.5	10/11/17	mg/kg	**3.2**
LB20-5.0	5	10/11/17	mg/kg	**4.2**
LB21-0.5	0.5	10/12/17	mg/kg	**9.1**
LB21-2.5	2.5	10/12/17	mg/kg	**20**
LB21-5.0	5	10/12/17	mg/kg	**7.2**
LB22-0.5	0.5	10/12/17	mg/kg	**11**
LB22-2.5	2.5	10/12/17	mg/kg	**8.6**
LB22-5.0	5	10/12/17	mg/kg	**9.6**
LB23-0.5	0.5	10/11/17	mg/kg	**14**
LB23-2.5	2.5	10/11/17	mg/kg	**6.3**
LB23-5.0	5	10/11/17	mg/kg	**8.7**
LB24-0.5	0.5	10/11/17	mg/kg	**5.1**
LB24-2.5	2.5	10/11/17	mg/kg	**5.6**
LB24-5.0	5	10/11/17	mg/kg	**4.3**
LB25-0.5	0.5	10/11/17	mg/kg	**2.6**
LB25-2.5	2.5	10/11/17	mg/kg	**2.1**
LB25-5.0	5	10/11/17	mg/kg	**2.4**
LB26-0.5	0.5	12-Oct-17	mg/kg	**11**
LB26-2.5	2.5	12-Oct-17	mg/kg	**12**
LB26-5.0	5	12-Oct-17	mg/kg	**20**
LB27-0.5	0.5	12-Oct-17	mg/kg	**41**
LB27-2.5	2.5	12-Oct-17	mg/kg	**9.5**
LB27-5.0	5	12-Oct-17	mg/kg	**8.1**
LB28-0.5	0.5	12-Oct-17	mg/kg	**530**
LB28-2.5	2.5	12-Oct-17	mg/kg	**480**
LB29-0.5	0.5	12-Oct-17	mg/kg	**54**
LB29-2.5	2.5	12-Oct-17	mg/kg	**8.8**
LB29-5.0	5	12-Oct-17	mg/kg	**5.4**
LB30-0.5	0.5	12-Oct-17	mg/kg	**32**
LB30-2.5	2.5	12-Oct-17	mg/kg	**220**
LB30-5.0	5	12-Oct-17	mg/kg	**9.2**
LB31-0.5	0.5	12-Oct-17	mg/kg	**230**
LB31-2.5	2.5	12-Oct-17	mg/kg	**5.7**
LB31-5.0	5	12-Oct-17	mg/kg	**9.3**
LB32-0.5	0.5	12-Oct-17	mg/kg	**170**
LB32-2.5	2.5	12-Oct-17	mg/kg	**6.8**

Table 17
Virtual Remediation of Diesel Range Organics in Soil
Berth 191-193
Port of Los Angeles
Wilmington, California

Sample ID	Depth (feet bgs)	Date	Units	DRO
USEPA RSL Industrial Soil			mg/kg	440
LB32-5.0	5	12-Oct-17	mg/kg	**13**
LB33-0.5	0.5	12-Oct-17	mg/kg	**78**
LB33-2.5	2.5	12-Oct-17	mg/kg	**2,500**
LB33-5.0	5	12-Oct-17	mg/kg	**9**
LB34-0.5	0.5	13-Oct-17	mg/kg	**1,100**
LB34-2.5	2.5	13-Oct-17	mg/kg	**30**
LB34-5.0	5	13-Oct-17	mg/kg	**5**
LB35-0.5	0.5	13-Oct-17	mg/kg	**2,400**
LB35-2.5	2.5	13-Oct-17	mg/kg	**1,800**
95UCL			mg/kg	**353.50**

Notes:
bgs = below ground surface
mg/kg = milligrams per kilogram
RSL = USEPA Regional Screening Level, industrial (November 2017). Most conservative value between aromatic/aliphatic
ND<0.20 = Not detected above the reporting detection limit.
GRO = Gasoline Range Petroleum Hydrocarbons
DRO = Diesel Range Petroleum Hydrocarbons
ORO = Oil Range Petroleum Hydrocarbons

FIGURES

LEGEND

- Approximate Boring Location
- Approximate Site Boundary

Red highlighted borings in areas with diesel impacted soil at 5 feet below ground surface (bgs)

Orange highlighted borings have known or potential vapor intrusion risk



Project: 11618.005	Engr./Geol. BFM
Scale: Approx. 1" = 100'	Date: February 2018

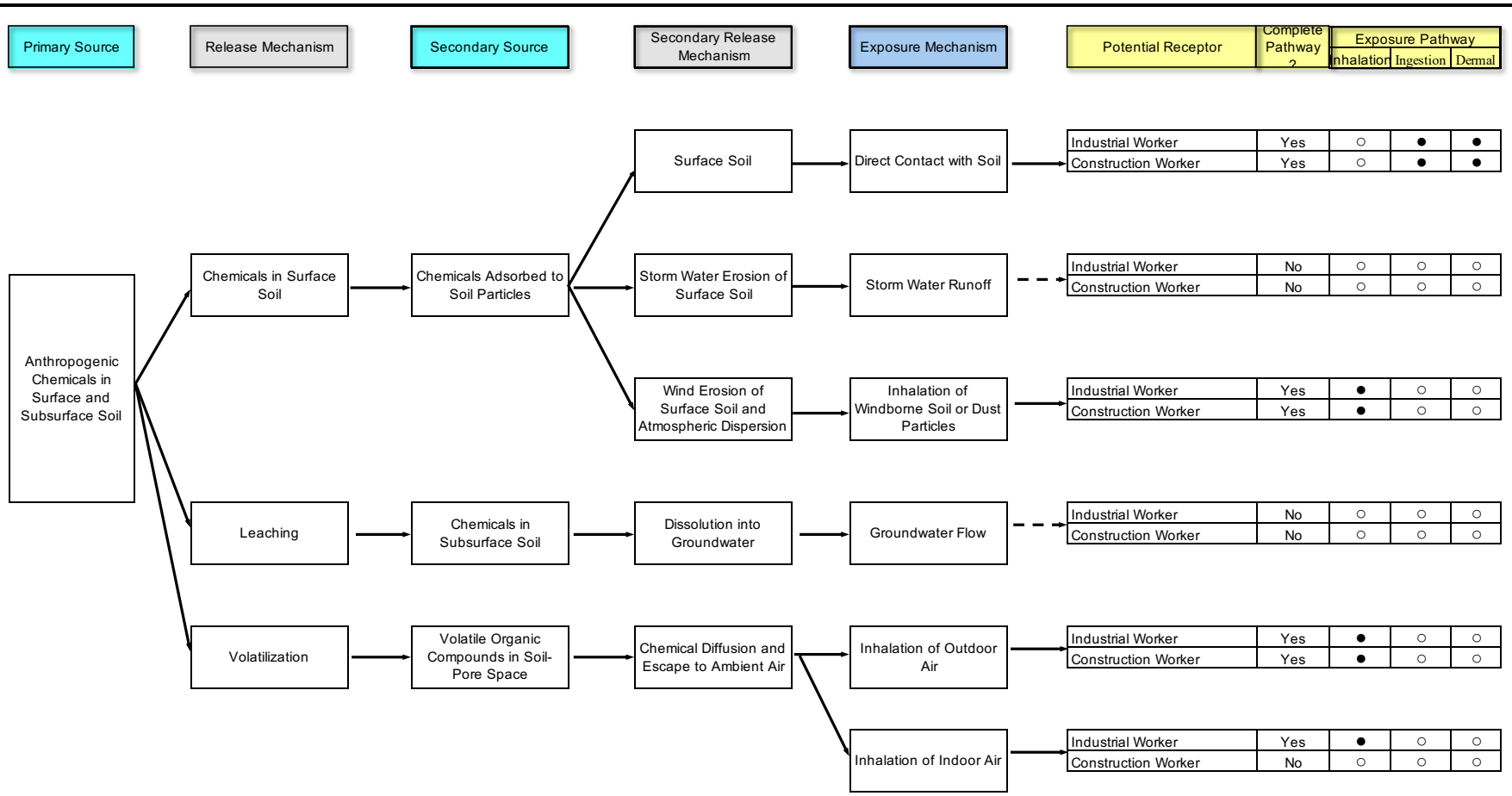
Base Map: Google Earth 2016
drafted by Mark Withrow

SITE PLAN

Berth 191-193
Wilmington, California

Figure 1

Leighton



ENVIRO-TOX services, inc.

Figure 2

Conceptual Site Model

Project:	Berth 191-193
Date:	March 2018

APPENDIX A

Johnson and Ettinger Model Spreadsheets

USEPA SG-SCREEN
Version 2.0, 04/2003

DTSC Modification
December 2014

Department of Toxic Substances Control
Vapor Intrusion Screening Model - Soil Gas

DATA ENTRY SHEET

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

Reset to Defaults

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	1.00E+03			1,1-Dichloroethylene
107062	1.00E+03			1,2-Dichloroethane
156592	1.00E+03			cis-1,2-Dichloroethylene
156605	1.00E+03			trans-1,2-Dichloroethylene
1634044	1.00E+03			MTBE (methyl-tert-butyl ether)
127184	1.00E+03			Tetrachloroethylene
79016	1.00E+03			Trichloroethylene
75014	1.00E+03			Vinyl chloride (chloroethene)

Results Summary

Soil Gas Conc. ($\mu g/m^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu g/m^3$)	Cancer Risk (unitless)	Noncancer Hazard (unitless)
1.00E+03	6.1E-04	6.1E-01	NA	2.0E-03
1.00E+03	6.1E-04	6.1E-01	1.3E-06	2.0E-02
1.00E+03	6.2E-04	6.2E-01	NA	1.8E-02
1.00E+03	6.1E-04	6.1E-01	NA	1.7E-03
1.00E+03	5.7E-04	5.7E-01	1.2E-08	4.3E-05
1.00E+03	4.5E-04	4.5E-01	2.2E-07	2.6E-03
1.00E+03	5.4E-04	5.4E-01	1.8E-07	6.1E-02
1.00E+03	6.7E-04	6.7E-01	4.3E-06	1.5E-03

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (^oC)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	121.92	24	SL		

4

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
SL	1.62	0.387	0.103	5

MORE ↓

Lookup Receptor Parameters

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH $(hour)^{-1}$	ENTER Ceiliing Height CH (cm)

EW=>	Commercial	70	25	25	250	8	1	243.84
						(NEW)	(NEW)	(= **8.0** feet)
	END							

CAS	Chemical	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Unit risk factor, URF ($\mu g/m^3)^{-1}$
75354	1,1-Dichloroethylene	8.63E-02	1.10E-05	2.61E-02	25	6,247	304.80	576.10	0.0E+00
107062	1,2-Dichloroethane	8.57E-02	1.10E-05	1.18E-03	25	7,643	356.70	561.00	2.6E-05
156592	cis-1,2-Dichloroethylene	8.84E-02	1.13E-05	4.08E-03	25	7,192	333.70	544.00	0.0E+00
156605	trans-1,2-Dichloroethylene	8.76E-02	1.12E-05	4.08E-03	25	6,717	320.90	516.50	0.0E+00
1634044	MTBE (methyl-tert-butyl ether)	7.53E-02	8.59E-06	5.87E-04	25	6,678	328.30	497.10	2.6E-07
127184	Tetrachloroethylene	5.05E-02	9.46E-06	1.77E-02	25	8,288	394.40	620.20	6.1E-06
79016	Trichloroethylene	6.87E-02	1.02E-05	9.85E-03	25	7,505	360.40	544.20	4.1E-06
75014	Vinyl chloride (chloroethene)	1.07E-01	1.20E-05	2.78E-02	25	5,250	259.30	432.00	7.8E-05

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

CAS	Chemical	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)	Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)
75354	1,1-Dichloroethylene	7.0E-02	96.90	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
107062	1,2-Dichloroethane	7.0E-03	99.00	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
156592	cis-1,2-Dichloroethylene	8.0E-03	96.90	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
156605	trans-1,2-Dichloroethylene	8.0E-02	96.90	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
1634044	MTBE (methyl-tert-butyl ether)	3.0E+00	88.20	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
127184	Tetrachloroethylene	4.0E-02	166.00	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
79016	Trichloroethylene	2.0E-03	131.00	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09
75014	Vinyl chloride (chloroethene)	1.0E-01	62.50	106.92	0.284	0.184	6.07E-09	0.901	5.47E-09

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

CAS	Chemical	Floor-wall seam perimeter, X_{crack} (cm)	Soil gas conc. ($\mu g/m^3$)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H_{TS} (atm-m^3/mol)
75354	1,1-Dichloroethylene	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	6,299	2.52E-02
107062	1,2-Dichloroethane	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	8,368	1.13E-03
156592	cis-1,2-Dichloroethylene	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	7,592	3.91E-03
156605	trans-1,2-Dichloroethylene	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	6,987	3.92E-03
1634044	MTBE (methyl-tert-butyl ether)	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	7,113	5.64E-04
127184	Tetrachloroethylene	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	9,410	1.68E-02
79016	Trichloroethylene	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	8,383	9.39E-03
75014	Vinyl chloride (chloroethene)	4,000	1.00E+03	6.77E+04	1.00E+06	5.00E-03	15	4,841	2.70E-02

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

CAS	Chemical	Henry's law constant at ave. soil temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_{V} (cm^2/s)	Diffusion path length, L_d (cm)	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)
75354	1,1-Dichloroethylene	1.03E+00	1.80E-04	8.71E-03	106.92	15	1.00E+03	1.25	8.33E+01	8.71E-03
107062	1,2-Dichloroethane	4.61E-02	1.80E-04	8.65E-03	106.92	15	1.00E+03	1.25	8.33E+01	8.65E-03
156592	cis-1,2-Dichloroethylene	1.60E-01	1.80E-04	8.92E-03	106.92	15	1.00E+03	1.25	8.33E+01	8.92E-03
156605	trans-1,2-Dichloroethylene	1.61E-01	1.80E-04	8.84E-03	106.92	15	1.00E+03	1.25	8.33E+01	8.84E-03
1634044	MTBE (methyl-tert-butyl ether)	2.31E-02	1.80E-04	7.60E-03	106.92	15	1.00E+03	1.25	8.33E+01	7.60E-03
127184	Tetrachloroethylene	6.88E-01	1.80E-04	5.10E-03	106.92	15	1.00E+03	1.25	8.33E+01	5.10E-03
79016	Trichloroethylene	3.85E-01	1.80E-04	6.94E-03	106.92	15	1.00E+03	1.25	8.33E+01	6.94E-03
75014	Vinyl chloride (chloroethene)	1.11E+00	1.80E-04	1.08E-02	106.92	15	1.00E+03	1.25	8.33E+01	1.08E-02

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

CAS	Chemical	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
75354	1,1-Dichloroethylene	5.00E+03	2.03E+08	**6.08E-04**	6.08E-01	NA	7.0E-02	**NA**	**2.0E-03**
107062	1,2-Dichloroethane	5.00E+03	2.32E+08	**6.06E-04**	6.06E-01	2.6E-05	7.0E-03	**1.3E-06**	**2.0E-02**
156592	cis-1,2-Dichloroethylene	5.00E+03	1.29E+08	**6.16E-04**	6.16E-01	NA	8.0E-03	**NA**	**1.8E-02**
156605	trans-1,2-Dichloroethylene	5.00E+03	1.53E+08	**6.13E-04**	6.13E-01	NA	8.0E-02	**NA**	**1.7E-03**
1634044	MTBE (methyl-tert-butyl ether)	5.00E+03	3.31E+09	**5.66E-04**	5.66E-01	2.6E-07	3.0E+00	**1.2E-08**	**4.3E-05**
127184	Tetrachloroethylene	5.00E+03	1.58E+14	**4.48E-04**	4.48E-01	6.1E-06	4.0E-02	**2.2E-07**	**2.6E-03**
79016	Trichloroethylene	5.00E+03	2.73E+10	**5.39E-04**	5.39E-01	4.1E-06	2.0E-03	**1.8E-07**	**6.1E-02**
75014	Vinyl chloride (chloroethene)	5.00E+03	5.02E+06	**6.74E-04**	6.74E-01	7.8E-05	1.0E-01	**4.3E-06**	**1.5E-03**

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Soil Gas

USEPA GW-SCREEN
Version 3.0, 04/2003

DTSC Modification
December 2014

Department of Toxic Substances Control — Vapor Intrusion Screening Model - Groundwater

DATA ENTRY SHEET

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

Land Use: **Commercial**

Exposure Scenario: **For VOCs Detected in Groundwater**

Reset to Defaults

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical	Results Summary: Soil Gas Conc. (C_{source}) (µg/m³)	Attenuation Factor (alpha) (unitless)	Indoor Air Conc. ($C_{building}$) (µg/m³)	Cancer Risk	Noncancer Hazard	Risk-Based Groundwater Concentration: Cancer Risk = 10^{-6} (µg/L)	Noncancer HQ = 1 (µg/L)
75354	1.00E+00	**1,1-Dichloroethylene**	1.03E+03	2.1E-04	2.2E-01	NA	7.0E-04	NA	NA
107062	1.00E+00	**1,2-Dichloroethane**	4.61E+01	2.1E-04	9.7E-03	2.1E-08	3.2E-04	NA	NA
156592	1.00E+00	**cis-1,2-Dichloroethylene**	1.60E+02	2.1E-04	3.4E-02	NA	9.8E-04	NA	NA
156605	1.00E+00	**trans-1,2-Dichloroethylene**	1.61E+02	2.1E-04	3.4E-02	NA	9.7E-05	NA	NA
1634044	1.00E+00	**MTBE (methyl-tert-butyl ether)**	2.31E+01	1.9E-04	4.5E-03	9.4E-11	3.4E-07	NA	NA
127184	1.00E+00	**Tetrachloroethylene**	6.88E+02	1.3E-04	9.2E-02	4.6E-08	5.3E-04	NA	NA
79016	1.00E+00	**Trichloroethylene**	3.85E+02	1.7E-04	6.7E-02	2.2E-08	7.6E-03	NA	NA
75014	1.00E+00	**Vinyl chloride (chloroethene)**	1.11E+03	2.5E-04	2.7E-01	1.7E-06	6.2E-04	NA	NA

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	152.4	S	24	5

5

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SL			SL	1.62	0.387	0.103

MORE ↓

Lookup Receptor Parameters

	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH $(hour)^{-1}$	ENTER Ceiling Height CH (cm)	
NEW=>	Commercial	1.0E-06	1	70	25	25	250	8	1	304.8	
		Used to calculate risk-based groundwater concentration.					(NEW)	(NEW)	**10.0**	(feet)

END

CHEMICAL PROPERTIES SHEET

CAS No.	Chemical	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Pure component water solubility, S (mg/L)
75354	1,1-Dichloroethylene	8.63E-02	1.10E-05	2.61E-02	25	6,247	304.80	576.10	3.18E+01	2.42E+03
107062	1,2-Dichloroethane	8.57E-02	1.10E-05	1.18E-03	25	7,643	356.70	561.00	3.96E+01	8.60E+03
156592	cis-1,2-Dichloroethylene	8.84E-02	1.13E-05	4.08E-03	25	7,192	333.70	544.00	3.96E+01	6.41E+03
156605	trans-1,2-Dichloroethylene	8.76E-02	1.12E-05	4.08E-03	25	6,717	320.90	516.50	3.96E+01	4.52E+03
1634044	MTBE (methyl-tert-butyl ether)	7.53E-02	8.59E-06	5.87E-04	25	6,678	328.30	497.10	1.16E+01	5.10E+04
127184	Tetrachloroethylene	5.05E-02	9.46E-06	1.77E-02	25	8,288	394.40	620.20	9.49E+01	2.06E+02
79016	Trichloroethylene	6.87E-02	1.02E-05	9.85E-03	25	7,505	360.40	544.20	6.07E+01	1.28E+03
75014	Vinyl chloride (chloroethene)	1.07E-01	1.20E-05	2.78E-02	25	5,250	259.30	432.00	2.17E+01	8.80E+03

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Groundwater

CAS No.	Chemical	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Source-building separation, L_T (cm)	Vadose zone soil air-filled porosity, θ_a^V (cm^3/cm^3)	Vadose zone effective total fluid saturation, S_{te} (cm^3/cm^3)	Vadose zone soil intrinsic permeability, k_i (cm^2)	Vadose zone soil relative air permeability, k_{rg} (cm^2)	Vadose zone soil effective vapor permeability, k_v (cm^2)	Thickness of capillary zone, L_{cz} (cm)
75354	1,1-Dichloroethylene	0.0E+00	7.0E-02	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
107062	1,2-Dichloroethane	2.6E-05	7.0E-03	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
156592	cis-1,2-Dichloroethylene	0.0E+00	8.0E-03	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
156605	trans-1,2-Dichloroethylene	0.0E+00	8.0E-02	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
1634044	MTBE (methyl-tert-butyl ether)	2.6E-07	3.0E+00	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
127184	Tetrachloroethylene	6.1E-06	4.0E-02	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
79016	Trichloroethylene	4.1E-06	2.0E-03	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05
75014	Vinyl chloride (chloroethene)	7.8E-05	1.0E-01	137.4	0.284	0.184	6.07E-09	0.901	5.47E-09	17.05

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Groundwater

CAS No.	Chemical	Total porosity in capillary zone, n_{cz} (cm^3/cm^3)	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm^3/cm^3)	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm^3/cm^3)	Floor-wall seam perimeter, X_{crack} (cm)	Bldg. ventilation rate, $Q_{building}$ (cm^3/s)	Area of enclosed space below grade, A_B (cm^2)	Crack-to-total area ratio, η (unitless)	Crack depth below grade, Z_{crack} (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H_{TS} ($atm\text{-}m^3/mol$)
75354	1,1-Dichloroethylene	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	6,299	2.52E-02
107062	1,2-Dichloroethane	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	8,368	1.13E-03
156592	cis-1,2-Dichloroethylene	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	7,592	3.91E-03
156605	trans-1,2-Dichloroethylene	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	6,987	3.92E-03
1634044	MTBE (methyl-tert-butyl ether)	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	7,113	5.64E-04
127184	Tetrachloroethylene	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	9,410	1.68E-02
79016	Trichloroethylene	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	8,383	9.39E-03
75014	Vinyl chloride (chloroethene)	0.375	0.122	0.253	4,000	8.47E+04	1.00E+06	5.00E-03	15	4,841	2.70E-02

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Groundwater

CHEMICAL PROPERTIES SHEET

CAS No.	Chemical	Henry's law constant at ave. groundwater temperature, H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Vadose zone effective diffusion coefficient, D^{eff}_{V} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Diffusion path length, L_d (cm)	Convection path length, L_p (cm)	Source vapor conc., C_{source} ($\mu g/m^3$)	Crack radius, r_{crack} (cm)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)
75354	1,1-Dichloroethylene	1.03E+00	1.80E-04	8.71E-03	5.53E-04	3.08E-03	137.4	15	1.03E+03	1.25	8.33E+01
107062	1,2-Dichloroethane	4.61E-02	1.80E-04	8.65E-03	5.66E-04	3.12E-03	137.4	15	4.61E+01	1.25	8.33E+01
156592	cis-1,2-Dichloroethylene	1.60E-01	1.80E-04	8.92E-03	5.71E-04	3.17E-03	137.4	15	1.60E+02	1.25	8.33E+01
156605	trans-1,2-Dichloroethylene	1.61E-01	1.80E-04	8.84E-03	5.66E-04	3.14E-03	137.4	15	1.61E+02	1.25	8.33E+01
1634044	MTBE (methyl-tert-butyl ether)	2.31E-02	1.80E-04	7.60E-03	5.10E-04	2.79E-03	137.4	15	2.31E+01	1.25	8.33E+01
127184	Tetrachloroethylene	6.88E-01	1.80E-04	5.10E-03	3.24E-04	1.80E-03	137.4	15	6.88E+02	1.25	8.33E+01
79016	Trichloroethylene	3.85E-01	1.80E-04	6.94E-03	4.42E-04	2.46E-03	137.4	15	3.85E+02	1.25	8.33E+01
75014	Vinyl chloride (chloroethene)	1.11E+00	1.80E-04	1.08E-02	6.86E-04	3.82E-03	137.4	15	1.11E+03	1.25	8.33E+01

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Groundwater

CAS No.	Chemical	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Area of crack, A_{crack} (cm^2)	Exponent of equivalent foundation Peclet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF $(\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
75354	1,1-Dichloroethylene	8.71E-03	5.00E+03	2.03E+08	2.09E-04	2.15E-01	NA	7.0E-02	NA	7.0E-04
107062	1,2-Dichloroethane	8.65E-03	5.00E+03	2.32E+08	2.11E-04	9.73E-03	2.6E-05	7.0E-03	2.1E-08	3.2E-04
156592	cis-1,2-Dichloroethylene	8.92E-03	5.00E+03	1.29E+08	2.13E-04	3.42E-02	NA	8.0E-03	NA	9.8E-04
156605	trans-1,2-Dichloroethylene	8.84E-03	5.00E+03	1.53E+08	2.12E-04	3.41E-02	NA	8.0E-02	NA	9.7E-05
1634044	MTBE (methyl-tert-butyl ether)	7.60E-03	5.00E+03	3.31E+09	1.93E-04	4.46E-03	2.6E-07	3.0E+00	9.4E-11	3.4E-07
127184	Tetrachloroethylene	5.10E-03	5.00E+03	1.58E+14	1.34E-04	9.22E-02	6.1E-06	4.0E-02	4.6E-08	5.3E-04
79016	Trichloroethylene	6.94E-03	5.00E+03	2.73E+10	1.74E-04	6.70E-02	4.1E-06	2.0E-03	2.2E-08	7.6E-03
75014	Vinyl chloride (chloroethene)	1.08E-02	5.00E+03	5.02E+06	2.46E-04	2.73E-01	7.8E-05	1.0E-01	1.7E-06	6.2E-04

Land Use: Commercial

Exposure Scenario: For VOCs Detected in Groundwater

Soil Properties Lookup Table

SCS Soil Type	K_s (cm/h)	α_1 (1/cm)	N (unitless)	M (unitless)	n (cm^3/cm^3)	θ_r (cm^3/cm^3)	Mean Grain Diameter (cm)	Bulk Density (g/cm^3)	θ_w (cm^3/cm^3)	SCS Soil Name
C	0.61	0.01496	1.253	0.2019	0.459	0.098	0.0092	1.43	0.215	Clay
CL	0.34	0.01581	1.416	0.2938	0.442	0.079	0.016	1.48	0.168	Clay Loam
L	0.50	0.01112	1.472	0.3207	0.399	0.061	0.020	1.59	0.148	Loam
LS	4.38	0.03475	1.746	0.4273	0.390	0.049	0.040	1.62	0.076	Loamy Sand
S	26.78	0.03524	3.177	0.6852	0.375	0.053	0.044	1.66	0.054	Sand
SC	0.47	0.03342	1.208	0.1722	0.385	0.117	0.025	1.63	0.197	Sandy Clay
SCL	0.55	0.02109	1.330	0.2481	0.384	0.063	0.029	1.63	0.146	Sandy Clay Loam
SI	1.82	0.00658	1.679	0.4044	0.489	0.050	0.0046	1.35	0.167	Silt
SIC	0.40	0.01622	1.321	0.2430	0.481	0.111	0.0039	1.38	0.216	Silty Clay
SICL	0.46	0.00839	1.521	0.3425	0.482	0.090	0.0056	1.37	0.198	Silty Clay Loam
SIL	0.76	0.00506	1.663	0.3987	0.439	0.065	0.011	1.49	0.180	Silt Loam
SL	1.60	0.02667	1.449	0.3099	0.387	0.039	0.030	1.62	0.103	Sandy Loam

NEW => Receptor Lookup Table (added by HERO)

Receptor Type	AT_C (yrs)	AT_{NC} (yrs)	ED (yrs)	EF (days/yr)	ET (hrs/day)	ACH (1/hour)
Residential	70	30	30	350	24	0.5
Commercial	70	25	25	250	8	1
User-Defined						

Notes on Toxicity Criteria (see cell comments for individual chemical toxicity values)

1. Chemical name (blue) = Carcinogens with IUR
2. Values are from USEPA IRIS database except as indicated.
3. **Bold** = Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) toxicity value
4. IUR or RfC (red) = revised values (March 2014 update of December 2011 values)
5. X denotes route extrapolation from oral toxicity criteria.

(Values posted by USEPA or OEHHA as inhalation criteria, including cancer slope factors, are not denoted except as in original USEPA 2002 Draft VI guidance.)

Chemical Properties Lookup Table (K_{oc}, D_a, D_w, S, H', H values updated per USEPA November 2013 RSL Table)

NEW => 11 Additional Chemicals (CAS No. in red)

DTSC-Recommended Toxicity Criteria Values Used to Calculate Risk and Hazard (last updated March 2014)

(0.0E+00 = no value available)

CAS No.	Chemical	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Pure component water solubility, S (mg/L)	Henry's law constant H' (unitless)	Henry's law constant at reference temperature, H ($atm\text{-}m^3/mol$)	Henry's law constant reference temperature, T_R (°C)	Normal boiling point, T_B (°K)	Critical temperature, T_C (°K)	Enthalpy of vaporization at the normal boiling point, $DH_{v,b}$ (cal/mol)	Inhalation Unit Risk IUR ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)	Extrapolated from oral toxicity value: IUR (X)	Extrapolated from oral toxicity value: RfC (X)	Comment Flag (y)
56235	Carbon tetrachloride	4.39E+01	5.71E-02	9.79E-06	7.93E+02	1.13E+00	2.76E-02	25	349.9	556.6	7,127	**4.2E-05**	**1.0E-01**	1.54E+02			
57749	Chlordane	3.38E+04	3.44E-02	4.02E-06	5.60E-02	1.99E-03	4.85E-05	25	624.2	885.7	14,000	**3.4E-04**	7.0E-04	4.10E+02			
58899	gamma-HCH (Lindane)	2.81E+03	4.33E-02	5.06E-06	7.30E+00	2.10E-04	5.14E-06	25	596.6	839.4	15,000	**3.1E-04**	1.1E-03	2.91E+02		X	
60297	Ethyl ether	9.70E+00	8.52E-02	9.36E-06	6.04E+04	5.03E-02	1.23E-03	25	307.5	466.7	6,338	0.0E+00	7.0E-01	7.41E+01		X	
60571	Dieldrin	2.01E+04	2.33E-02	6.01E-06	1.95E-01	4.09E-04	1.00E-05	25	613.3	842.3	17,000	**4.6E-03**	1.8E-04	3.81E+02		X	
67641	Acetone	2.36E+00	1.06E-01	1.15E-05	1.00E+06	1.43E-03	3.50E-05	25	329.2	508.1	6,955	0.0E+00	3.1E+01	5.81E+01			
67663	Chloroform	3.18E+01	7.69E-02	1.09E-05	7.95E+03	1.50E-01	3.67E-03	25	334.3	536.4	6,988	2.3E-05	9.8E-02	1.19E+02			
67721	Hexachloroethane	1.97E+02	3.21E-02	8.89E-06	5.00E+01	1.59E-01	3.89E-03	25	458.0	695.0	9,510	**1.1E-05**	3.0E-02	2.37E+02			
71432	Benzene	1.46E+02	8.95E-02	1.03E-05	1.79E+03	2.27E-01	5.55E-03	25	353.2	562.2	7,342	**2.9E-05**	**3.0E-03**	7.81E+01			y
71556	1,1,1-Trichloroethane	4.39E+01	6.48E-02	9.60E-06	1.29E+03	7.03E-01	1.72E-02	25	347.2	545.0	7,136	0.0E+00	**1.0E+00**	1.33E+02			
72435	Methoxychlor	2.69E+04	2.21E-02	5.59E-06	1.00E-01	8.30E-06	2.03E-07	25	651.0	848.5	16,000	0.0E+00	1.8E-02	3.46E+02		X	
72559	DDE	1.18E+05	4.08E-02	4.76E-06	4.00E-02	1.70E-03	4.16E-05	25	636.4	860.4	15,000	**9.7E-05**	0.0E+00	3.18E+02	X		
74839	Methyl bromide (bromomethane)	1.32E+01	1.00E-01	1.35E-05	1.52E+04	3.00E-01	7.34E-03	25	276.7	467.0	5,714	0.0E+00	**5.0E-03**	9.49E+01			
74873	Methyl chloride (chloromethane)	1.32E+01	1.24E-01	1.36E-05	5.32E+03	3.61E-01	8.82E-03	25	249.0	416.3	5,115	0.0E+00	9.0E-02	5.05E+01			y
74908	Hydrogen cyanide	3.80E+00	1.68E-01	1.68E-05	1.00E+06	5.44E-03	1.33E-04	25	299.0	456.7	6,676	0.0E+00	8.0E-04	2.70E+01			
74953	Methylene bromide (dibromomethane)	2.17E+01	5.51E-02	1.19E-05	1.19E+04	3.36E-02	8.22E-04	25	370.0	583.0	7,868	0.0E+00	4.0E-03	1.74E+02			
75003	Chloroethane (ethyl chloride)	2.17E+01	1.04E-01	1.16E-05	6.71E+03	4.54E-01	1.11E-02	25	285.3	460.4	5,879	1.3E-06	1.0E+01	6.45E+01	X		y
75014	Vinyl chloride (chloroethene)	2.17E+01	1.07E-01	1.20E-05	8.80E+03	1.14E+00	2.78E-02	25	259.3	432.0	5,250	**7.8E-05**	1.0E-01	6.25E+01			
75058	Acetonitrile	4.67E+00	1.34E-01	1.41E-05	1.00E+06	1.41E-03	3.45E-05	25	354.6	545.5	7,110	0.0E+00	6.0E-02	4.11E+01			
75070	Acetaldehyde	1.00E+00	1.28E-01	1.35E-05	1.00E+06	2.73E-03	6.67E-05	25	293.1	466.0	6,157	**2.7E-06**	9.0E-03	4.41E+01			
75092	Methylene chloride (dichloromethane)	2.17E+01	9.99E-02	1.25E-05	1.30E+04	1.33E-01	3.25E-03	25	313.0	510.0	6,706	**1.0E-06**	**4.0E-01**	8.49E+01			
75150	Carbon disulfide	2.17E+01	1.06E-01	1.30E-05	2.16E+03	5.89E-01	1.44E-02	25	319.0	552.0	6,391	0.0E+00	7.0E-01	7.61E+01			
75218	Ethylene oxide	3.24E+00	1.34E-01	1.45E-05	1.00E+06	6.05E-03	1.48E-04	25	283.6	469.0	6,104	**8.8E-05**	**3.0E-02**	4.41E+01			
75252	Bromoform	3.18E+01	3.57E-02	1.04E-05	3.10E+03	2.19E-02	5.35E-04	25	422.4	696.0	9,479	1.1E-06	7.0E-02	2.53E+02		X	
75274	Bromodichloromethane	3.18E+01	5.63E-02	1.07E-05	3.03E+03	8.67E-02	2.12E-03	25	363.2	585.9	7,800	**3.7E-05**	7.0E-02	1.64E+02	X	X	
75296	2-Chloropropane	9.14E+00	8.88E-02	1.01E-05	3.73E+03	5.93E-01	1.45E-02	25	308.7	485.0	6,286	0.0E+00	1.0E-01	7.85E+01			y
75343	1,1-Dichloroethane	3.18E+01	8.36E-02	1.06E-05	5.04E+03	2.30E-01	5.62E-03	25	330.6	523.0	6,895	**1.6E-06**	8.0E-01	9.90E+01	X	X	
75354	1,1-Dichloroethylene	3.18E+01	8.63E-02	1.10E-05	2.42E+03	1.07E+00	2.61E-02	25	304.8	576.1	6,247	0.0E+00	**7.0E-02**	9.69E+01			
75456	Chlorodifluoromethane	3.18E+01	1.03E-01	1.33E-05	2.77E+03	1.66E+00	4.06E-02	25	232.4	369.3	4,836	0.0E+00	5.0E+01	8.65E+01			
75694	Trichlorofluoromethane	4.39E+01	6.54E-02	1.00E-05	1.10E+03	3.97E+00	9.70E-02	25	296.7	471.0	5,999	0.0E+00	1.2E+00	1.37E+02			
75718	Dichlorodifluoromethane	4.39E+01	7.60E-02	1.08E-05	2.80E+02	1.40E+01	3.43E-01	25	243.2	385.0	9,421	0.0E+00	1.0E-01	1.21E+02			
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	1.97E+02	3.76E-02	8.59E-06	1.70E+02	2.15E+01	5.26E-01	25	320.7	487.3	6,463	0.0E+00	5.0E+00	1.87E+02			
76448	Heptachlor	4.13E+04	2.23E-02	5.70E-06	1.80E-01	1.20E-02	2.94E-04	25	603.7	846.3	13,000	**1.2E-03**	1.8E-03	3.73E+02		X	
77474	Hexachlorocyclopentadiene	1.40E+03	2.72E-02	7.22E-06	1.80E+00	1.10E+00	2.70E-02	25	512.2	746.0	10,931	0.0E+00	2.0E-04	2.73E+02			
78831	Isobutanol	2.92E+00	8.97E-02	1.00E-05	8.50E+04	4.00E-04	9.78E-06	25	381.0	547.8	10,936	0.0E+00	1.1E+00	7.41E+01		X	
78875	1,2-Dichloropropane	6.07E+01	7.33E-02	9.73E-06	2.80E+03	1.15E-01	2.82E-03	25	369.5	572.0	7,590	**1.0E-05**	4.0E-03	1.13E+02	X		
78933	Methylethylketone (2-butanone)	4.51E+00	9.14E-02	1.02E-05	2.23E+05	2.33E-03	5.69E-05	25	352.5	536.8	7,481	0.0E+00	5.0E+00	7.21E+01			
79005	1,1,2-Trichloroethane	6.07E+01	6.69E-02	1.00E-05	4.59E+03	3.37E-02	8.24E-04	25	386.2	602.0	8,322	1.6E-05	2.0E-04	1.33E+02			
79016	Trichloroethylene	6.07E+01	6.87E-02	1.02E-05	1.28E+03	4.03E-01	9.85E-03	25	360.4	544.2	7,505	4.1E-06	2.0E-03	1.31E+02			y
79209	Methyl acetate	3.06E+00	9.58E-02	1.10E-05	2.43E+05	4.70E-03	1.15E-04	25	329.8	506.7	7,260	0.0E+00	3.5E+00	7.41E+01		X	
79345	1,1,2,2-Tetrachloroethane	9.49E+01	4.89E-02	9.29E-06	2.83E+03	1.50E-02	3.67E-04	25	419.6	661.2	8,996	**5.8E-05**	7.0E-02	1.68E+02		X	
79469	2-Nitropropane	3.08E+01	8.47E-02	1.02E-05	1.70E+04	4.87E-03	1.19E-04	25	393.2	594.0	8,383	2.7E-03	2.0E-02	8.91E+01			
80626	Methylmethacrylate	9.14E+00	7.50E-02	9.21E-06	1.50E+04	1.30E-02	3.19E-04	25	373.5	567.0	8,975	0.0E+00	7.0E-01	1.00E+02			
83329	Acenaphthene	5.03E+03	5.06E-02	8.33E-06	3.90E+00	7.52E-03	1.84E-04	25	550.5	803.2	12,155	0.0E+00	2.1E-01	1.54E+02		X	
86737	Fluorene	9.16E+03	4.40E-02	7.89E-06	1.69E+00	3.93E-03	9.62E-05	25	570.4	870.0	12,666	0.0E+00	1.4E-01	1.66E+02		X	
87683	Hexachloro-1,3-butadiene	8.45E+02	2.67E-02	7.03E-06	3.20E+00	4.21E-01	1.03E-02	25	486.2	738.0	10,206	2.2E-05	3.5E-03	2.61E+02		X	
88722	o-Nitrotoluene	3.71E+02	5.88E-02	8.67E-06	6.50E+02	5.11E-04	1.25E-05	25	495.0	720.0	12,239	6.3E-05	3.2E-03	1.37E+02	X	X	y
91203	Naphthalene	1.54E+03	6.05E-02	8.38E-06	3.10E+01	1.80E-02	4.40E-04	25	491.1	748.4	10,373	**3.4E-05**	3.0E-03	1.28E+02			
91576	2-Methylnaphthalene	2.48E+03	5.24E-02	7.78E-06	2.46E+01	2.11E-02	5.18E-04	25	514.3	761.0	12,600	0.0E+00	1.4E-02	1.42E+02		X	
92524	Biphenyl	5.13E+03	4.71E-02	7.56E-06	6.94E+00	1.26E-02	3.08E-04	25	529.1	789.0	10,890	0.0E+00	4.0E-04	1.54E+02			y

NEW => 11 Additional Chemicals (CAS No. in red)		**Chemical Properties Lookup Table** (K_{oc}, D_a, D_w, S, H', H values updated per USEPA November 2013 RSL Table)									**DTSC-Recommended Toxicity Criteria Values Used to Calculate Risk and Hazard** (last updated March 2014) (0.0E+00 = no value available)					
CAS No.	Chemical	Organic carbon partition coefficient, K_{oc} (cm^3/g)	Diffusivity in air, D_a (cm^2/s)	Diffusivity in water, D_w (cm^2/s)	Pure component water solubility, S (mg/L)	Henry's law constant H' (unitless)	Henry's law constant at reference temperature, H (atm-m^3/mol)	Henry's law constant reference temperature, T_R (^oC)	Normal boiling point, T_B (^oK)	Critical temperature, T_C (^oK)	Enthalpy of vaporization at the normal boiling point, $DH_{v,b}$ (cal/mol)	Inhalation Unit Risk IUR ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)	Molecular weight, MW (g/mol)	Extrapolated from oral toxicity value IUR (X)	Extrapolated from oral toxicity value RfC (X)	Comment Flag (y)
95476	o-Xylene	3.83E+02	6.89E-02	8.53E-06	1.78E+02	2.12E-01	5.18E-03	25	417.6	630.3	8,661	0.0E+00	1.0E-01	1.06E+02			
95501	1,2-Dichlorobenzene	3.83E+02	5.62E-02	8.92E-06	1.56E+02	7.85E-02	1.92E-03	25	453.6	705.0	9,700	0.0E+00	2.0E-01	1.47E+02			
95578	2-Chlorophenol	3.07E+02	6.61E-02	9.48E-06	1.13E+04	4.58E-04	1.12E-05	25	447.5	675.0	9,572	0.0E+00	1.8E-02	1.29E+02		X	
95636	1,2,4-Trimethylbenzene	6.14E+02	6.07E-02	7.92E-06	5.70E+01	2.52E-01	6.16E-03	25	442.3	649.2	9,369	0.0E+00	6.0E-02	1.20E+02			
96128	1,2-Dibromo-3-chloropropane	1.16E+02	3.21E-02	8.90E-06	1.23E+03	6.01E-03	1.47E-04	25	469.0	703.5	9,960	6.0E-03	2.0E-04	2.36E+02			
96184	1,2,3-Trichloropropane	1.16E+02	5.75E-02	9.24E-06	1.75E+03	1.40E-02	3.43E-04	25	430.0	652.0	9,171	8.6E-03	3.0E-04	1.47E+02	X		y
96333	Methyl acrylate	5.84E+00	8.60E-02	1.02E-05	4.94E+04	8.14E-03	1.99E-04	25	353.7	536.0	7,749	0.0E+00	2.0E-02	8.61E+01			
97632	Ethylmethacrylate	1.67E+01	6.53E-02	8.38E-06	5.40E+03	2.34E-02	5.73E-04	25	390.0	571.0	10,957	0.0E+00	3.0E-01	1.14E+02			
98066	tert-Butylbenzene	1.00E+03	5.30E-02	7.37E-06	2.95E+01	5.40E-01	1.32E-02	25	442.1	1220.0	8,980	0.0E+00	4.0E-01	1.34E+02			
98828	Cumene	6.98E+02	6.03E-02	7.86E-06	6.13E+01	4.70E-01	1.15E-02	25	425.6	631.1	10,335	0.0E+00	4.0E-01	1.20E+02			y
98862	Acetophenone	5.19E+01	6.52E-02	8.72E-06	6.13E+03	4.25E-04	1.04E-05	25	475.0	709.5	11,732	0.0E+00	3.5E-01	1.20E+02		X	
98953	Nitrobenzene	2.26E+02	6.81E-02	9.45E-06	2.09E+03	9.81E-04	2.40E-05	25	484.0	719.0	10,566	4.0E-05	9.0E-03	1.23E+02			
100414	Ethylbenzene	4.46E+02	6.85E-02	8.46E-06	1.69E+02	3.22E-01	7.88E-03	25	409.3	617.2	8,501	**2.5E-06**	1.0E+00	1.06E+02			
100425	Styrene	4.46E+02	7.11E-02	8.78E-06	3.10E+02	1.12E-01	2.75E-03	25	418.3	636.0	8,737	0.0E+00	**9.0E-01**	1.04E+02			
100447	Benzylchloride	4.46E+02	6.34E-02	8.81E-06	5.25E+02	1.68E-02	4.12E-04	25	452.0	685.0	8,773	**4.9E-05**	1.0E-03	1.27E+02	X		
100527	Benzaldehyde	1.11E+01	7.44E-02	9.46E-06	6.95E+03	1.09E-03	2.67E-05	25	452.0	695.0	11,658	0.0E+00	3.5E-01	1.06E+02		X	
103651	n-Propylbenzene	8.13E+02	6.02E-02	7.83E-06	5.22E+01	4.29E-01	1.05E-02	25	432.2	630.0	9,123	0.0E+00	1.0E+00	1.20E+02			
104518	n-Butylbenzene	1.48E+03	5.28E-02	7.33E-06	1.18E+01	6.50E-01	1.59E-02	25	456.5	660.5	9,290	0.0E+00	1.8E-01	1.34E+02		X	
106423	p-Xylene	3.75E+02	6.82E-02	8.42E-06	1.62E+02	2.82E-01	6.90E-03	25	411.5	616.2	8,525	0.0E+00	1.0E-01	1.06E+02			
106467	1,4-Dichlorobenzene	3.75E+02	5.50E-02	8.68E-06	8.13E+01	9.85E-02	2.41E-03	25	447.2	684.8	9,271	**1.1E-05**	**8.0E-01**	1.47E+02			
106898	Epichlorohydrin	9.91E+00	8.89E-02	1.11E-05	6.59E+04	1.24E-03	3.04E-05	25	390.0	600.0	10	**2.3E-05**	1.0E-03	9.25E+01			
106934	1,2-Dibromoethane (ethylene dibromid	3.96E+01	4.30E-02	1.04E-05	3.91E+03	2.66E-02	6.50E-04	25	404.6	583.0	8,310	6.0E-04	**8.0E-04**	1.88E+02			
106990	1,3-Butadiene	3.96E+01	1.00E-01	1.03E-05	7.35E+02	3.01E+00	7.36E-02	25	268.6	425.0	5,370	**1.7E-04**	**2.0E-03**	5.41E+01			
107028	Acrolein	1.00E+00	1.12E-01	1.22E-05	2.12E+05	4.99E-03	1.22E-04	25	325.6	506.0	6,731	0.0E+00	2.0E-05	5.61E+01			
107062	1,2-Dichloroethane	3.96E+01	8.57E-02	1.10E-05	8.60E+03	4.82E-02	1.18E-03	25	356.7	561.0	7,643	2.6E-05	7.0E-03	9.90E+01			
107131	Acrylonitrile	8.51E+00	1.14E-01	1.23E-05	7.45E+04	5.64E-03	1.38E-04	25	350.3	519.0	7,786	**2.9E-04**	2.0E-03	5.31E+01			
108054	Vinyl acetate	5.58E+00	8.49E-02	1.00E-05	2.00E+04	2.09E-02	5.11E-04	25	345.7	519.1	7,800	0.0E+00	**2.0E-01**	8.61E+01			
108101	Methylisobutylketone (4-methyl-2-pent	1.26E+01	6.98E-02	8.35E-06	1.90E+04	5.64E-03	1.38E-04	25	389.5	571.0	8,243	0.0E+00	3.0E+00	1.00E+02			y
108203	Diisopropyl ether (DIPE)	2.28E+01	6.54E-02	7.76E-06	8.80E+03	7.76E-06	2.56E-03	25	341.5	499.9	6,950	0.0E+00	7.0E-01	1.02E+02			
108383	m-Xylene	3.75E+02	6.84E-02	8.44E-06	1.61E+02	2.94E-01	7.18E-03	25	412.3	617.1	8,523	0.0E+00	1.0E-01	1.06E+02			
108601	bis(2-Chloroisopropyl)ether	8.29E+01	3.99E-02	7.36E-06	1.70E+03	3.03E-03	7.42E-05	25	460.0	690.0	9,695	1.0E-05	1.4E-01	1.71E+02		X	
108678	1,3,5-Trimethylbenzene	6.02E+02	6.02E-02	7.84E-06	4.82E+01	3.59E-01	8.77E-03	25	437.9	637.3	9,321	0.0E+00	6.0E-02	1.20E+02			
108872	Methylcyclohexane	7.85E+01	7.35E-02	8.52E-06	1.40E+01	4.22E+00	1.03E-01	25	373.9	572.2	7,474	0.0E+00	7.0E-01	9.82E+01			
108883	Toluene	2.34E+02	7.78E-02	9.20E-06	5.26E+02	2.71E-01	6.64E-03	25	383.8	591.8	7,930	0.0E+00	**3.0E-01**	9.21E+01			
108907	Chlorobenzene	2.34E+02	7.21E-02	9.48E-06	4.98E+02	1.27E-01	3.11E-03	25	404.9	632.4	8,410	0.0E+00	5.0E-02	1.13E+02			
109660	Pentane, n-	7.22E+01	8.21E-02	8.80E-06	3.80E+01	5.11E+01	1.25E+00	25	309.0	469.7	6,155	0.0E+00	1.0E+00	7.22E+01			
109693	1-Chlorobutane	7.22E+01	7.84E-02	9.33E-06	1.10E+03	6.83E-01	1.67E-02	25	351.6	542.0	7,263	0.0E+00	1.4E-01	9.26E+01		X	
109999	Tetrahydrofuran	1.08E+01	9.54E-02	1.08E-05	1.00E+06	2.88E-03	7.05E-05	25	339.0	541.0	7,074	0.0E+00	2.0E+00	7.21E+01			y
110009	Furan	8.00E+01	1.03E-01	1.17E-05	1.00E+04	2.21E-01	5.40E-03	25	304.6	490.2	6,477	0.0E+00	3.5E-03	6.81E+01		X	y
110543	Hexane	1.32E+02	7.31E-02	8.17E-06	9.50E+00	7.36E+01	1.80E+00	25	341.7	508.0	6,895	0.0E+00	7.0E-01	8.62E+01			
110827	Cyclohexane	1.46E+02	8.00E-02	9.11E-06	5.50E+01	6.13E+00	1.50E-01	25	353.7	553.4	7,154	0.0E+00	6.0E+00	8.42E+01			
111444	Bis(2-chloroethyl)ether	3.22E+01	5.67E-02	8.71E-06	1.72E+04	6.95E-04	1.70E-05	25	451.2	659.8	10,803	**7.1E-04**	0.0E+00	1.43E+02			
115297	Endosulfan	6.76E+03	2.25E-02	5.76E-06	3.25E-01	2.66E-03	6.50E-05	25	674.4	942.9	14,000	0.0E+00	2.1E-02	4.07E+02		X	
118741	Hexachlorobenzene	6.20E+03	2.90E-02	7.85E-06	6.20E-03	6.95E-02	1.70E-03	25	582.6	825.0	14,447	**5.1E-04**	2.8E-03	2.85E+02		X	
120821	1,2,4-Trichlorobenzene	1.36E+03	3.96E-02	8.40E-06	4.90E+01	5.81E-02	1.42E-03	25	486.2	725.0	10,471	0.0E+00	2.0E-03	1.81E+02			
123739	Crotonaldehyde (2-butenal)	1.79E+00	9.56E-02	1.08E-05	1.50E+05	7.93E-04	1.94E-05	25	375.2	568.0	9	5.4E-04	0.0E+00	7.01E+01	X		
123911	1,4-Dioxane	2.63E+00	8.74E-02	1.05E-05	1.00E+06	1.96E-04	4.80E-06	25	374.3	587.2	8,164	**7.7E-06**	3.0E-02	8.81E+01			
124481	Dibromochloromethane	3.18E+01	3.66E-02	1.06E-05	2.70E+03	3.20E-02	7.83E-04	25	416.1	678.2	5,900	**2.7E-05**	7.0E-02	2.08E+02		X	
126987	Methacrylonitrile	1.31E+01	9.64E-02	1.06E-05	2.54E+04	1.01E-02	2.47E-04	25	363.3	554.0	7,600	0.0E+00	3.0E-02	6.71E+01			
126998	2-Chloro-1,3-butadiene (chloroprene)	6.07E+01	8.42E-02	1.00E-05	8.37E+02	2.29E+00	5.61E-02	25	332.4	525.0	8,075	3.0E-04	2.0E-02	8.85E+01			
127184	Tetrachloroethylene	9.49E+01	5.05E-02	9.46E-06	2.06E+02	7.24E-01	1.77E-02	25	394.4	620.2	8,288	**6.1E-06**	**4.0E-02**	1.66E+02			
129000	Pyrene	5.43E+04	2.78E-02	7.25E-06	1.35E-01	4.87E-04	1.19E-05	25	668.0	936.0	14,370	0.0E+00	1.1E-01	2.02E+02		X	
132649	Dibenzofuran	9.16E+03	4.11E-02	7.38E-06	3.10E+00	8.71E-03	2.13E-04	25	560.0	824.0	66,400	0.0E+00	3.5E-03	1.68E+02		X	
135988	sec-Butylbenzene	1.33E+03	5.28E-02	7.34E-06	1.76E+01	7.20E-01	1.76E-02	25	446.5	679.0	88,730	0.0E+00	4.0E-01	1.34E+02			
141786	Ethylacetate	5.58E+00	8.23E-02	9.70E-06	8.00E+04	5.48E-03	1.34E-04	25	350.3	523.3	7,634	0.0E+00	7.0E-02	8.81E+01			
142289	1,3-Dichloropropane	7.22E+01	7.39E-02	9.82E-06	2.75E+03	3.99E-02	9.76E-04	25	393.9	590.9	8,103	0.0E+00	7.0E-02	1.13E+02		X	
156592	cis-1,2-Dichloroethylene	3.96E+01	8.84E-02	1.13E-05	6.41E+03	1.67E-01	4.08E-03	25	333.7	544.0	7,192	0.0E+00	8.0E-03	9.69E+01		X	
156605	trans-1,2-Dichloroethylene	3.96E+01	8.76E-02	1.12E-05	4.52E+03	1.67E-01	4.08E-03	25	320.9	516.5	6,717	0.0E+00	8.0E-02	9.69E+01			
205992	Benzo(b)fluoranthene	5.99E+05	4.76E-02	5.56E-06	1.50E-03	2.69E-05	6.57E-07	25	715.9	969.3	17,000	**1.1E-04**	0.0E+00	2.52E+02			
218019	Chrysene	1.81E+05	2.61E-02	6.75E-06	2.00E-03	2.14E-04	5.23E-06	25	714.2	979.0	16,455	**1.1E-05**	0.0E+00	2.28E+02			
309002	Aldrin	8.20E+04	3.72E-02	4.35E-06	1.70E-02	1.80E-03	4.40E-05	25	603.0	839.4	15,000	**4.9E-03**	1.1E-04	3.65E+02		X	
319846	alpha-HCH (alpha-BHC)	2.81E+03	4.33E-02	5.06E-06	2.00E+00	2.10E-04	5.14E-06	25	596.6	839.4	15,000	1.8E-03	0.0E+00	2.91E+02			
541731	1,3-Dichlorobenzene	3.79E+02	5.56E-02	8.80E-06	1.19E+02	8.85E-02	2.17E-03	25	446.0	684.0	9,230	0.0E+00	1.1E-01	1.47E+02		X	y
542756	1,3-Dichloropropene	7.22E+01	7.63E-02	1.01E-05	2.80E+03	1.45E-01	3.55E-03	25	381.2	587.4	7,900	**1.6E-05**	2.0E-02	1.11E+02			
542881	bis(Chloromethyl)ether	9.70E+00	7.63E-02	1.04E-05	2.20E+04	1.78E-01	4.36E-03	25	379.0	568.5	7,910	6.2E-02	0.0E+00	1.15E+02			y
630206	1,1,1,2-Tetrachloroethane	8.60E+01	4.82E-02	9.10E-06	1.07E+03	1.02E-01	2.50E-03	25	403.5	624.0	9,768	7.4E-06	1.1E-01	1.68E+02		X	
924163	N-Nitroso-di-n-butylamine	9.15E+02	6.49E-02	7.59E-06	1.27E+03	5.40E-04	1.32E-05	25	389.0	583.5	11,200	**3.1E-03**	0.0E+00	1.58E+02			
1634044	MTBE (methyl-*tert*-butyl ether)	1.16E+01	7.53E-02	8.59E-06	5.10E+04	2.40E-02	5.87E-04	25	328.3	497.1	6,678	**2.6E-07**	3.0E+00	8.82E+01			
7439976	Mercury (elemental)	5.20E+01	3.07E-02	6.30E-06	6.00E-02	4.67E-01	1.14E-02	25	629.9	1750.0	14,127	0.0E+00	**3.0E-05**	2.01E+02			
123456789	TBD	5.20E+01	3.07E-02	6.30E-06	6.00E-02	4.67E-01	1.14E-02	25	629.9	1,750.0	14,127	0.0E+00	**1.0E+02**	2.01E+02			

SCS Soil Type	K_s (cm/h)
C	0.61
CL	0.34
L	0.50
LS	4.38
S	26.78
SC	0.47
SCL	0.55
SI	1.82
SIC	0.40
SICL	0.46
SIL	0.76
SL	1.60

NEW => Receptor Lookup Table (added by HERO)

Receptor Type	AT_C (yrs)
Residential	70
Commercial	70
User-Defined	

NEW => 11 Additional Chemicals (CAS No. in red)		USEPA-Recommended Toxicity Criteria November 2013 RSL Table				ARCHIVE Original USEPA (USEPA 2002 Draft Vapor	
		Inhalation Unit Risk	Reference conc.,	Extrapolated from oral toxicity value		Extrapolated from oral toxicity value	
CAS No.	Chemical	IUR $(\mu g/m^3)^{-1}$	RfC (mg/m^3)	IUR (X)	RfC (X)	URF (X)	RfC (X)
56235	Carbon tetrachloride	6.0E-06	1.0E-01				
57749	Chlordane	1.0E-04	7.0E-04				
58899	gamma-HCH (Lindane)	3.1E-04				X	X
60297	Ethyl ether						X
60571	Dieldrin	4.6E-03					X
67641	Acetone		3.1E+01				X
67663	Chloroform	2.3E-05	9.8E-02				
67721	Hexachloroethane	1.1E-05	3.0E-02				X
71432	Benzene	7.8E-06	3.0E-02				
71556	1,1,1-Trichloroethane		5.0E+00				
72435	Methoxychlor						X
72559	DDE	9.7E-05		X		X	
74839	Methyl bromide (bromomethane)		5.0E-03				
74873	Methyl chloride (chloromethane)		9.0E-02				
74908	Hydrogen cyanide		8.0E-04				
74953	Methylene bromide (dibromomethane		4.0E-03				X
75003	Chloroethane (ethyl chloride)		1.0E+01			X	
75014	Vinyl chloride (chloroethene)	8.8E-06	1.0E-01				
75058	Acetonitrile		6.0E-02				
75070	Acetaldehyde	2.2E-06	9.0E-03				
75092	Methylene chloride (dichloromethane)	1.0E-08	6.0E-01				
75150	Carbon disulfide		7.0E-01				
75218	Ethylene oxide	8.8E-05	3.0E-02				
75252	Bromoform	1.1E-06					X
75274	Bromodichloromethane	3.7E-05		X		X	X
75296	2-Chloropropane						
75343	1,1-Dichloroethane	1.6E-06					
75354	1,1-Dichloroethylene		2.0E-01				
75456	Chlorodifluoromethane		5.0E+01				
75694	Trichlorofluoromethane		7.0E-01				
75718	Dichlorodifluoromethane		1.0E-01				
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		3.0E+01				
76448	Heptachlor	1.3E-03					X
77474	Hexachlorocyclopentadiene		2.0E-04				
78831	Isobutanol						X
78875	1,2-Dichloropropane	1.0E-05	4.0E-03			X	
78933	Methylethylketone (2-butanone)		5.0E+00				
79005	1,1,2-Trichloroethane	1.6E-05	2.0E-04				X
79016	Trichloroethylene	4.1E-06	2.0E-03			X	
79209	Methyl acetate						X
79345	1,1,2,2-Tetrachloroethane	5.8E-05					X
79469	2-Nitropropane	2.7E-03	2.0E-02				
80626	Methylmethacrylate		7.0E-01				
83329	Acenaphthene						X
86737	Fluorene						X
87683	Hexachloro-1,3-butadiene	2.2E-05					X
88722	o-Nitrotoluene						X
91203	Naphthalene	3.4E-05	3.0E-03				
91576	2-Methylnaphthalene						X
92524	Biphenyl		4.0E-04				X

NEW => 11 Additional Chemicals (CAS No. in red)		USEPA-Recommended Toxicity Criteria November 2013 RSL Table				ARCHIVE Original USEPA (USEPA 2002 Draft Vapor	
		Inhalation Unit Risk	Reference conc.,	Extrapolated from oral toxicity value		Extrapolated from oral toxicity value	
		IUR	RfC	IUR	RfC	URF	RfC
CAS No.	Chemical	$(\mu g/m^3)^{-1}$	(mg/m^3)	(X)	(X)	(X)	(X)
95476	o-Xylene		1.0E-01				
95501	1,2-Dichlorobenzene		2.0E-01				
95578	2-Chlorophenol						X
95636	1,2,4-Trimethylbenzene		7.0E-03				
96128	1,2-Dibromo-3-chloropropane	6.0E-03	2.0E-04				
96184	1,2,3-Trichloropropane		3.0E-04			X	
96333	Methyl acrylate		2.0E-02				X
97632	Ethylmethacrylate		3.0E-01				X
98066	tert-Butylbenzene						X
98828	Cumene		4.0E-01				
98862	Acetophenone						X
98953	Nitrobenzene	4.0E-05	9.0E-03				
100414	Ethylbenzene	2.5E-06	1.0E+00				
100425	Styrene		1.0E+00				
100447	Benzylchloride	4.9E-05	1.0E-03			X	
100527	Benzaldehyde						X
103651	n-Propylbenzene		1.0E+00				X
104518	n-Butylbenzene						X
106423	p-Xylene		1.0E-01				
106467	1,4-Dichlorobenzene	1.1E-05	8.0E-01				
106898	Epichlorohydrin	1.2E-06	1.0E-03				
106934	1,2-Dibromoethane (ethylene dibromic	6.0E-04	9.0E-03				
106990	1,3-Butadiene	3.0E-05	2.0E-03				
107028	Acrolein		2.0E-05				
107062	1,2-Dichloroethane	2.6E-05	7.0E-03				
107131	Acrylonitrile	6.8E-05	2.0E-03				
108054	Vinyl acetate		2.0E-01				
108101	Methylisobutylketone (4-methyl-2-pent		3.0E+00				
108203	Diisopropyl ether (DIPE)		7.0E-01				
108383	m-Xylene		1.0E-01				
108601	bis(2-Chloroisopropyl)ether	1.0E-05					
108678	1,3,5-Trimethylbenzene						
108872	Methylcyclohexane						
108883	Toluene		5.0E+00				
108907	Chlorobenzene		5.0E-02				
109660	Pentane, n-		1.0E+00				
109693	1-Chlorobutane						X
109999	Tetrahydrofuran		2.0E+00				
110009	Furan						X
110543	Hexane		7.0E-01				
110827	Cyclohexane		6.0E+00				
111444	Bis(2-chloroethyl)ether	3.3E-04					
115297	Endosulfan						X
118741	Hexachlorobenzene	4.6E-04					X
120821	1,2,4-Trichlorobenzene		2.0E-03				
123739	Crotonaldehyde (2-butenal)					X	
123911	1,4-Dioxane	5.0E-06	3.0E-02				
124481	Dibromochloromethane	2.7E-05				X	X
126987	Methacrylonitrile		3.0E-02				
126998	2-Chloro-1,3-butadiene (chloroprene)	3.0E-04	2.0E-02				
127184	Tetrachloroethylene	2.6E-07	4.0E-02				
129000	Pyrene						X
132649	Dibenzofuran						X
135988	sec-Butylbenzene						X
141786	Ethylacetate						X
142289	1,3-Dichloropropane						
156592	cis-1,2-Dichloroethylene						X
156605	trans-1,2-Dichloroethylene		6.0E-02				X
205992	Benzo(b)fluoranthene	1.1E-04				X	
218019	Chrysene	1.1E-05				X	
309002	Aldrin	4.9E-03					X
319846	alpha-HCH (alpha-BHC)	1.8E-03					
541731	1,3-Dichlorobenzene						X
542756	1,3-Dichloropropene	4.0E-06	2.0E-02				
542881	bis(Chloromethyl)ether	6.2E-02					
630206	1,1,1,2-Tetrachloroethane	7.4E-06					X
924163	N-Nitroso-di-n-butylamine	1.6E-03					
1634044	MTBE (methyl-*tert*-butyl ether)	2.6E-07	3.0E+00				
7439976	Mercury (elemental)		3.0E-04				
123456789	TBD		3.0E-04				

APPENDIX C

Boring Logs

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB50
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 5
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB50-0.5		0.0	SM		@ 0.5' : Silty SAND, light brown, slightly moist, loose to medium dense, very fine to medium grained, trace gravel and shells, no odor or staining.		
			LB50-2.5		0.0					
5			LB50-5.0		0.0	SW		@5': SAND, medium brown, wet, loose, very fine to fine grained, trace silt and gravel	5.0	Cement grout
10									10.0	

Notes:
Total Depth: 10 feet below ground surface (bgs)
Groundwater encountered at 5 feet
Grab groundwater sample collected

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB51
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 5
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB51-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, slightly moist, loose, very fine to fine grained, trace gravel and shells, no odor or staining.	2.5	
			LB51-2.5		0.0	SW		@2.5': SAND, medium brown, slightly moist, loose, very fine to fine grained, trace silt and shells		
5								@5': groundwater encountered		Cement grout
10									10.0	

Notes:
Total Depth: 10 feet below ground surface (bgs)
Groundwater encountered at 5 feet
Grab groundwater sample collected

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB52
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 5.5
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB52-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, slightly moist, loose, very fine to medium grained sand, trace gravel and shells, no odor or staining.	2.5	
			LB52-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose, very fine to fine grained, trace gravel		Cement grout
5			LB52-5.0		0.0			▼	5.5	

Notes:
Total Depth: 5.5 feet below ground surface (bgs)
Groundwater encountered at 5.5 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB53
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 4
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB53-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, slightly moist, loose, very fine to medium grained sand, trace gravel and shells, no odor or staining.	2.5	Cement grout
			LB53-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose, very fine to fine grained, trace gravel	4.0	

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB54
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 4
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
			LB54-0.5		0.0	SM		@ Surface : Silty SAND, light brown, slightly moist, dense, very fine to medium grained sand, trace gravel and shells, no odor or staining.	1.5	Cement grout
								@1.5': Asphalt layer	2.0	
			LB54-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose to medium dense, very fine to fine grained, trace gravel		
									4.0	

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB55
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER N/A / N/A
GRAVEL PACK TYPE N/A
GROUT TYPE/QUANTITY Cement grout
DEPTH TO WATER 4
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB55-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, slightly moist, loose, very fine to medium grained, trace gravel and shells, no odor or staining.	2.5	
			LB55-2.5		0.0	SW		@2.5': SAND, medium brown, slightly moist, loose, very fine to fine grained, trace shells @4': groundwater encountered		
5										Cement grout
								@8': dark grey, trace clay		
10									10.0	

Notes:
Total Depth: 10 feet below ground surface (bgs)
Groundwater encountered at 4 feet
Grab groundwater sample collected

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER	12736.024	**BORING/WELL NUMBER**	LB56
PROJECT NAME	B. 191 - 194 Baseline Investigation Addendum	**DATE DRILLED**	12/6/2022
LOCATION	B. 191- 194, Wilmington, CA	**CASING TYPE/DIAMETER**	Nylaflow / 1/4-inch
DRILLING METHOD	Hand Auger	**GRAVEL PACK TYPE**	#3 Sand
SAMPLING METHOD	Grab sample	**GROUT TYPE/QUANTITY**	Hydrated bentonite
GROUND ELEVATION		**DEPTH TO WATER**	4
TOP OF CASING	N/A	**GROUND WATER ELEVATION**	
LOGGED BY	TCD		
REMARKS	Drilling completed by Millennium Environmental Inc		

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	Hydrated bentonite
			LB56-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, moist, loose, very fine to medium grained, trace gravel and shells, no odor or staining.	2.5	
			LB56-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose, very fine to fine grained, trace shells	4.0	airstone probe No. 3 Sand Hydrated bentonite

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER	12736.024	**BORING/WELL NUMBER**	LB57
PROJECT NAME	B. 191 - 194 Baseline Investigation Addendum	**DATE DRILLED**	12/6/2022
LOCATION	B. 191- 194, Wilmington, CA	**CASING TYPE/DIAMETER**	Nylaflow / 1/4-inch
DRILLING METHOD	Hand Auger	**GRAVEL PACK TYPE**	#3 Sand
SAMPLING METHOD	Grab sample	**GROUT TYPE/QUANTITY**	Hydrated bentonite
GROUND ELEVATION		**DEPTH TO WATER**	4
TOP OF CASING	N/A	**GROUND WATER ELEVATION**	
LOGGED BY	TCD		
REMARKS	Drilling completed by Millennium Environmental Inc		

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 4 inches of concrete	0.3	Hydrated bentonite
			LB57-0.5		0.0	SW		@ 0.5' : SAND, medium brown, moist, loose, very fine to fine grained, trace silt and shells		
			LB57-2.5		0.0					airstone probe
									4.0	No. 3 Sand
										Hydrated bentonite

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet
Vapor probe set at 3 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER 12736.024
PROJECT NAME B. 191 - 194 Baseline Investigation Addendum
LOCATION B. 191- 194, Wilmington, CA
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab sample
GROUND ELEVATION
TOP OF CASING N/A
LOGGED BY TCD
REMARKS Drilling completed by Millennium Environmental Inc

BORING/WELL NUMBER LB58
DATE DRILLED 12/6/2022
CASING TYPE/DIAMETER Nylaflow / 1/4-inch
GRAVEL PACK TYPE #3 Sand
GROUT TYPE/QUANTITY Hydrated bentonite
DEPTH TO WATER 4
GROUND WATER ELEVATION

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	Hydrated bentonite
			LB58-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, moist, loose, very fine to medium grained, trace gravel and shells, no staining or odor	2.5	
			LB58-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose, very fine to fine grained, trace silt, gravel and shells	4.0	airstone probe No. 3 Sand Hydrated bentonite

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet
Vapor probe set at 3 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

SOIL VAPOR PROBE CONSTRUCTION LOG

PROJECT NUMBER	12736.024	**BORING/WELL NUMBER**	LB59
PROJECT NAME	B. 191 - 194 Baseline Investigation Addendum	**DATE DRILLED**	12/6/2022
LOCATION	B. 191- 194, Wilmington, CA	**CASING TYPE/DIAMETER**	Nylaflow / 1/4-inch
DRILLING METHOD	Hand Auger	**GRAVEL PACK TYPE**	#3 Sand
SAMPLING METHOD	Grab sample	**GROUT TYPE/QUANTITY**	Hydrated bentonite
GROUND ELEVATION		**DEPTH TO WATER**	4
TOP OF CASING	N/A	**GROUND WATER ELEVATION**	
LOGGED BY	TCD		
REMARKS	Drilling completed by Millennium Environmental Inc		

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								@Surface: 6 inches of asphalt	0.5	
			LB59-0.5		0.0	SM		@ 0.5' : Silty SAND, medium brown, moist, loose, very fine to medium grained, trace gravel and shells, no staining or odor	2.5	Hydrated bentonite
			LB59-2.5		0.0	SW		@2.5': SAND, medium brown, moist, loose, very fine to fine grained, trace gravel and shells	4.0	airstone probe No. 3 Sand Hydrated bentonite

Notes:
Total Depth: 4 feet below ground surface (bgs)
Groundwater encountered at 4 feet
Vapor probe set at 3 feet

LAEWNN01 - SOIL VAPOR BORING LOGS LB50-LB59.GPJ ROCKLOG2012.GDT 2/23/23

APPENDIX D

Boring Permit

ENVIRONMENTAL HEALTH

Drinking Water Program

5050 Commerce Drive, Baldwin Park, CA 91706
Telephone: (626) 430-5420 • http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm

Work Plan Approval

WORK SITE ADDRESS	CITY	ZIP	EMAIL ADDRESS
Signal Street	San Pedro	90731	mwithrow@leightongroup.com

NOTICE:

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- WORK PLAN APPROVALS ARE LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

X	WORK PLAN APPROVED FOR: 3 Soil Boring/Exp. Hole	**PERMIT NUMBER:**	SR0315214	**DATE:**	November 23, 2022

ADDITIONAL APPROVAL CONDITIONS:

- Work plan approval is issued for scope of work submitted to the Drinking Water Program. Any modifications to the scope of work will require additional work plan review.
- As discussed, please ensure the boring/exploration hole is backfilled within 24 hours of boring construction.
- Ensure to backfill using a tremie pipe under pressure or equivalent equipment with approved cement grout, proceeding upward from the bottom of the boring/exploration hole to surface.
- Ensure soil borings are sealed per California Well Standards 74-90
  - **Cement grout mix ratio of 5-6 gallons of water per 94-pound bag of Portland cement.**
  - Up to 6% of Bentonite may be added to the cement-based mix.
  - No hydrated Bentonite chips and/or soil cuttings.
- Borings/Exploration holes must comply with all applicable requirements published in the California Well Standards (Bulletins 74-81 and 74-90) and the Los Angeles County Code, Title 11.

APPROVED BY:

Teri Hachey, REHS
26415 Carl Boyer Dr.
Santa Clarita, Ca 91350
(661) 287-7017

5770

APPENDIX E

Laboratory Reports and Chain-of-Custody Documents

JONES ENVIRONMENTAL, INC.

714-449-9937
562-646-1611

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
WWW.JONESENV.COM

18 December 2022

Mark Withrow
Leighton Consulting
17781 Cowan
Irvine, CA

Re: POLA Berths 191-194

Enclosed are the results of analyses for samples received by the laboratory on 12/13/22. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colby Wakeman
Lab Director

JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB59-3	JEI220355-01	Soil Gas	12/13/2022 13:33	12/13/2022 13:33
LB58-3	JEI220355-02	Soil Gas	12/13/2022 13:33	12/13/2022 13:33
LB57-3	JEI220355-03	Soil Gas	12/13/2022 13:33	12/13/2022 13:33
LB56-3	JEI220355-04	Soil Gas	12/13/2022 13:33	12/13/2022 13:33

DETECTIONS SUMMARY

Sample ID: LB59-3 **Laboratory ID:** JEI220355-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 11	44	16	µg/m3	EPA 8260	
Tetrachloroethene	104	8	µg/m3	EPA 8260	
m,p-Xylene	27	16	µg/m3	EPA 8260	

Sample ID: LB58-3 **Laboratory ID:** JEI220355-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	50	8	µg/m3	EPA 8260	

Sample ID: LB57-3 **Laboratory ID:** JEI220355-03

No Results Detected

Sample ID: LB56-3 **Laboratory ID:** JEI220355-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	13	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	10	8	µg/m3	EPA 8260	
m,p-Xylene	17	16	µg/m3	EPA 8260	

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB59-3

JEI220355-01(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	44	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	104	8	µg/m3	"	"		"	"	
Toluene	ND	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB59-3

JEI220355-01(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
m,p-Xylene	27	16	µg/m3	"	"		"	"	
o-Xylene	ND	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*99.06 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*74.07 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*96.12 %*	*60 - 140*							

Jones Environmental, Inc.

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Lab Director

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB58-3

JEI220355-02(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	50	8	µg/m3	"	"		"	"	
Toluene	ND	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB58-3

JEI220355-02(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
m,p-Xylene	ND	16	µg/m3	"	"		"	"	
o-Xylene	ND	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*100.75 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*69.76 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*94.61 %*	*60 - 140*							

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB57-3

JEI220355-03(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	ND	8	µg/m3	"	"		"	"	
Toluene	ND	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB57-3

JEI220355-03(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
m,p-Xylene	ND	16	µg/m3	"	"		"	"	
o-Xylene	ND	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*99.73 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*76.95 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*96.31 %*	*60 - 140*							

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Colby Wakeman
Lab Director

JONES ENVIRONMENTAL, INC.

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB56-3

JEI220355-04(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	13	8	µg/m3	"	"		"	"	
Toluene	ND	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	10	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	ND	8	µg/m3	"	"		"	"	

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

LB56-3

JEI220355-04(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2212058		12/13/22	EPA 8260	
m,p-Xylene	17	16	µg/m3	"	"		"	"	
o-Xylene	ND	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*98.53 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*71.32 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*95.76 %*	*60 - 140*							

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2212058 - EPA 8260										
CCV 1										
Benzene	5	8	%	5		96	80 - 120		120	
Chlorobenzene	5	8	%	5		102	80 - 120		120	
1,1-Dichloroethene	4	8	%	5		81	80 - 120		120	
cis-1,2-Dichloroethene	5	8	%	5		92	80 - 120		120	
Ethylbenzene	5	8	%	5		99	80 - 120		120	
Tetrachloroethene	6	8	%	5		110	80 - 120		120	
Toluene	5	8	%	5		96	80 - 120		120	
1,1,1-Trichloroethane	4	8	%	5		72*	80 - 120		120	
Trichloroethene	5	8	%	5		100	80 - 120		120	
1,2,4-Trimethylbenzene	5	8	%	5		101	80 - 120		120	
Vinyl chloride	5	8	%	5		110	80 - 120		120	
LCS 1										
Benzene	5.84	8	%	5		117	70 - 130			
Chlorobenzene	5.95	8	%	5		119	70 - 130			
1,1-Dichloroethene	4.44	8	%	5		89	60 - 140			
cis-1,2-Dichloroethene	5.35	8	%	5		107	70 - 130			
Ethylbenzene	5.51	8	%	5		110	70 - 130			
Tetrachloroethene	5.85	8	%	5		117	70 - 130			
Toluene	5.66	8	%	5		113	70 - 130			
1,1,1-Trichloroethane	3.81	8	%	5		76	70 - 130			
Trichloroethene	6.02	8	%	5		120	70 - 130			
1,2,4-Trimethylbenzene	5.60	8	%	5		112	70 - 130			
Vinyl chloride	2.20	8	%	5		44^	60 - 140			
Surrogate: Toluene-d8		*99.47 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*88.48 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*99.28 %*	*60 - 140*							
LCSD 1										
Benzene	5.55	8	%	5		111		4.99		
Chlorobenzene	5.88	8	%	5		118		1.23		

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Colby Wakeman
Lab Director

JONES ENVIRONMENTAL, INC.

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2212058 - EPA 8260										
LCSD 1										
1,1-Dichloroethene	4.18	8	%	5		84		6.03		
cis-1,2-Dichloroethene	4.68	8	%	5		94		13.50		
Ethylbenzene	5.62	8	%	5		112		2.00		
Tetrachloroethene	6.00	8	%	5		120		2.47		
Toluene	5.46	8	%	5		109		3.53		
1,1,1-Trichloroethane	3.31	8	%	5		66*		14.16		
Trichloroethene	5.61	8	%	5		112		7.07		
1,2,4-Trimethylbenzene	5.64	8	%	5		113		0.62		
Vinyl chloride	2.34	8	%	5		47^		6.17		
Surrogate: Toluene-d8		*99.33 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*81.41 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*96.86 %*	*60 - 140*							
Method Blank 1										
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							

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Lab Director

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2212058 - EPA 8260										
Method Blank 1										
Ethylbenzene	ND	8	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Methylene chloride	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Styrene	ND	8	µg/m3							
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
o-Xylene	ND	8	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Di-isopropylether	ND	40	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
Isopropanol (LCC)	ND	80	µg/m3							
n-Propanol (LCC)	ND	80	µg/m3							
Surrogate: Toluene-d8		*99.39 %*		*60 - 140*						
Surrogate: Dibromofluoromethane		*78.50 %*		*60 - 140*						
Surrogate: 4-Bromofluorobenzene		*94.40 %*		*60 - 140*						
Sample Blank 1										
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2212058 - EPA 8260										
Sample Blank 1										
Bromoform	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Ethylbenzene	ND	8	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Methylene chloride	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Styrene	ND	8	µg/m3							
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2212058 - EPA 8260										
Sample Blank 1										
m,p-Xylene	ND	16	µg/m3							
o-Xylene	ND	8	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Di-isopropylether	ND	40	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
Gasoline Range Organics (C4-C12)	ND	2000	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
Isopropanol (LCC)	ND	80	µg/m3							
n-Propanol (LCC)	ND	80	µg/m3							
Surrogate: Toluene-d8		*98.97 %*		*60 - 140*						
Surrogate: Dibromofluoromethane		*76.68 %*		*60 - 140*						
Surrogate: 4-Bromofluorobenzene		*96.91 %*		*60 - 140*						

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Leighton Consulting	Project: POLA Berths 191-194	
17781 Cowan	Project Number: 12736.024	Reported
Irvine, CA	Project Manager: Mark Withrow	12/18/22 12:33

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry
RPD	Relative Percent Difference
E	Estimated Concentration; concentration exceeds calibration range.
LCC	Leak Check Compound
MDL	Compound Reported to Method Detection Limit
*	Recovery outside of acceptable limits. LCS recovery and LCS/LCSD % RSD were within QC limits, therefore data was accepted.
^	Recovery outside of acceptable limits. CCV recovery and LCS/LCSD % RSD were within QC limits, therefore data was accepted.

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reports@jonesenv.com
www.jonesenv.com

Soil-Gas Chain-of-Custody Record

Client: Leighton Consulting, Inc.
Client Address: 17781 Cowan
Project Name: POLA Berths 191-194
Project Address: 340 Yacht Street, Wilmington, CA
Report To: Mark Withrow
Email/Phone:
Sampler: Madison Jones

Date: 12/13/2022
Client Project #: 12736.024

Tedlar Hold-Time Requested:
- ☐ 6 hr (DTSC)
- ☐ 72 hr (EPA)
- ☐ 5 Day

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

LAB USE ONLY
Jones Project #
JEI220355

Page 1 of 1

Sample Container: Summa
If different than above, see Notes.

Turn Around Requested
- ☐ Immediate Attention-200%
- ☐ Rush 24 Hours-100%
- ☐ Rush 48 Hours-75%
- ☐ Rush 72 Hours-50%
- ☐ Rush 96 Hours-25%
- ☒ Normal - No Surcharge

Tracer
- ☒ n-pentane
- ☒ n-hexane
- ☐ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☒ ~~Propanol~~

Reporting Limits Requested
- ☐ 20 ug/m³
- ☒ 8 ug/m³
- ☐ __ ug/m³

Units
- ☒ ug/m³
- ☐ ug/L
- ☐ ppmV

Analysis Requested

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Jones ID (Lab Use Only)	Purge Rate (mL/min)	Pump ID	Magnehelic ID	Sample Matrix: Soil Gas (SG), Air (A), Material (M)	8260B	Gasoline Range Organics	ASTM D1946, Methane/Fixed Gas/H_2S		Magnehelic Vacuum (In/H_2O)	Number of Containers	Notes & Special Instructions
LB59-3	3	3250	12/13	9:53	JEI220355-01	500	Zarak	118012	SG	X	X			42	1	
LB58-3	↓	↓	↓	10:03	-02	↓	Venom	M100.007	↓	↓	↓			↓	↓	
LB57-3	↓	↓	↓	10:19	-03	↓	Zarak	M100.500	↓	↓	↓			↓	↓	
LB56-3	↓	↓	↓	10:22	-04	↓	Venom	M100.501	↓	↓	↓			↓	↓	

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name		
	Theresa Duncan		Madison Jones	4	Total Number of Containers
Company: LCI	Date: 12/13/22 Time: 1032	Company: Jones Environmental	Date: 12/13/2022 Time: 1032		
Relinquished By (Signature)	Printed Name: Casey Ellis	Received By Laboratory (Signature)	Printed Name	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.	
Company: JEL	Date: 12/13/22 Time: 1400	Company	Date Time		

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SAMPLE RECEIPT FORM

Jones ID: JEI220355

CLIENT: Leighton Consulting
PROJECT: POLA Berms 191-194
DATE/TIME (LAB RECEIVED): 12/13/2022
RECEIVED BY: _____
Delivered by: □ Client ☒ Jones Courier □UPS / FedEx / USPS □Other _____

TEMPERATURE: Thermometer ID: T-2 (Corrected Temp.) Calibration Due: 07/12/2023

Temperature Cooler #1 _____.____°C ± the CF(+0.5°C) _____.____°C Blank Sample

Temperature Cooler #2 _____.____°C ± the CF(+0.5°C) _____.____°C Blank Sample

Temperature Criteria: 0 ≤ 6°C (NO frozen containers) Criteria Met? □ Yes □ No

If criteria is not met:

Sample Received on ice? □ Yes □ No

Sample received Chilled on same day of sampling? □ Yes □ No

Checked By: _____

Temperature Non-Conformance (NC): **NC No.** _____

□ Sample not received on ice
□ sample not received chilled
□ Sample received chilled, but not on the same day of sampling

SAMPLE CONDITION:	YES	NO*	N/A
Chain of Custody (COC) received filled out completely	☑	□*	□
Total number of containers received match COC	☑	□*	□
Sample container label(s) consistent with COC	☑	□*	□
Sample container(s) intact and in good condition	☑	□*	□
Proper containers and sufficient volume for analyses requested on COC	☑	□*	□
Proper preservative indicated on COC/container for analyses requested	□	□*	☑
Volatile analysis container(s) free of headspace (EPA 8260 water)	□	□*	☑
Custody Seals Intact on Cooler/Sample	□	□*	☑

CONTAINER TYPE:

Solid:
5035 Kits: _____
Glass Jar: _____
Sleeve: _____
Other: _____

Aqueous:
Amber Bottle: _____
VOAs: _____
Poly Bottle: _____
5030 Kits: _____
Other: _____

Air / Soil Gas:
Tedlar Bag: _____
6 hr
72 hr
5 Day
Summa:
(1L) 4 (6L) _____

Complete Non-Conformance if checked

Checked by: _____

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/22
Client Address:	17781 Cowan Irvine, CA 92614	**JEL Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/06/22
		Date Received:	12/06/22
Project:	B191-194	**Date Analyzed:**	12/7-9/22
		Physical State:	Soil & Water

ANALYSES REQUESTED

Soil:

1. EPA 8015M – Extended Range Hydrocarbons
2. EPA 8260B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics
3. EPA 6010B and EPA 7471A – CAM 17 Metals

Water:

1. EPA 8015M – Extended Range Hydrocarbons
2. EPA 8260B by 5030B – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics
3. EPA 6010B and EPA 7470A – CAM 17 Metals

Approval: 

Douglas A. Fowler, M.S.
Senior Chemist

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB50-0.5**	**B50-2.5**	**LB50-5**	**LB58-0.5**	**LB58-2.5**		
Jones ID:	**ST-21305-01**	**ST-21305-02**	**ST-21305-03**	**ST-21305-05**	**ST-21305-06**	**Reporting Limit**	**Units**
Carbon Chain Range							
C13 - C22	**117**	**90.4**	**93.9**	**176**	ND	10.0	mg/kg
C23 - C40	**2470**	**2930**	**3020**	**4380**	ND	10.0	mg/kg
Dilution Factor	5	10	10	10	1		
Surrogate Recovery:						**QC Limits**	
Hexacosane	77%	59%	56%	55%	99%	50 - 140	
Batch:	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB59-0.5**	**LB59-2.5**	**LB56-0.5**	**LB56-2.5**	**LB57-0.5**		
Jones ID:	**ST-21305-07**	**ST-21305-08**	**ST-21305-09**	**ST-21305-10**	**ST-21305-11**	**Reporting Limit**	**Units**
Carbon Chain Range							
C13 - C22	**204**	ND	**32.7**	ND	ND	10.0	mg/kg
C23 - C40	**5760**	ND	**1050**	ND	ND	10.0	mg/kg
Dilution Factor	10	1	1	1	1		
Surrogate Recovery:						**QC Limits**	
Hexacosane	54%	78%	92%	88%	84%	50 - 140	
Batch:	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB57-2.5**	**LB54-0.5**	**LB54-2.5**	**LB55-0.5**	**LB55-2.5**		
Jones ID:	**ST-21305-12**	**ST-21305-13**	**ST-21305-14**	**ST-21305-15**	**ST-21305-16**	**Reporting Limit**	**Units**
Carbon Chain Range							
C13 - C22	ND	**1710**	ND	**281**	ND	10.0	mg/kg
C23 - C40	ND	**14600**	ND	**8940**	ND	10.0	mg/kg
Dilution Factor	1	20	1	10	1		
Surrogate Recovery:						**QC Limits**	
Hexacosane	80%	50%	68%	53%	74%	50 - 140	
Batch:	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB53-0.5**	**LB53-2.5**	**LB52-0.5**	**LB52-2.5**	**LB52-5**		
Jones ID:	**ST-21305-18**	**ST-21305-19**	**ST-21305-20**	**ST-21305-21**	**ST-21305-22**	**Reporting Limit**	**Units**
Carbon Chain Range							
C13 - C22	**690**	**27.1**	**551**	**223**	ND	10.0	mg/kg
C23 - C40	**8660**	**479**	**5960**	**9790**	ND	10.0	mg/kg
Dilution Factor	10	1	10	10	1		
Surrogate Recovery:						**QC Limits**	
Hexacosane	56%	79%	63%	54%	97%	50 - 140	
Batch:	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01	FID7_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB51-0.5**	**LB51-2.5**		
Jones ID:	**ST-21305-23**	**ST-21305-24**	**Reporting Limit**	**Units**
Carbon Chain Range				
C13 - C22	**39.0**	ND	10.0	mg/kg
C23 - C40	**513**	ND	10.0	mg/kg
Dilution Factor	1	1		
Surrogate Recovery:			**QC Limits**	
Hexacosane	74%	53%	50 - 140	
Batch:	FID8_120822_01	FID8_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**METHOD BLANK #1**	**METHOD BLANK #2**		
Jones ID:	**MB1-120822FID7**	**MB1-120822FID8**	**Reporting Limit**	**Units**
Carbon Chain Range				
C13 - C22	ND	ND	10.0	mg/kg
C23 - C40	ND	ND	10.0	mg/kg
Dilution Factor	1	1		
Surrogate Recovery:			**QC Limits**	
Hexacosane	133%	123%	50 - 140	
Batch:	FID7_120822_01	FID8_120822_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

BATCH: **FID7_ 120822_01** **Prepared:** 12/7/2022 **Analyzed:** 12/8/2022

EPA 8015M - Total Petroleum Hydrocarbons

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
LCS:	LCS1-120822FID7	**SAMPLE SPIKED:**	CLEAN SOIL			
Analyte:						
Diesel	**465**	500	93%		60 - 140	mg/kg
Surrogate Recovery:						
Hexacosane			134%		50 - 140	
LCSD:	LCSD1-120822FID7	**SAMPLE SPIKED:**	CLEAN SOIL			
Analyte:						
Diesel	**485**	500	97%	4.2%	60 - 140	mg/kg
Surrogate Recoveries:						
Hexacosane			129%		50 - 140	
CCV:	CCV1-120822FID7					
Analyte:						
Diesel	**1140**	1000	114%		80 - 120	mg/kg
Surrogate Recoveries:						
Hexacosane			139%		50 - 140	

LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/8/2022
		Physical State:	Soil

BATCH: **FID8_ 120822_01** **Prepared:** 12/8/2022 **Analyzed:** 12/8/2022

EPA 8015M - Total Petroleum Hydrocarbons

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
LCS:	LCS1-120822FID8	**SAMPLE SPIKED:**	CLEAN SOIL			
Analyte:						
Diesel	**547**	500	109%		60 - 140	mg/kg
Surrogate Recovery:						
Hexacosane			116%		50 - 140	
LCSD:	LCSD1-120822FID8	**SAMPLE SPIKED:**	CLEAN SOIL			
Analyte:						
Diesel	**561**	500	112%	2.5%	60 - 140	mg/kg
Surrogate Recoveries:						
Hexacosane			111%		50 - 140	
CCV:	CCV1-120822FID8					
Analyte:						
Diesel	**1200**	1000	120%		80 - 120	mg/kg
Surrogate Recoveries:						
Hexacosane			109%		50 - 140	

LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB50-2.5**	**LB50-5**	**LB58-2.5**	**LB59-2.5**	**LB56-2.5**		
Jones ID:	**ST-21305-02**	**ST-21305-03**	**ST-21305-06**	**ST-21305-08**	**ST-21305-10**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane (EDC)	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	LB50-2.5	LB50-5	LB58-2.5	LB59-2.5	LB56-2.5		
Jones ID:	ST-21305-02	ST-21305-03	ST-21305-06	ST-21305-08	ST-21305-10	Reporting Limit	Units
Analytes:							
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 11	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 12	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	5.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	ND	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	ND	ND	ND	1.0	µg/kg
Methyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	ND	ND	ND	ND	0.20	mg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	89%	91%	93%	90%	88%	60 - 140	
Toluene-d$_8$	99%	103%	96%	97%	96%	60 - 140	
4-Bromofluorobenzene	99%	88%	105%	101%	99%	60 - 140	
Batch:	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB57-2.5**	**LB54-2.5**	**LB55-2.5**	**LB53-2.5**	**LB52-2.5**		
Jones ID:	**ST-21305-12**	**ST-21305-14**	**ST-21305-16**	**ST-21305-19**	**ST-21305-21**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane (EDC)	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	LB57-2.5	LB54-2.5	LB55-2.5	LB53-2.5	LB52-2.5		
Jones ID:	ST-21305-12	ST-21305-14	ST-21305-16	ST-21305-19	ST-21305-21	Reporting Limit	Units
Analytes:							
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 11	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 12	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	5.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	ND	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	ND	ND	ND	1.0	µg/kg
Methyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	ND	ND	ND	ND	0.20	mg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	91%	90%	92%	92%	87%	60 - 140	
Toluene-d_8	97%	97%	97%	97%	96%	60 - 140	
4-Bromofluorobenzene	101%	101%	102%	101%	104%	60 - 140	
Batch:	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01	VOC7-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB52-5**	**LB51-2.5**		
Jones ID:	**ST-21305-22**	**ST-21305-24**	**Reporting Limit**	**Units**
Analytes:				
Benzene	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	1.0	µg/kg
Bromoform	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	1.0	µg/kg
Chloroform	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	1.0	µg/kg
1,2-Dichloroethane (EDC)	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	1.0	µg/kg

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB52-5**	**LB51-2.5**		
Jones ID:	**ST-21305-22**	**ST-21305-24**	**Reporting Limit**	**Units**
Analytes:				
trans-1,3-Dichloropropene	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	1.0	µg/kg
Freon 11	ND	ND	5.0	µg/kg
Freon 12	ND	ND	5.0	µg/kg
Freon 113	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	5.0	µg/kg
n-Propylbenzene	ND	ND	1.0	µg/kg
Styrene	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	1.0	µg/kg
Toluene	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	1.0	µg/kg
Methyl-tert-butylether	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	ND	0.20	mg/kg
Dilution Factor	1	1		
Surrogate Recoveries:			**QC Limits**	
Dibromofluoromethane	90%	89%	60 - 140	
Toluene-d_8	97%	97%	60 - 140	
4-Bromofluorobenzene	106%	105%	60 - 140	
Batch:	VOC7-120922-01	VOC7-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**120922-V7MB1**	**Reporting Limit**	**Units**
Analytes:			
Benzene	ND	1.0	µg/kg
Bromobenzene	ND	1.0	µg/kg
Bromodichloromethane	ND	1.0	µg/kg
Bromoform	ND	1.0	µg/kg
n-Butylbenzene	ND	1.0	µg/kg
sec-Butylbenzene	ND	1.0	µg/kg
tert-Butylbenzene	ND	1.0	µg/kg
Carbon tetrachloride	ND	1.0	µg/kg
Chlorobenzene	ND	1.0	µg/kg
Chloroform	ND	1.0	µg/kg
2-Chlorotoluene	ND	1.0	µg/kg
4-Chlorotoluene	ND	1.0	µg/kg
Dibromochloromethane	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	1.0	µg/kg
Dibromomethane	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	1.0	µg/kg
1,1-Dichloroethane	ND	1.0	µg/kg
1,2-Dichloroethane	ND	1.0	µg/kg
1,1-Dichloroethene	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	1.0	µg/kg
1,2-Dichloropropane	ND	1.0	µg/kg
1,3-Dichloropropane	ND	1.0	µg/kg
2,2-Dichloropropane	ND	1.0	µg/kg
1,1-Dichloropropene	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	1.0	µg/kg

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**120922-V7MB1**	**Reporting Limit**	**Units**
Analytes:			
trans-1,3-Dichloropropene	ND	1.0	µg/kg
Ethylbenzene	ND	1.0	µg/kg
Freon 11	ND	5.0	µg/kg
Freon 12	ND	5.0	µg/kg
Freon 113	ND	5.0	µg/kg
Hexachlorobutadiene	ND	1.0	µg/kg
Isopropylbenzene	ND	1.0	µg/kg
4-Isopropyltoluene	ND	1.0	µg/kg
Methylene chloride	ND	1.0	µg/kg
Naphthalene	ND	5.0	µg/kg
n-Propylbenzene	ND	1.0	µg/kg
Styrene	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	1.0	µg/kg
Tetrachloroethene	ND	1.0	µg/kg
Toluene	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	1.0	µg/kg
Trichloroethene	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	1.0	µg/kg
Vinyl chloride	ND	1.0	µg/kg
m,p-Xylene	ND	2.0	µg/kg
o-Xylene	ND	1.0	µg/kg
Methyl-tert-butylether	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	5.0	µg/kg
Di-isopropylether	ND	5.0	µg/kg
tert-amylmethylether	ND	5.0	µg/kg
tert-Butylalcohol	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	0.20	mg/kg
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	87%	60 - 140	
Toluene-d8	101%	60 - 140	
4-Bromofluorobenzene	104%	60 - 140	
Batch:	VOC7-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

GC#:	**VOC7-120922-01**					
Jones ID:	120922-V7LCS1	120922-V7LCSD1			120922-V7CCV1	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	87%	85%	2%	60 - 140	113%	80 - 120
1,1-Dichloroethene	88%	83%	6.0%	60 - 140	85%	80 - 120
Cis-1,2-Dichloroethene	85%	93%	8.0%	70 - 130	85%	80 - 120
1,1,1-Trichloroethane	85%	85%	0.5%	70 - 130	82%	80 - 120
Benzene	102%	105%	2.7%	70 - 130	105%	80 - 120
Trichloroethene	88%	86%	2.2%	70 - 130	85%	80 - 120
Toluene	110%	110%	0.6%	70 - 130	109%	80 - 120
Tetrachloroethene	90%	94%	4.3%	70 - 130	91%	80 - 120
Chlorobenzene	110%	111%	1.4%	70 - 130	110%	80 - 120
Ethylbenzene	100%	101%	1.7%	70 - 130	110%	80 - 120
1,2,4 Trimethylbenzene	94%	100%	5.6%	70 - 130	99%	80 - 120
Gasoline Range Organics (C4-C12)	102%	104%	2.6%	70 - 130	106%	
Surrogate Recovery:						
Dibromofluoromethane	86%	86%		60 - 140	99%	60 - 140
Toluene-d$_8$	102%	100%		60 - 140	114%	60 - 140
4-Bromofluorobenzene	109%	109%		60 - 140	129%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Sample ID:	**LB50-0.5**	**B50-2.5**	**LB50-5**	**LB58-0.5**	**LB58-2.5**		
Jones ID:	**ST-21305-01**	**ST-21305-02**	**ST-21305-03**	**ST-21305-05**	**ST-21305-06**	**Reporting Limit**	**Units**
Analytes:							
Silver, Ag	ND	ND	ND	ND	ND	0.5	mg/kg
Arsenic, As	ND	ND	ND	ND	**938***	5.0	mg/kg
Barium, Ba	**83.8**	**90.8**	**59.2**	**51.2**	**65.0**	0.5	mg/kg
Beryllium, Be	ND	ND	ND	ND	ND	0.5	mg/kg
Cadmium, Cd	**1.2**	**1.1**	**1.0**	**1.1**	**6.7**	0.5	mg/kg
Cobalt, Co	**5.4**	**4.5**	**3.7**	**4.9**	**3.7**	0.5	mg/kg
Chromium, Cr	**14.1**	**12.6**	**9.0**	**10.3**	**85.2**	0.5	mg/kg
Copper, Cu	**17.3**	**17.6**	**14.5**	**10.4**	**2010***	0.5	mg/kg
Molybdenum, Mo	ND	ND	**0.5**	ND	ND	0.5	mg/kg
Nickel, Ni	**14.9**	**13.3**	**11.1**	**10.8**	**14.7**	0.5	mg/kg
Lead, Pb	**20.2**	**25.4**	**22.9**	**12.5**	**514**	0.5	mg/kg
Antimony, Sb	ND	ND	ND	ND	**6.7**	5.0	mg/kg
Selenium, Se	ND	ND	ND	ND	ND	5.0	mg/kg
Thallium, Tl	ND	ND	ND	ND	ND	5.0	mg/kg
Vanadium, V	**25.5**	**21.7**	**19.2**	**23.2**	**20.3**	0.5	mg/kg
Zinc, Zn	**56.1**	**59.2**	**55.3**	**166**	**1070***	0.5	mg/kg
Dilution Factor	1	1	1	1	1/5*		
Batch ID:	I22120701	I22120701	I22120701	I22120701	I22120701/ I22120801*		

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB50-0.5**	**B50-2.5**	**LB50-5**	**LB58-0.5**	**LB58-2.5**		
Jones ID:	**ST-21305-01**	**ST-21305-02**	**ST-21305-03**	**ST-21305-05**	**ST-21305-06**	**Reporting Limit**	**Units**
Mercury, Hg	**0.069**	**0.104**	**0.099**	**0.053**	**0.059**	0.020	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	H22120701	H22120701	H22120701	H22120701	H22120701		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Sample ID:	**LB59-0.5**	**LB59-2.5**	**LB56-0.5**	**LB56-2.5**	**LB57-0.5**		
Jones ID:	**ST-21305-07**	**ST-21305-08**	**ST-21305-09**	**ST-21305-10**	**ST-21305-11**	**Reporting Limit**	**Units**
Analytes:							
Silver, Ag	ND	ND	ND	ND	ND	0.5	mg/kg
Arsenic, As	ND	ND	ND	ND	ND	5.0	mg/kg
Barium, Ba	**49.7**	**29.4**	**51.8**	**31.8**	**80.8**	0.5	mg/kg
Beryllium, Be	ND	ND	ND	ND	ND	0.5	mg/kg
Cadmium, Cd	**1.0**	**1.1**	**1.2**	**0.8**	**1.4**	0.5	mg/kg
Cobalt, Co	**4.1**	**3.0**	**4.5**	**3.4**	**5.2**	0.5	mg/kg
Chromium, Cr	**8.7**	**8.8**	**10.4**	**7.2**	**12.3**	0.5	mg/kg
Copper, Cu	**26.5**	**9.3**	**16.6**	**3.9**	**30.3**	0.5	mg/kg
Molybdenum, Mo	ND	ND	ND	ND	ND	0.5	mg/kg
Nickel, Ni	**11.8**	**6.8**	**8.9**	**4.6**	**10.4**	0.5	mg/kg
Lead, Pb	**14.1**	**18.2**	**38.6**	**1.2**	**96.7**	0.5	mg/kg
Antimony, Sb	ND	ND	ND	ND	ND	5.0	mg/kg
Selenium, Se	ND	ND	ND	ND	ND	5.0	mg/kg
Thallium, Tl	ND	ND	ND	ND	ND	5.0	mg/kg
Vanadium, V	**22.7**	**20.9**	**23.9**	**15.2**	**26.5**	0.5	mg/kg
Zinc, Zn	**74.0**	**62.6**	**66.2**	**24.6**	**93.3**	0.5	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	I22120701	I22120701	I22120701	I22120701	I22120701		

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB59-0.5**	**LB59-2.5**	**LB56-0.5**	**LB56-2.5**	**LB57-0.5**		
Jones ID:	**ST-21305-07**	**ST-21305-08**	**ST-21305-09**	**ST-21305-10**	**ST-21305-11**	**Reporting Limit**	**Units**
Mercury, Hg	**0.032**	**0.055**	**0.206**	**0.023**	**0.481**	0.020	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	H22120701	H22120701	H22120701	H22120701	H22120701		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Sample ID:	**LB57-2.5**	**LB54-0.5**	**LB54-2.5**	**LB55-0.5**	**LB55-2.5**		
Jones ID:	**ST-21305-12**	**ST-21305-13**	**ST-21305-14**	**ST-21305-15**	**ST-21305-16**	**Reporting Limit**	**Units**
Analytes:							
Silver, Ag	ND	ND	ND	ND	ND	0.5	mg/kg
Arsenic, As	ND	ND	ND	ND	ND	5.0	mg/kg
Barium, Ba	**33.9**	**78.3**	**30.6**	**83.3**	**35.1**	0.5	mg/kg
Beryllium, Be	ND	ND	ND	ND	ND	0.5	mg/kg
Cadmium, Cd	**0.9**	**1.3**	**0.7**	**2.0**	**0.9**	0.5	mg/kg
Cobalt, Co	**3.4**	**5.6**	**2.8**	**6.6**	**3.8**	0.5	mg/kg
Chromium, Cr	**7.8**	**12.6**	**6.9**	**17.1**	**8.3**	0.5	mg/kg
Copper, Cu	**6.8**	**25.3**	**85.9**	**35.8**	**4.7**	0.5	mg/kg
Molybdenum, Mo	ND	ND	ND	ND	ND	0.5	mg/kg
Nickel, Ni	**4.4**	**16.2**	**3.4**	**15.4**	**4.6**	0.5	mg/kg
Lead, Pb	**5.7**	**25.0**	**6.6**	**58.0**	**2.1**	0.5	mg/kg
Antimony, Sb	ND	ND	ND	ND	ND	5.0	mg/kg
Selenium, Se	ND	ND	ND	ND	ND	5.0	mg/kg
Thallium, Tl	ND	ND	ND	ND	ND	5.0	mg/kg
Vanadium, V	**18.6**	**27.5**	**16.1**	**32.2**	**17.8**	0.5	mg/kg
Zinc, Zn	**27.7**	**63.4**	**23.9**	**152**	**20.2**	0.5	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	I22120701	I22120701	I22120701	I22120701	I22120701		

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB57-2.5**	**LB54-0.5**	**LB54-2.5**	**LB55-0.5**	**LB55-2.5**		
Jones ID:	**ST-21305-12**	**ST-21305-13**	**ST-21305-14**	**ST-21305-15**	**ST-21305-16**	**Reporting Limit**	**Units**
Mercury, Hg	**0.090**	**0.472**	**0.032**	**0.101**	**0.070**	0.020	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	H22120701	H22120701	H22120701	H22120701	H22120701		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Sample ID:	**LB53-0.5**	**LB53-2.5**	**LB52-0.5**	**LB52-2.5**	**LB52-5**		
Jones ID:	**ST-21305-18**	**ST-21305-19**	**ST-21305-20**	**ST-21305-21**	**ST-21305-22**	**Reporting Limit**	**Units**
Analytes:							
Silver, Ag	ND	ND	ND	ND	ND	0.5	mg/kg
Arsenic, As	ND	ND	ND	ND	**9.3**	5.0	mg/kg
Barium, Ba	**76.3**	**74.3**	**61.2**	**41.7**	**164**	0.5	mg/kg
Beryllium, Be	ND	ND	ND	ND	ND	0.5	mg/kg
Cadmium, Cd	**1.5**	**1.5**	**1.4**	**0.8**	**3.3**	0.5	mg/kg
Cobalt, Co	**5.5**	**4.7**	**5.0**	**3.6**	**8.8**	0.5	mg/kg
Chromium, Cr	**13.2**	**15.8**	**11.7**	**5.8**	**21.3**	0.5	mg/kg
Copper, Cu	**52.5**	**44.1**	**89.4**	**14.8**	**377**	0.5	mg/kg
Molybdenum, Mo	ND	ND	ND	ND	ND	0.5	mg/kg
Nickel, Ni	**16.3**	**7.9**	**15.1**	**13.8**	**13.0**	0.5	mg/kg
Lead, Pb	**30.9**	**97.6**	**34.0**	**5.6**	**171**	0.5	mg/kg
Antimony, Sb	ND	**12.4**	ND	ND	**9.4**	5.0	mg/kg
Selenium, Se	ND	ND	ND	ND	ND	5.0	mg/kg
Thallium, Tl	ND	ND	ND	ND	ND	5.0	mg/kg
Vanadium, V	**30.7**	**24.4**	**25.4**	**22.0**	**37.2**	0.5	mg/kg
Zinc, Zn	**145**	**81.8**	**106**	**28.8**	**173**	0.5	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	I22120701	I22120701	I22120701	I22120701	I22120701		

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB53-0.5**	**LB53-2.5**	**LB52-0.5**	**LB52-2.5**	**LB52-5**		
Jones ID:	**ST-21305-18**	**ST-21305-19**	**ST-21305-20**	**ST-21305-21**	**ST-21305-22**	**Reporting Limit**	**Units**
Mercury, Hg	**0.096**	**0.330**	**0.126**	**0.040**	**0.138**	0.020	mg/kg
Dilution Factor	1	1	1	1	1		
Batch ID:	H22120701	H22120701	H22120701	H22120701	H22120701		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Sample ID:	**LB51-0.5**	**LB51-2.5**		
Jones ID:	**ST-21305-23**	**ST-21305-24**	**Reporting Limit**	**Units**
Analytes:				
Silver, Ag	ND	ND	0.5	mg/kg
Arsenic, As	**9.2**	ND	5.0	mg/kg
Barium, Ba	**95.9**	**22.5**	0.5	mg/kg
Beryllium, Be	ND	ND	0.5	mg/kg
Cadmium, Cd	**1.9**	**0.8**	0.5	mg/kg
Cobalt, Co	**6.0**	**3.1**	0.5	mg/kg
Chromium, Cr	**21.6**	**7.4**	0.5	mg/kg
Copper, Cu	**148**	**3.0**	0.5	mg/kg
Molybdenum, Mo	**1.0**	ND	0.5	mg/kg
Nickel, Ni	**14.8**	**3.8**	0.5	mg/kg
Lead, Pb	**41.3**	**1.0**	0.5	mg/kg
Antimony, Sb	ND	ND	5.0	mg/kg
Selenium, Se	ND	ND	5.0	mg/kg
Thallium, Tl	ND	ND	5.0	mg/kg
Vanadium, V	**31.0**	**19.4**	0.5	mg/kg
Zinc, Zn	**153**	**17.7**	0.5	mg/kg
Dilution Factor	1	1		
Batch ID:	I22120801	I22220801		

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB51-0.5**	**LB51-2.5**		
Jones ID:	**ST-21305-23**	**ST-21305-24**	**Reporting Limit**	**Units**
Mercury, Hg	**0.141**	**0.041**	0.020	mg/kg
Dilution Factor	1	1		
Batch ID:	H22120801	H22120801		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Batch ID: I22120701 **Prepared:** 12/7/2022 **Analyzed:** 12/7/2022

Analytes:	Result	Reporting Limit	Units
METHOD BLANK:	**I221207-MB1**		
Silver, Ag	ND	0.5	mg/kg
Arsenic, As	ND	5.0	mg/kg
Barium, Ba	ND	0.5	mg/kg
Beryllium, Be	ND	0.5	mg/kg
Cadmium, Cd	ND	0.5	mg/kg
Cobalt, Co	ND	0.5	mg/kg
Chromium, Cr	ND	0.5	mg/kg
Copper, Cu	ND	0.5	mg/kg
Molybdenum, Mo	ND	0.5	mg/kg
Nickel, Ni	ND	0.5	mg/kg
Lead, Pb	ND	0.5	mg/kg
Antimony, Sb	ND	5.0	mg/kg
Selenium, Se	ND	5.0	mg/kg
Thallium, Tl	ND	5.0	mg/kg
Vanadium, V	ND	0.5	mg/kg
Zinc, Zn	ND	0.5	mg/kg

ND= Not Detected

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Batch ID: I22120701 **Prepared:** 12/7/2022 **Analyzed:** 12/7/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Units
LCS:	**I221207-LCS1**					
Barium, Ba	**204**	200	102%		80 - 120	mg/kg
Cobalt, Co	**51.2**	50.0	102%		80 - 120	mg/kg
Lead, Pb	**52.0**	50.0	104%		80 - 120	mg/kg
Selenium, Se	**185**	200	93%		80 - 120	mg/kg
Zinc, Zn	**44.1**	50.0	88%		80 - 120	mg/kg
LCSD:	**I221207-LCSD1**					
Barium, Ba	**206**	200	103%	1.0%	80 - 120	mg/kg
Cobalt, Co	**49.6**	50.0	99%	3.2%	80 - 120	mg/kg
Lead, Pb	**49.7**	50.0	99%	4.5%	80 - 120	mg/kg
Selenium, Se	**175**	200	88%	5.6%	80 - 120	mg/kg
Zinc, Zn	**44.4**	50.0	89%	0.7%	80 - 120	mg/kg
CCV:	**I221207-CCV1**					
Barium, Ba	**1.03**	1.00	103%		90-110	mg/L
Cobalt, Co	**1.04**	1.00	104%		90-110	mg/L
Lead, Pb	**1.06**	1.00	106%		90-110	mg/L
Selenium, Se	**1.04**	1.00	104%		90-110	mg/L
Zinc, Zn	**1.03**	1.00	103%		90-110	mg/L

CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Batch ID: I22120801 **Prepared:** 12/8/2022 **Analyzed:** 12/8/2022

Analytes:	Result	Reporting Limit	Units
METHOD BLANK:	**I221208-MB1**		
Silver, Ag	ND	0.5	mg/kg
Arsenic, As	ND	5.0	mg/kg
Barium, Ba	ND	0.5	mg/kg
Beryllium, Be	ND	0.5	mg/kg
Cadmium, Cd	ND	0.5	mg/kg
Cobalt, Co	ND	0.5	mg/kg
Chromium, Cr	ND	0.5	mg/kg
Copper, Cu	ND	0.5	mg/kg
Molybdenum, Mo	ND	0.5	mg/kg
Nickel, Ni	ND	0.5	mg/kg
Lead, Pb	ND	0.5	mg/kg
Antimony, Sb	ND	5.0	mg/kg
Selenium, Se	ND	5.0	mg/kg
Thallium, Tl	ND	5.0	mg/kg
Vanadium, V	ND	0.5	mg/kg
Zinc, Zn	ND	0.5	mg/kg

ND= Not Detected

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 6010B - CAM 17 Metals by ICP-OES

Batch ID: I22120801 **Prepared:** 12/8/2022 **Analyzed:** 12/8/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Units
LCS:	**I221208-LCS1**					
Barium, Ba	**232**	200	116%		80 - 120	mg/kg
Cobalt, Co	**55.3**	50.0	111%		80 - 120	mg/kg
Lead, Pb	**57.5**	50.0	115%		80 - 120	mg/kg
Selenium, Se	**218**	200	109%		80 - 120	mg/kg
Zinc, Zn	**48.3**	50.0	97%		80 - 120	mg/kg
LCSD:	**I221208-LCSD1**					
Barium, Ba	**223**	200	112%	4.0%	80 - 120	mg/kg
Cobalt, Co	**54.9**	50.0	110%	0.7%	80 - 120	mg/kg
Lead, Pb	**56.8**	50.0	114%	1.2%	80 - 120	mg/kg
Selenium, Se	**218**	200	109%	0.2%	80 - 120	mg/kg
Zinc, Zn	**46.5**	50.0	93%	3.8%	80 - 120	mg/kg
CCV:	**I221208-CCV1**					
Barium, Ba	**1.02**	1.00	102%		90-110	mg/L
Cobalt, Co	**1.05**	1.00	105%		90-110	mg/L
Lead, Pb	**1.07**	1.00	107%		90-110	mg/L
Selenium, Se	**1.06**	1.00	106%		90-110	mg/L
Zinc, Zn	**0.99**	1.00	99%		90-110	mg/L

CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Batch ID: H22120701 **Prepared:** 12/7/2022 **Analyzed:** 12/8/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
METHOD BLANK:	**H221207-MB1**						
Mercury, Hg	ND					0.020	mg/kg
LCS:	**H221207-LCS1**						
Mercury, Hg	**1.00**	1.00	100%		80 - 120		mg/kg
LCSD:	**H221207-LCSD1**						
Mercury, Hg	**0.98**	1.00	98%	**2.0%**	80 - 120		mg/kg
CCV:	**H221207-CCV1**						
Mercury, Hg	**4.96**	5.00	99%		90-110		µg/L

ND= Not Detected
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7-8/2022
		Physical State:	Soil

EPA 7471A - Mercury by Cold Vapor Atomic Absorption

Batch ID: H22120801 **Prepared:** 12/8/2022 **Analyzed:** 12/8/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
METHOD BLANK:	**H221208-MB1**						
Mercury, Hg	ND					0.020	mg/kg
LCS:	**H221208-LCS1**						
Mercury, Hg	**1.05**	1.00	105%		80 - 120		mg/kg
LCSD:	**H221208-LCSD1**						
Mercury, Hg	**1.04**	1.00	104%	**1.0%**	80 - 120		mg/kg
CCV:	**H221208-CCV1**						
Mercury, Hg	**5.23**	5.00	105%		90-110		µg/L

ND= Not Detected
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7/2022
		Physical State:	Water

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**LB50-GW**	**LB55-GW**	**LB51-GW**		
Jones ID:	**ST-21305-04**	**ST-21305-17**	**ST-21305-25**	**Reporting Limit**	**Units**
Carbon Chain Range					
C13 - C22	ND	ND	ND	1.0	mg/L
C23 - C40	ND	ND	ND	1.0	mg/L
Dilution Factor	1	1	1		
Surrogate Recovery:				**QC Limits**	
Hexacosane	134%	138%	97%	50 - 140	
Batch:	FID7_120722_01	FID7_120722_01	FID7_120722_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7/2022
		Physical State:	Water

EPA 8015M - Total Petroleum Hydrocarbons

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**MB1-120722FID7**	**Reporting Limit**	**Units**
Carbon Chain Range			
C13 - C22	ND	1.0	mg/L
C23 - C40	ND	1.0	mg/L
Dilution Factor	1		
Surrogate Recovery:		**QC Limits**	
Hexacosane	92%	50 - 140	
Batch:	FID7_120722_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7/2022
		Physical State:	Water

BATCH: **FID7_ 120722_01** **Prepared:** 12/7/2022 **Analyzed:** 12/7/2022

EPA 8015M - Total Petroleum Hydrocarbons

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
LCS:	LCS1-120722FID7	**SAMPLE SPIKED:**	CLEAN WATER			
Analyte:						
Diesel	**393**	500	79%		60 - 140	mg/L
Surrogate Recovery:						
Hexacosane			135%		50 - 140	
LCSD:	LCSD1-120722FID7	**SAMPLE SPIKED:**	CLEAN WATER			
Analyte:						
Diesel	**407**	500	81%	3.5%	60 - 140	mg/L
Surrogate Recoveries:						
Hexacosane			133%		50 - 140	
CCV:	CCV1-120722FID7					
Analyte:						
Diesel	**1200**	1000	120%		80 - 120	mg/L
Surrogate Recoveries:						
Hexacosane			123%		50 - 140	

LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Winthrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Water

EPA 8260B by 5030 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB50-GW**	**LB55-GW**	**LB51-GW**		
Jones ID:	**ST-21305-04**	**ST-21305-17**	**ST-21305-25**	**Reporting Limit**	**Units**
Analytes:					
Benzene	ND	ND	ND	0.5	µg/L
Bromobenzene	ND	ND	ND	0.5	µg/L
Bromodichloromethane	ND	ND	ND	0.5	µg/L
Bromoform	ND	ND	ND	0.5	µg/L
n-Butylbenzene	ND	ND	ND	0.5	µg/L
sec-Butylbenzene	ND	ND	ND	0.5	µg/L
tert-Butylbenzene	ND	ND	ND	0.5	µg/L
Carbon tetrachloride	ND	ND	ND	0.5	µg/L
Chlorobenzene	ND	ND	ND	0.5	µg/L
Chloroform	ND	ND	ND	0.5	µg/L
2-Chlorotoluene	ND	ND	ND	0.5	µg/L
4-Chlorotoluene	ND	ND	ND	0.5	µg/L
Dibromochloromethane	ND	ND	ND	0.5	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	0.5	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	0.5	µg/L
Dibromomethane	ND	ND	ND	0.5	µg/L
1,2- Dichlorobenzene	ND	ND	ND	0.5	µg/L
1,3-Dichlorobenzene	ND	ND	ND	0.5	µg/L
1,4-Dichlorobenzene	ND	ND	ND	0.5	µg/L
1,1-Dichloroethane	ND	ND	ND	0.5	µg/L
1,2-Dichloroethane	ND	ND	ND	0.5	µg/L
1,1-Dichloroethene	ND	ND	ND	0.5	µg/L
cis-1,2-Dichloroethene	**3.3**	ND	ND	0.5	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	0.5	µg/L
1,2-Dichloropropane	ND	ND	ND	0.5	µg/L
1,3-Dichloropropane	ND	ND	ND	0.5	µg/L
2,2-Dichloropropane	ND	ND	ND	0.5	µg/L
1,1-Dichloropropene	ND	ND	ND	0.5	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	0.5	µg/L

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5030 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	LB50-GW	LB55-GW	LB51-GW		
Jones ID:	**ST-21305-04**	**ST-21305-17**	**ST-21305-25**	**Reporting Limit**	**Units**
Analytes:					
trans-1,3-Dichloropropene	ND	ND	ND	0.5	µg/L
Ethylbenzene	ND	ND	ND	0.5	µg/L
Freon 11	ND	ND	ND	2.5	µg/L
Freon 12	ND	ND	ND	2.5	µg/L
Freon 113	ND	ND	ND	2.5	µg/L
Hexachlorobutadiene	ND	ND	ND	0.5	µg/L
Isopropylbenzene	ND	ND	ND	0.5	µg/L
4-Isopropyltoluene	ND	ND	ND	0.5	µg/L
Methylene chloride	ND	ND	ND	0.5	µg/L
Naphthalene	ND	ND	ND	2.5	µg/L
n-Propylbenzene	ND	ND	ND	0.5	µg/L
Styrene	ND	ND	ND	0.5	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	0.5	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.5	µg/L
Tetrachloroethene	**0.7**	ND	ND	0.5	µg/L
Toluene	ND	ND	ND	0.5	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	1.5	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	1.5	µg/L
1,1,1-Trichloroethane	ND	ND	ND	0.5	µg/L
1,1,2-Trichloroethane	ND	ND	ND	0.5	µg/L
Trichloroethene	**2.9**	ND	ND	0.5	µg/L
1,2,3-Trichloropropane	ND	ND	ND	0.5	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	0.5	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	0.5	µg/L
Vinyl chloride	ND	ND	ND	0.5	µg/L
m,p-Xylene	ND	ND	ND	1.0	µg/L
o-Xylene	ND	ND	ND	0.5	µg/L
Methyl-tert-butylether	**5.0**	ND	**6.7**	2.5	µg/L
Ethyl-tert-butylether	ND	ND	ND	2.5	µg/L
Di-isopropylether	ND	ND	ND	2.5	µg/L
tert-amylmethylether	ND	ND	ND	2.5	µg/L
tert-Butylalcohol	ND	ND	ND	25.0	µg/L
Gasoline Range Organics (C4-C12)	ND	ND	ND	0.10	mg/L
Dilution Factor	1	1	1		
Surrogate Recoveries:				**QC Limits**	
Dibromofluoromethane	96%	96%	92%	60 - 140	
Toluene-d$_8$	92%	91%	93%	60 - 140	
4-Bromofluorobenzene	97%	92%	91%	60 - 140	
Batch:	VOC5-120922-01	VOC5-120922-01	VOC5-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Winthrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Water

EPA 8260B by 5030 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**120922-V5MB1**	**Reporting Limit**	**Units**
Analytes:			
Benzene	ND	0.5	µg/L
Bromobenzene	ND	0.5	µg/L
Bromodichloromethane	ND	0.5	µg/L
Bromoform	ND	0.5	µg/L
n-Butylbenzene	ND	0.5	µg/L
sec-Butylbenzene	ND	0.5	µg/L
tert-Butylbenzene	ND	0.5	µg/L
Carbon tetrachloride	ND	0.5	µg/L
Chlorobenzene	ND	0.5	µg/L
Chloroform	ND	0.5	µg/L
2-Chlorotoluene	ND	0.5	µg/L
4-Chlorotoluene	ND	0.5	µg/L
Dibromochloromethane	ND	0.5	µg/L
1,2-Dibromo-3-chloropropane	ND	0.5	µg/L
1,2-Dibromoethane (EDB)	ND	0.5	µg/L
Dibromomethane	ND	0.5	µg/L
1,2- Dichlorobenzene	ND	0.5	µg/L
1,3-Dichlorobenzene	ND	0.5	µg/L
1,4-Dichlorobenzene	ND	0.5	µg/L
1,1-Dichloroethane	ND	0.5	µg/L
1,2-Dichloroethane	ND	0.5	µg/L
1,1-Dichloroethene	ND	0.5	µg/L
cis-1,2-Dichloroethene	ND	0.5	µg/L
trans-1,2-Dichloroethene	ND	0.5	µg/L
1,2-Dichloropropane	ND	0.5	µg/L
1,3-Dichloropropane	ND	0.5	µg/L
2,2-Dichloropropane	ND	0.5	µg/L
1,1-Dichloropropene	ND	0.5	µg/L
cis-1,3-Dichloropropene	ND	0.5	µg/L

EPA 8260B by 5030 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	METHOD BLANK #1		
Jones ID:	120922-V5MB1	**Reporting Limit**	**Units**
Analytes:			
trans-1,3-Dichloropropene	ND	0.5	µg/L
Ethylbenzene	ND	0.5	µg/L
Freon 11	ND	2.5	µg/L
Freon 12	ND	2.5	µg/L
Freon 113	ND	2.5	µg/L
Hexachlorobutadiene	ND	0.5	µg/L
Isopropylbenzene	ND	0.5	µg/L
4-Isopropyltoluene	ND	0.5	µg/L
Methylene chloride	ND	0.5	µg/L
Naphthalene	ND	2.5	µg/L
n-Propylbenzene	ND	0.5	µg/L
Styrene	ND	0.5	µg/L
1,1,1,2-Tetrachloroethane	ND	0.5	µg/L
1,1,2,2-Tetrachloroethane	ND	0.5	µg/L
Tetrachloroethene	ND	0.5	µg/L
Toluene	ND	0.5	µg/L
1,2,3-Trichlorobenzene	ND	1.5	µg/L
1,2,4-Trichlorobenzene	ND	1.5	µg/L
1,1,1-Trichloroethane	ND	0.5	µg/L
1,1,2-Trichloroethane	ND	0.5	µg/L
Trichloroethene	ND	0.5	µg/L
1,2,3-Trichloropropane	ND	0.5	µg/L
1,2,4-Trimethylbenzene	ND	0.5	µg/L
1,3,5-Trimethylbenzene	ND	0.5	µg/L
Vinyl chloride	ND	0.5	µg/L
m,p-Xylene	ND	1.0	µg/L
o-Xylene	ND	0.5	µg/L
Methyl-tert-butylether	ND	2.5	µg/L
Ethyl-tert-butylether	ND	2.5	µg/L
Di-isopropylether	ND	2.5	µg/L
tert-amylmethylether	ND	2.5	µg/L
tert-Butylalcohol	ND	25.0	µg/L
Gasoline Range Organics (C4-C12)	ND	0.10	mg/L
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	98%	60 - 140	
Toluene-d8	91%	60 - 140	
4-Bromofluorobenzene	96%	60 - 140	
Batch:	VOC5-120922-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Winthrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/9/2022
		Physical State:	Water

EPA 8260B by 5030 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

GC#:	**VOC5-120922-01**					
Jones ID:	120922-V5LCS1	120922-V5LCSD1			120922-V5CCV1	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	67%	72%	8.0%	60 - 140	91%	80 - 120
1,1-Dichloroethene	89%	93%	4.8%	60 - 140	86%	80 - 120
Cis-1,2-Dichloroethene	79%	90%	12.4%	70 - 130	98%	80 - 120
1,1,1-Trichloroethane	95%	97%	1.7%	70 - 130	101%	80 - 120
Benzene	100%	101%	1.5%	70 - 130	106%	80 - 120
Trichloroethene	102%	107%	5.4%	70 - 130	108%	80 - 120
Toluene	89%	92%	4.0%	70 - 130	91%	80 - 120
Tetrachloroethene	83%	86%	4.0%	70 - 130	85%	80 - 120
Chlorobenzene	103%	106%	3.5%	70 - 130	113%	80 - 120
Ethylbenzene	88%	93%	5.2%	70 - 130	96%	80 - 120
1,2,4 Trimethylbenzene	89%	98%	10.2%	70 - 130	96%	80 - 120
Gasoline Range Organics (C4-C12)	91%	96%	5.2%	70 - 130		
Surrogate Recovery:						
Dibromofluoromethane	92%	94%		60 - 140	97%	60 - 140
Toluene-d8	82%	86%		60 - 140	90%	60 - 140
4-Bromofluorobenzene	88%	92%		60 - 140	101%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7&9/2022
		Physical State:	Water

EPA 6010B - CAM 17 Trace Metals by ICP-OES

Sample ID:	**LB50-GW**	**LB55-GW**	**LB51-GW**		
Jones ID:	**ST-21305-04**	**ST-21305-17**	**ST-21305-25**	**Reporting Limit**	**Units**
Analytes:					
Silver, Ag	ND	ND	ND	10	µg/L
Arsenic, As	ND	ND	ND	100	µg/L
Barium, Ba	**50**	**82**	**52**	10	µg/L
Beryllium, Be	ND	ND	ND	10	µg/L
Cadmium, Cd	ND	ND	ND	10	µg/L
Cobalt, Co	ND	ND	ND	10	µg/L
Chromium, Cr	ND	ND	ND	10	µg/L
Copper, Cu	ND	ND	ND	10	µg/L
Molybdenum, Mo	**22**	**18**	**31**	10	µg/L
Nickel, Ni	ND	ND	ND	10	µg/L
Lead, Pb	ND	ND	ND	10	µg/L
Antimony, Sb	ND	ND	ND	100	µg/L
Selenium, Se	ND	ND	ND	100	µg/L
Thallium, Tl	ND	ND	ND	100	µg/L
Vanadium, V	ND	**12**	ND	10	µg/L
Zinc, Zn	**32**	**24**	**20**	10	µg/L
Dilution Factor	1	1	1		
Batch:	I22120701	I22120701	I22120701		

EPA 7470A - Mercury by Cold Vapor Atomic Absorption

Sample ID:	**LB50-GW**	**LB55-GW**	**LB51-GW**		
Jones ID:	**ST-21305-04**	**ST-21305-17**	**ST-21305-25**	**Reporting Limit**	**Units**
Mercury, Hg	ND	ND	ND	0.10	µg/L
Dilution Factor	1	1	1		
Batch:	H22120901	H22120901	H22120901		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7&9/2022
		Physical State:	Water

EPA 6010B - CAM 17 Trace Metals by ICP-OES

BATCH: **I22120701** **Prepared:** 12/7/2022 **Analyzed:** 12/7/2022

Analytes:	Result	Spike Level	% REC	% REC Limits	% RPD	Reporting Limit	Units
METHOD BLANK:	**I221207-MB1**						
Silver, Ag	ND					10	µg/L
Arsenic, As	ND					100	µg/L
Barium, Ba	ND					10	µg/L
Beryllium, Be	ND					10	µg/L
Cadmium, Cd	ND					10	µg/L
Cobalt, Co	ND					10	µg/L
Chromium, Cr	ND					10	µg/L
Copper, Cu	ND					10	µg/L
Molybdenum, Mo	ND					10	µg/L
Nickel, Ni	ND					10	µg/L
Lead, Pb	ND					10	µg/L
Antimony, Sb	ND					100	µg/L
Selenium, Se	ND					100	µg/L
Thallium, Tl	ND					100	µg/L
Vanadium, V	ND					10	µg/L
Zinc, Zn	ND					10	µg/L

ND= Not Detected

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7&9/2022
		Physical State:	Water

EPA 6010B - CAM 17 Trace Metals by ICP-OES

BATCH: I22120701 **Prepared:** 12/7/2022 **Analyzed:** 12/7/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Units
LCS:	**I221207-LCS1**					
Barium, Ba	**4200**	4000	105%		80 - 120	µg/L
Cobalt, Co	**1020**	1000	102%		80 - 120	µg/L
Lead, Pb	**1030**	1000	103%		80 - 120	µg/L
Selenium, Se	**3640**	4000	91%		80 - 120	µg/L
Zinc, Zn	**899**	1000	90%		80 - 120	µg/L
LCSD:	**I221207-LCSD1**					
Barium, Ba	**4090**	4000	102%	2.7%	80 - 120	µg/L
Cobalt, Co	**1000**	1000	100%	2.0%	80 - 120	µg/L
Lead, Pb	**1010**	1000	101%	2.0%	80 - 120	µg/L
Selenium, Se	**3530**	4000	88%	3.1%	80 - 120	µg/L
Zinc, Zn	**879**	1000	88%	2.2%	80 - 120	µg/L
CCV:	**I221207-CCV1**					
Barium, Ba	**1040**	1000	104%		90-110	µg/L
Cobalt, Co	**1050**	1000	105%		90-110	µg/L
Lead, Pb	**1060**	1000	106%		90-110	µg/L
Selenium, Se	**1040**	1000	104%		90-110	µg/L
Zinc, Zn	**1030**	1000	103%		90-110	µg/L

CCV = Continuing Calibration Verification
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
ND= Not Detected
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/14/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/7&9/2022
		Physical State:	Water

EPA 7470A - Mercury by Cold Vapor Atomic Absorption

BATCH: **H22120901** **Prepared:** 12/8/2022 **Analyzed:** 12/9/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
METHOD BLANK:	**H221209-MB1**						
Mercury, Hg	ND					0.10	µg/L
LCS:	**H221209-LCS1**						
Mercury, Hg	**4.47**[1]	3.65	122%[1]		80 - 120		µg/L
LCSD:	**H221209-LCSD1**						
Mercury, Hg	**4.52**[1]	3.65	124%[1]	**1.2%**	80 - 120		µg/L
CCV:	**H221209-CCV1**						
Mercury, Hg	**3.92**	3.65	107%		90-110		µg/L

ND= Not Detected
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
1 = LCS/LCSD recoveries exceeded range but were accepted since samples were ND.

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Chain-of-Custody Record

Turn Around Requested:
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☒ Normal - No Surcharge

LAB USE ONLY

Jones Project # ST-21305

Page 1 of 3

Client: Leighton Consulting
Project Name: B191-194
Project Address:
Email: mwithrow@leightongroup.com
Phone: 949-394-2194
Report To: Mark Withrow
Sampler: TCD
Date: 12/6/22
Client Project #: 12736.024

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	TCLP	Analysis Requested: Title 22 Metals 6010B/7000	TPH-g, d-o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	Number of Containers	Notes & Special Instructions
LB50 - 0.5	12/6/22	0725	ST-21305-01	Ice	glass	S		X	X			1	
LB50 - 2.5		0735	ST-21305-02		glass	S		X	X	X		4	
LB50 - 5		750	ST-21305-03		glass	S		X	X	X		4	
LB50 - GW		0805	ST-21305-04		glass/poly	A		X	X	X	X	8	
LB58 - 0.5		0832	ST-21305-05		glass	S		X	X	~~X~~	TCP	1	
LB58 - 2.5		0835	ST-21305-06		glass	S		X	X	X		4	
LB59 - 0.5		0852	ST-21305-07		glass	S		X	X	~~X~~	TCP	1	
LB59 - 2.5		0854	ST-21305-08		glass	S		X	X	X		4	
LB56 - 0.5		0918	ST-21305-09		glass	S		X	X	~~X~~	TCP	1	
~~LB56 - 2.5~~ LB57 - 2.5 TCD		0924	ST-21305-10		glass	S		X	X	X		4	

Total Number of Containers

Relinquished By (Signature): [signature] Printed Name: Theresa Duncan Company: LCI Date: 12/6/22 Time: 1423

Received By (Signature): [signature] Printed Name: Annalyse Tooz Company: JEL Date: 12-6-22 Time: 1424

Relinquished By (Signature): Printed Name: Company: Date: Time:

Received By Laboratory (Signature): Printed Name: Company: Date: Time:

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

Chain-of-Custody Record

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Turn Around Requested:
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☒ Normal - No Surcharge

LAB USE ONLY
Jones Project # ST-21305
Page 2 of 3

Client: Leighton Consulting	Date: 12/6/22
Project Name: B191-194	Client Project #: 12736.024
Project Address:	
Email: mwithrow@leightongroup.com	
Phone: 949-394-2194	
Report To: Mark Withrow	Sampler: TCO

Sample Container / Preservative Abbreviations
AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	Analysis Requested: Title 22 Metals 6010B/7000	TPH-g, d,o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	Number of Containers	Notes & Special Instructions
LB57-0.5	12/6/22	0944	ST-21305-11	Ice	glass	S	X	X	~~X~~ TCP		1	
LB57-2.5		0946	ST-21305-12		glass	S	X	X	X		4	
LB54-0.5		1006	ST-21305-13		glass	S	X	X	~~X~~ TCP		1	
LB54-2.5		1016	ST-21305-14		poly	S	X	X	X		4	
LB55-0.5		1028	ST-21305-15		glass	S	X	X	~~X~~ TCP		1	
LB55-2.5		1032	ST-21305-16		glass	S	X	X	X		4	
LB55-GW		1045	ST-21305-17		glass & poly	A	X	X	X	X	8	
LB53-0.5		1110	ST-21305-18		glass	S	X	X	~~X~~ TCP		1	
LB53-2.5		1115	ST-21305-19		poly	S	X	X	X		4	
LB52-0.5		1138	ST-21305-20		glass poly TCP	S	X	X	~~X~~ TCP		1	

Total Number of Containers

Relinquished By (Signature)	Printed Name: Theresa Duncan	Received By (Signature)	Printed Name: Annalise Otock
Company: LCE	Date: 12/6/22 Time: 1423	Company: JEL	Date: 12-6-22 Time: 1424
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
Company	Date: Time	Company	Date Time

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

Chain-of-Custody Record

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Turn Around Requested:
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- □ Rush 24 Hours - 100%
- □ Rush 48 Hours - 50%
- □ Rush 72 Hours - 25%
- □ Rush 96 Hours - 10%
- □ Normal - No Surcharge

LAB USE ONLY
Jones Project # ST-21305
Page 3 of 3

Client: Leighton Consulting
Date: 12/6/22
Project Name: B191 - 194
Client Project #: 12736.024
Project Address:
Email: mwithrow@leightongroup.com
Phone: (949) 394-2194
Report To: Mark Withrow
Sampler: TCD

Sample Container / Preservative Abbreviations
AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge____
*Global ID _____

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	Analysis Requested: Title 22 metals 6010B/7000	TPH - g,d,o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	Number of Containers	Notes & Special Instructions
LB52 - 2.5	12/6/22	1140	ST-21305-21	Ice	poly	S	x	x	x		4	
LB52 - 5		1142 1144 DUP	ST-21305-22		poly	S	x	x	x		4	
LB51 - 0.5		1152	ST-21305-23		poly	S	x	x	x	TCD	1	
LB51 - 2.5		1154	ST-21305-24		poly	S	x	x	x		4	
LB51 - GW		1206	ST-21305-25		glass + poly	A	x	x	x	x	8	

Total Number of Containers

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name
	Theresa Duncan		Annalize Ortega
Company: LCI	Date: 12/6/22 Time: 1423	Company: JEL	Date: 12-6-22 Time: 1424
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
Company	Date: Time	Company	Date Time

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

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SAMPLE RECEIPT FORM

Jones ID: ST-21305

CLIENT: Leighton Consulting
DATE/TIME (LAB RECEIVED): 12/6/22 - 1424
PROJECT: B191-194
RECEIVED BY: ANO
Delivered by: ☑ Client ☐ Jones Courier ☐ UPS / FedEx / USPS ☐ Other

TEMPERATURE: Thermometer ID: T-2 (Corrected Temp.) Calibration Due: 07/~~12~~/2023

Temperature Cooler #1 0.0 °C ± the CF(+0.5°C) 0.9 °C Blank Sample
Temperature Cooler #2 0.0 °C ± the CF(+0.5°C) 0.5 °C Blank Sample

Temperature Criteria: 0 ≤ 6°C (NO frozen containers) Criteria Met? ☑ Yes ☐ No

If criteria is not met:

Sample Received on ice? ☐ Yes ☐ No
Sample received Chilled on same day of sampling? ☐ Yes ☐ No

Checked By: ANO

Temperature Non-Conformance (NC): **NC No.** _____

☐ Sample not received on ice
☐ sample not received chilled
☐ Sample received chilled, but not on the same day of sampling

SAMPLE CONDITION:	YES	NO*	N/A
Chain of Custody (COC) received filled out completely	☑	☐*	☐
Total number of containers received match COC	☑	☐*	☐
Sample container label(s) consistent with COC	☑	☐*	☐
Sample container(s) intact and in good condition	☑	☐*	☐
Proper containers and sufficient volume for analyses requested on COC	☑	☐*	☐
Proper preservative indicated on COC/container for analyses requested	☑	☐*	☐
Volatile analysis container(s) free of headspace (EPA 8260 water)	☑	☐*	☐
Custody Seals Intact on Cooler/Sample	☐	☐*	☑

CONTAINER TYPE:

Solid:
5035 Kits: 12
Glass Jar: 15
Sleeve: 7
Other: _____

Aqueous:
Amber Bottle: 6
VOAs: _____
Poly Bottle: 3
5030 Kits: 6
Other: _____

Air / Soil Gas:
Tedlar Bag: _____
6 hr
72 hr
5 Day
Summa:
(1L) _____ (6L) _____

Complete Non-Conformance if checked

Checked by: VP

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/28/2022
		Physical State:	Soil

ANALYSES REQUESTED

Soil:

1. EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics
2. EPA 8082 – Polychlorinated Biphenyls (PCBs) by GC/ECD
3. STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES
4. TCLP by EPA 6010B by ICP-OES

Approval: Juan Camacho

Juan Camacho, M.S.
Stationary Lab Technical Manager

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/28/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB58-0.5**	**LB59-0.5**	**LB56-0.5**	**LB57-0.5**	**LB54-0.5**		
Jones ID:	**ST-21305-05**	**ST-21305-07**	**ST-21305-09**	**ST-21305-11**	**ST-21305-13**	**Reporting Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane (EDC)	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB58-0.5**	**LB59-0.5**	**LB56-0.5**	**LB57-0.5**	**LB54-0.5**		
Jones ID:	**ST-21305-05**	**ST-21305-07**	**ST-21305-09**	**ST-21305-11**	**ST-21305-13**	**Reporting Limit**	**Units**
Analytes:							
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	**40.5**	**10.9**	ND	ND	**6.0**	1.0	µg/kg
Freon 11	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 12	ND	ND	ND	ND	ND	5.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	**5.5**	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	**8.8**	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	**339**	5.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	**6.7**	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	**1.1**	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	ND	**1.0**	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	**69.7**	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	**22.9**	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
m,p-Xylene	**289**	**81.3**	ND	ND	**5.2**	2.0	µg/kg
o-Xylene	**59.6**	**17.5**	ND	ND	**4.4**	1.0	µg/kg
Methyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	**0.35**	ND	ND	ND	**3.11**	0.20	mg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	92%	91%	91%	93%	92%	60 - 140	
Toluene-d_8	108%	102%	101%	101%	100%	60 - 140	
4-Bromofluorobenzene	88%	89%	90%	93%	111%	60 - 140	
Batch:	VOC7-122822-01	VOC7-122822-01	VOC7-122822-01	VOC7-122822-01	VOC7-122822-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/28/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB55-0.5**	**LB53-0.5**	**LB52-0.5**	**LB51-0.5**		
Jones ID:	**ST-21305-15**	**ST-21305-18**	**ST-21305-20**	**ST-21305-23**	**Reporting Limit**	**Units**
Analytes:						
Benzene	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane (EDC)	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	1.0	µg/kg

JONES ENVIRONMENTAL LABORATORY RESULTS

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**LB55-0.5**	**LB53-0.5**	**LB52-0.5**	**LB51-0.5**		
Jones ID:	**ST-21305-15**	**ST-21305-18**	**ST-21305-20**	**ST-21305-23**	**Reporting Limit**	**Units**
Analytes:						
trans-1,3-Dichloropropene	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	1.0	µg/kg
Freon 11	ND	ND	ND	ND	5.0	µg/kg
Freon 12	ND	ND	ND	ND	5.0	µg/kg
Freon 113	ND	ND	ND	ND	5.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	**28.4**	**32.8**	ND	ND	5.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethene	**10.9**	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	1.0	µg/kg
Trichloroethene	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	**10.2**	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	**6.8**	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	1.0	µg/kg
m,p-Xylene	ND	ND	ND	ND	2.0	µg/kg
o-Xylene	ND	ND	ND	ND	1.0	µg/kg
Methyl-tert-butylether	ND	ND	ND	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	5.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	5.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	5.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	**0.52**	ND	ND	0.20	mg/kg
Dilution Factor	1	1	1	1		
Surrogate Recoveries:					**QC Limits**	
Dibromofluoromethane	82%	92%	90%	91%	60 - 140	
Toluene-d_8	108%	110%	115%	115%	60 - 140	
4-Bromofluorobenzene	100%	89%	83%	74%	60 - 140	
Batch:	VOC7-122822-01	VOC7-122822-01	VOC7-122822-01	VOC7-122822-01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/28/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**122822-V7MB1**	**Reporting Limit**	**Units**
Analytes:			
Benzene	ND	1.0	µg/kg
Bromobenzene	ND	1.0	µg/kg
Bromodichloromethane	ND	1.0	µg/kg
Bromoform	ND	1.0	µg/kg
n-Butylbenzene	ND	1.0	µg/kg
sec-Butylbenzene	ND	1.0	µg/kg
tert-Butylbenzene	ND	1.0	µg/kg
Carbon tetrachloride	ND	1.0	µg/kg
Chlorobenzene	ND	1.0	µg/kg
Chloroform	ND	1.0	µg/kg
2-Chlorotoluene	ND	1.0	µg/kg
4-Chlorotoluene	ND	1.0	µg/kg
Dibromochloromethane	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	1.0	µg/kg
Dibromomethane	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	1.0	µg/kg
1,1-Dichloroethane	ND	1.0	µg/kg
1,2-Dichloroethane	ND	1.0	µg/kg
1,1-Dichloroethene	ND	1.0	µg/kg
cis-1,2-Dichloroethene	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	1.0	µg/kg
1,2-Dichloropropane	ND	1.0	µg/kg
1,3-Dichloropropane	ND	1.0	µg/kg
2,2-Dichloropropane	ND	1.0	µg/kg
1,1-Dichloropropene	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	1.0	µg/kg

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**122822-V7MB1**	**Reporting Limit**	**Units**
Analytes:			
trans-1,3-Dichloropropene	ND	1.0	µg/kg
Ethylbenzene	ND	1.0	µg/kg
Freon 11	ND	5.0	µg/kg
Freon 12	ND	5.0	µg/kg
Freon 113	ND	5.0	µg/kg
Hexachlorobutadiene	ND	1.0	µg/kg
Isopropylbenzene	ND	1.0	µg/kg
4-Isopropyltoluene	ND	1.0	µg/kg
Methylene chloride	ND	1.0	µg/kg
Naphthalene	ND	5.0	µg/kg
n-Propylbenzene	ND	1.0	µg/kg
Styrene	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	1.0	µg/kg
Tetrachloroethene	ND	1.0	µg/kg
Toluene	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	3.0	µg/kg
1,2,4-Trichlorobenzene	ND	3.0	µg/kg
1,1,1-Trichloroethane	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	1.0	µg/kg
Trichloroethene	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	1.0	µg/kg
Vinyl chloride	ND	1.0	µg/kg
m,p-Xylene	ND	2.0	µg/kg
o-Xylene	ND	1.0	µg/kg
Methyl-tert-butylether	ND	5.0	µg/kg
Ethyl-tert-butylether	ND	5.0	µg/kg
Di-isopropylether	ND	5.0	µg/kg
tert-amylmethylether	ND	5.0	µg/kg
tert-Butylalcohol	ND	50.0	µg/kg
Gasoline Range Organics (C4-C12)	ND	0.20	mg/kg
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	90%	60 - 140	
Toluene-d$_8$	101%	60 - 140	
4-Bromofluorobenzene	95%	60 - 140	
Batch:	VOC7-122822-01		

ND = Value less than reporting limit

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Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/28/2022
		Physical State:	Soil

EPA 8260B by 5035 – Volatile Organics by GC/MS + Oxygenates/Gasoline Range Organics

GC#:	**VOC7-122822-01**					
Jones ID:	122822-V7LCS1	122822-V7LCSD1			122822-V7CCV1	
Parameter	LCS Recovery (%)	LCSD Recovery (%)	RPD	Acceptability Range (%)	CCV	Acceptability Range (%)
Vinyl chloride	68%	67%	1.3%	60 - 140	97%	80 - 120
1,1-Dichloroethene	103%	92%	10.5%	60 - 140	97%	80 - 120
Cis-1,2-Dichloroethene	84%	78%	6.7%	70 - 130	83%	80 - 120
1,1,1-Trichloroethane	88%	82%	7.3%	70 - 130	96%	80 - 120
Benzene	106%	97%	9.0%	70 - 130	116%	80 - 120
Trichloroethene	101%	94%	7.1%	70 - 130	103%	80 - 120
Toluene	98%	87%	11.4%	70 - 130	114%	80 - 120
Tetrachloroethene	95%	89%	6.5%	70 - 130	102%	80 - 120
Chlorobenzene	103%	97%	6.1%	70 - 130	113%	80 - 120
Ethylbenzene	91%	84%	7.7%	70 - 130	113%	80 - 120
1,2,4 Trimethylbenzene	88%	79%	10.2%	70 - 130	116%	80 - 120
Gasoline Range Organics (C4-C12)	96%	87%	9.6%	70 - 130	115%	
Surrogate Recovery:						
Dibromofluoromethane	87%	88%		60 - 140	93%	60 - 140
Toluene-d_8	101%	100%		60 - 140	114%	60 - 140
4-Bromofluorobenzene	106%	107%		60 - 140	127%	60 - 140

LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/20/2022
		Physical State:	Soil

EPA 8082 – Polychlorinated Biphenyls (PCBs) by GC/ECD

Sample ID:	**LB50-0.5**	**LB50-5**	**LB58-0.5**	**LB59-0.5**	**LB56-0.5**		
Jones ID:	**ST-21305-01**	**ST-21305-03**	**ST-21305-05**	**ST-21305-07**	**ST-21305-09**	**Reporting Limit**	**Units**
Analytes:							
Aroclor 1016	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1221	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1232	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1242	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1248	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1254	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1260	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1262	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1268	ND	ND	ND	ND	ND	50	µg/kg
Dilution Factor:	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
TCMX	73%	75%	55%	64%	56%	30 - 120	
Decachlorobiphenyl	75%	86%	51%	45%	70%	30 - 120	
Batch:	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:**	ST-21305
		Client Ref. No.:	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/20/2022
Project Address:		**Physical State:**	Soil

EPA 8082 – Polychlorinated Biphenyls (PCBs) by GC/ECD

Sample ID:	**LB54-0.5**	**LB55-0.5**	**LB53-0.5**	**LB52-0.5**	**LB52-2.5**		
Jones ID:	**ST-21305-13**	**ST-21305-15**	**ST-21305-18**	**ST-21305-20**	**ST-21305-21**	**Reporting Limit**	**Units**
Analytes:							
Aroclor 1016	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1221	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1232	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1242	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1248	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1254	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1260	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1262	ND	ND	ND	ND	ND	50	µg/kg
Aroclor 1268	ND	ND	ND	ND	ND	50	µg/kg
Dilution Factor:	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
TCMX	■	65%	37%	51%	57%	30 - 120	
Decachlorobiphenyl	■	70%	75%	■	■	30 - 120	
Batch:	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01	ECD4_122022_01		

ND = Value less than reporting limit

■ = Sample matrix prevented adequate surrogate recovery

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JONES ENVIRONMENTAL LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:** **Date Received:**	12/6/2022 12/6/2022
Project:	B191-194	**Date Analyzed:**	12/20/2022
Project Address:		**Physical State:**	Soil

EPA 8082 – Polychlorinated Biphenyls (PCBs) by GC/ECD

Sample ID:	**METHOD BLANK #1**		
Jones ID:	**MB1-122022ECD4**	**Reporting Limit**	**Units**
Analytes:			
Aroclor 1016	ND	50	µg/kg
Aroclor 1221	ND	50	µg/kg
Aroclor 1232	ND	50	µg/kg
Aroclor 1242	ND	50	µg/kg
Aroclor 1248	ND	50	µg/kg
Aroclor 1254	ND	50	µg/kg
Aroclor 1260	ND	50	µg/kg
Aroclor 1262	ND	50	µg/kg
Aroclor 1268	ND	50	µg/kg
Dilution Factor:	1		
Surrogate Recoveries:		**QC Limits**	
TCMX	119%	30 - 120	
Decachlorobiphenyl	114%	30 - 120	
Batch:	ECD4_122022_01		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/20/2022
		Physical State:	Soil

BATCH: ECD4_ 122022_01 **Prepared:** 12/19/2022 **Analyzed:** 12/20/2022

EPA 8082 – Polychlorinated Biphenyls (PCBs) by GC/ECD

	Result	Spike Level	% Recovery	% RPD	% Recovery Limits	Units
LCS:	**LCS1-122022ECD4**		**SAMPLE SPIKED:**	**CLEAN SOIL**		
Analytes:						
Aroclor 1016	**490**	500	98%		50 - 120	ppb
Aroclor 1260	**515**	500	103%		50 - 120	ppb
Surrogate Recoveries:						
TCMX			104%		30 - 120	
Decachlorobiphenyl			111%		30 - 120	
LCSD:	**LCSD1-122022ECD4**		**SAMPLE SPIKED:**	**CLEAN SOIL**		
Aroclor 1016	**502**	500	100%	2.4%	50 - 120	ppb
Aroclor 1260	**525**	500	105%	1.9%	50 - 120	ppb
Surrogate Recovery:						
TCMX			106%		30 - 120	
Decachlorobiphenyl			118%		30 - 120	
CCV:	**CCV1-122022ECD4**					
Analytes:						
Aroclor 1016	**760**	700	109%		80-120	ppb
Aroclor 1260	**799**	700	114%		80-120	ppb
Surrogate Recoveries:						
TCMX			115%		80-120	
Decachlorobiphenyl			119%		80-120	

LCS= Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV= Continuing Calibration Verification
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21&28/2022
		Physical State:	Soil

STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES

Sample ID:	**LB58-2.5**		
Jones ID:	**ST-21305-06**	**Reporting Limit**	**Units**
Analytes:			
Arsenic, As	ND	0.10	mg/L
Chromium, Cr	**0.02**	0.01	mg/L
Copper, Cu	**0.98**	0.01	mg/L
Lead, Pb	**3.47**	0.01	mg/L
Dilution Factor	1		
Batch:	I22122702		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21&28/2022
		Physical State:	Soil

STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES

Sample ID:	**LB57-0.5**	**LB55-0.5**	**LB53-2.5**		
Jones ID:	**ST-21305-11**	**ST-21305-15**	**ST-21305-19**	**Reporting Limit**	**Units**
Analytes:					
Lead, Pb	**1.44**	**2.02**	ND	0.01	mg/L
Dilution Factor	1	1	1		
Batch:	I22121901	I22121901	I22121901		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21&28/2022
		Physical State:	Soil

STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES

Sample ID:	**LB52-5**		
Jones ID:	**ST-21305-22**	**Reporting Limit**	**Units**
Analytes:			
Copper, Cu	**5.30**	0.01	mg/L
Lead, Pb	**6.68**	0.01	mg/L
Dilution Factor	1		

Batch: I22122702

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	12/29/2022
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21&28/2022
		Physical State:	Soil

STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES

BATCH: I22121901 **Prepared:** 12/19/2022 **Analyzed:** 12/21/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
Method Blank:	**I221219-MB1**						
Arsenic, As	ND					0.10	mg/L
Chromium, Cr	ND					0.01	mg/L
Copper, Cu	ND					0.01	mg/L
Lead, Pb	ND					0.01	mg/L
LCS:	**I221219-LCS1**						
Arsenic, As	**3.81**	4.00	95%		80 - 120		mg/L
Chromium, Cr	**0.43**	0.40	108%		80 - 120		mg/L
Copper, Cu	**0.60**	0.50	120%		80 - 120		mg/L
Lead, Pb	**1.02**	1.00	102%		80 - 120		mg/L
LCSD:	**I221219-LCSD1**						
Arsenic, As	**3.80**	4.00	95%	0.3%	80 - 120		mg/L
Chromium, Cr	**0.43**	0.40	108%	0.2%	80 - 120		mg/L
Copper, Cu	**0.61**	0.50	122%	1.7%	80 - 120		mg/L
Lead, Pb	**1.02**	1.00	102%	0.2%	80 - 120		mg/L
CCV:	**I221219-CCV1**						
Arsenic, As	**1.03**	1.00	103%		90-110		mg/L
Chromium, Cr	**1.01**	1.00	101%		90-110		mg/L
Copper, Cu	**1.10**	1.00	110%		90-110		mg/L
Lead, Pb	**1.05**	1.00	105%		90-110		mg/L

ND= Not Detected

RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

LCS = Laboratory Control Sample

LCSD= Laboratory Control Sample Duplicate

CCV = Continuing Calibration Verification

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	12/29/2022
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21&28/2022
		Physical State:	Soil

STLC CA-Waste Extraction Test (CA-WET) by EPA 6010B by ICP-OES

BATCH: I22122702 **Prepared:** 12/27/2022 **Analyzed:** 12/28/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
Method Blank:	**I221227-MB2**						
Arsenic, As	ND					0.10	mg/L
Chromium, Cr	ND					0.01	mg/L
Copper, Cu	ND					0.01	mg/L
Lead, Pb	ND					0.01	mg/L
LCS:	**I221227-LCS2**						
Arsenic, As	**4.20**	4.00	105%		80 - 120		mg/L
Chromium, Cr	**0.41**	0.40	103%		80 - 120		mg/L
Copper, Cu	**0.57**	0.50	114%		80 - 120		mg/L
Lead, Pb	**1.06**	1.00	106%		80 - 120		mg/L
LCSD:	**I221227-LCSD2**						
Arsenic, As	**4.27**	4.00	107%	1.7%	80 - 120		mg/L
Chromium, Cr	**0.42**	0.40	104%	1.0%	80 - 120		mg/L
Copper, Cu	**0.57**	0.50	114%	0.4%	80 - 120		mg/L
Lead, Pb	**1.08**	1.00	108%	1.9%	80 - 120		mg/L
CCV:	**I221227-CCV2**						
Arsenic, As	**1.05**	1.00	105%		90-110		mg/L
Chromium, Cr	**1.07**	1.00	107%		90-110		mg/L
Copper, Cu	**1.07**	1.00	107%		90-110		mg/L
Lead, Pb	**1.04**	1.00	104%		90-110		mg/L

ND= Not Detected

RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%

LCS = Laboratory Control Sample

LCSD= Laboratory Control Sample Duplicate

CCV = Continuing Calibration Verification

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21/2022
		Physical State:	Soil

TCLP by EPA 6010B by ICP-OES

Sample ID:	**LB58-2.5**		
Jones ID:	**ST-21305-06**	**Reporting Limit**	**Units**
Analytes:			
Arsenic, As	ND	0.10	mg/L
Lead, Pb	ND	0.01	mg/L
Dilution Factor	1		
Batch:	I22122101		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan Irvine, CA 92614	**Jones Ref. No.:** **Client Ref. No.:**	ST-21305 12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21/2022
		Physical State:	Soil

TCLP by EPA 6010B by ICP-OES

Sample ID:	**LB52-5**		
Jones ID:	**ST-21305-22**	**Reporting Limit**	**Units**
Analytes:			
Lead, Pb	**4.81**	0.01	mg/L
Dilution Factor	1		
Batch:	I22122101		

ND = Value less than reporting limit

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JONES ENVIRONMENTAL QUALITY CONTROL INFORMATION

Client:	Leighton Consulting, Inc.	**Report date:**	12/29/2022
Client Address:	17781 Cowan	**Jones Ref. No.:**	ST-21305
	Irvine, CA 92614	**Client Ref. No.:**	12736.024
Attn:	Mark Withrow	**Date Sampled:**	12/6/2022
		Date Received:	12/6/2022
Project:	B191-194	**Date Analyzed:**	12/21/2022
		Physical State:	Soil

TCLP by EPA 6010B by ICP-OES

BATCH: I22122101 **Prepared:** 12/21/2022 **Analyzed:** 12/21/2022

Analytes:	Result	Spike Level	% REC	% RPD	% REC Limits	Reporting Limit	Units
Method Blank:	**I221221-MB1**						
Arsenic, As	ND					0.10	mg/L
Lead, Pb	ND					0.01	mg/L
LCS:	**I221221-LCS1**						
Arsenic, As	**3.94**	4.00	99%		80 - 120		mg/L
Lead, Pb	**0.86**	1.00	86%		80 - 120		mg/L
LCSD:	**I221221-LCSD1**						
Arsenic, As	**3.95**	4.00	99%	0.3%	80 - 120		mg/L
Lead, Pb	**0.85**	1.00	85%	1.2%	80 - 120		mg/L
CCV:	**I221221-CCV1**						
Arsenic, As	**0.99**	1.00	99%		90-110		mg/L
Lead, Pb	**1.01**	1.00	101%		90-110		mg/L

ND= Not Detected
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 20%
LCS = Laboratory Control Sample
LCSD= Laboratory Control Sample Duplicate
CCV = Continuing Calibration Verification

Chain-of-Custody Record

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Santa Fe Springs, CA 90670
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Turn Around Requested:
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- X Normal - No Surcharge

LAB USE ONLY
Jones Project # ST-21305
Page 1 of 3

Client: Leighton Consulting	Date: 12/6/22
Project Name: B191-194	Client Project #: 12736.024
Project Address:	
Email: mwithrow@leightongroup.com	
Phone: 949-394-2194	
Report To: Mark Withrow	Sampler: TLD

Sample Container / Preservative Abbreviations
AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	TLD	~~TPHmo EPA 8015~~	Title 22 Metals 6010B/7000	TPH-g,d-o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	EPA 8260B-GRO-[Added 12-15-16 JC]	EPA 8082-PCBs-[Added 12-15-16 JC]	8270C PAHs SIM-[Added 12-15-16 JC]	STLC-[Added 12-15-16 JC]	TCLP-[Added 12-15-16 JC]		Number of Containers	Notes & Special Instructions
LB50 - 0.5	12/6/22	0725	ST-21305-01	Ice	glass	S			X	X			X	X	X				1	
LB50 - 2.5		0735	ST-21305-02		glass	S			X	X	X								4	
LB50 - 5		750	ST-21305-03		glass	S			X	X	X			X	X				4	
LB50 - GW		0805	ST-21305-04		glass/poly	A			X	X	X	X							8	
LB58 - 0.5		0832	ST-21305-05		glass	S			X	X	~~X~~	TLP	X	X	X				1	
LB58 - 2.5		0835	ST-21305-06		glass	S			X	X	X					X	X		4	STLC-As, Cr, Cu, Pb TCLP-As, Pb
LB59 - 0.5		0852	ST-21305-07		glass	S			X	X	~~X~~	TLP	X	X	X				1	
LB59 - 2.5		0854	ST-21305-08		glass	S			X	X	X								4	
LB56 - 0.5		0918	ST-21305-09		glass	S			X	X	~~X~~	TLP	X	X	X				1	
~~LB56 -2.5~~ ~~LB57 - 2.5~~	TLD	0924	ST-21305-10		glass	S			X	X	X								4	

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name	
	Theresa Duncan		Annaliese Tootle	Total Number of Containers
Company: LCI	Date: 12/6/22 Time: 1423	Company: JEL	Date: 12-6-22 Time: 1424	
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.
Company	Date: Time	Company	Date Time	

Chain-of-Custody Record

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Turn Around Requested:
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- X Normal - No Surcharge

LAB USE ONLY

Jones Project # ST-21305

Page 2 of 3

Client	Leighton Consulting
Date	12/6/22
Project Name	B191-194
Client Project #	12736.024
Project Address	
Email	mwithrow@leightongroup.com
Phone	949-394-2194
Report To	Mark Withrow
Sampler	TCO

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Analysis Requested

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	Title 22 Metals 6010B/7000	TPH-g, d,o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	EPA 8260B-GRO-[Added 12-15-16 JC]	EPA 8082-PCBs-[Added 12-15-16 JC]	8270C PAHs SIM-[Added 12-15-16 JC]	STLC-[Added 12-15-16 JC]	TCLP-[Added 12-15-16 JC]			Number of Containers	Notes & Special Instructions
LB57-0.5	12/6/22	0944	ST-21305-11	Ice	glass	S	X	X	X	TCP	X			X				1	STLC-Pb
LB57-2.5		0946	ST-21305-12		glass	S	X	X	X									4	
LB54-0.5		1006	ST-21305-13		glass	S	X	X	X	TCP	X	X	X					1	
LB54-2.5		1016	ST-21305-14		poly	S	X	X	X									4	
LB55-0.5		1028	ST-21305-15		glass	S	X	X	X	TCP	X	X	X	X				1	STLC-Pb
LB55-2.5		1032	ST-21305-16		glass	S	X	X	X									4	
LB55-GW		1045	ST-21305-17		glass + poly	A	X	X	X	X								8	
LB53-0.5		1110	ST-21305-18		glass	S	X	X	X	TCP	X	X	X					1	
LB53-2.5		1115	ST-21305-19		poly	S	X	X	X					X				4	STLC-Pb
LB52-0.5		1138	ST-21305-20		glass poly	S	X	X	X	TCP	X	X	X					1	
																			Total Number of Containers

Relinquished By (Signature)	**Printed Name**	**Received By (Signature)**	**Printed Name**
	Theresa Duran		Annalise Otoch
Company	**Date / Time**	**Company**	**Date / Time**
LCE	12/6/22 1423	JEL	12-6-22 1424
Relinquished By (Signature)	**Printed Name**	**Received By Laboratory (Signature)**	**Printed Name**
Company	**Date: / Time**	**Company**	**Date / Time**

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

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Turn Around Requested:
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☐ Normal - No Surcharge

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Jones Project # ST-21305
Page 3 of 3

Client: Leighton Consulting	Date: 12/6/22
Project Name: B191 - 194	Client Project #: 12736.024
Project Address:	
Email: mwitherow@leightongroup.com	
Phone: (949) 394-2194	
Report To: Mark Witherow	Sampler: TCD

Sample Container / Preservative Abbreviations
AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID ____

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	Title 22 metals 6010B/7000	TPH - g,d,o EPA 8015	VOCs EPA 8260	PAHs EPA 8270SIM	EPA 8260B-GRO-[Added 12-15-16 JC]	EPA 8082-PCBs-[Added 12-15-16 JC]	8270C PAHs SIM-[Added 12-15-16 JC]	STLC-[Added 12-15-16 JC]	TCLP-[Added 12-15-16 JC]			Number of Containers	Notes & Special Instructions
LB52 - 2.5	12/6/22	1140	ST-21305-21	Ice	poly	S	X	X	X			X	X					4	
LB52 - 5		1142 1142 dup	ST-21305-22		poly	S	X	X	X					X	X			4	STLC-Cu, Pb TCLP-Pb
LB51 - 0.5		1152	ST-21305-23		poly	S	X	X	X	TCN	X							1	
LB51 - 2.5		1154	ST-21305-24		poly	S	X	X	X									4	
LB51 - GW		1206	ST-21305-25		glass 1 poly	A	X	X	X	X								8	

Relinquished By (Signature): Teresa Duncan	Printed Name: Teresa Duncan	Received By (Signature): Annalise Otarre	Printed Name: Annalise Otarre
Company: LGI	Date: 12/6/22 Time: 1423	Company: JEL	Date: 12-6-22 Time: 1424
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name
Company	Date: Time	Company	Date Time

Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been reqested, and the information provided herein is correct and accurate.

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SAMPLE RECEIPT FORM

Jones ID: ST-21305

CLIENT: Leighton Consulting
DATE/TIME (LAB RECEIVED): 12/6/22 - 1424
PROJECT: B191-194
RECEIVED BY: ANO
Delivered by: ☑ Client ☐ Jones Courier ☐ UPS / FedEx / USPS ☐ Other

TEMPERATURE: Thermometer ID: T-2 (Corrected Temp.) Calibration Due: 07/~~12~~/2023

Temperature Cooler #1 0.0 °C ± the CF(+0.5°C) 0.9 °C Blank Sample
Temperature Cooler #2 0.0 °C ± the CF(+0.5°C) 0.5 °C Blank Sample

Temperature Criteria: 0 ≤ 6°C (NO frozen containers) Criteria Met? ☑ Yes ☐ No

If criteria is not met:

Sample Received on ice? ☐ Yes ☐ No
Sample received Chilled on same day of sampling? ☐ Yes ☐ No

Checked By: ANO

Temperature Non-Conformance (NC): **NC No.** _____

☐ Sample not received on ice
☐ sample not received chilled
☐ Sample received chilled, but not on the same day of sampling

SAMPLE CONDITION:	YES	NO*	N/A
Chain of Custody (COC) received filled out completely	☑	☐*	☐
Total number of containers received match COC	☑	☐*	☐
Sample container label(s) consistent with COC	☑	☐*	☐
Sample container(s) intact and in good condition	☑	☐*	☐
Proper containers and sufficient volume for analyses requested on COC	☑	☐*	☐
Proper preservative indicated on COC/container for analyses requested	☑	☐*	☐
Volatile analysis container(s) free of headspace (EPA 8260 water)	☑	☐*	☐
Custody Seals Intact on Cooler/Sample	☐	☐*	☑

CONTAINER TYPE:

Solid:
5035 Kits: 12
Glass Jar: 15
Sleeve: 7
Other: _____

Aqueous:
Amber Bottle: 6
VOAs: _____
Poly Bottle: 3
5030 Kits: 6
Other: _____

Air / Soil Gas:
Tedlar Bag: _____
6 hr
72 hr
5 Day
Summa:
(1L) _____ (6L) _____

Complete Non-Conformance if checked

Checked by: VP

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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

14 December 2022

Colby Wakeman
Jones Environmental
11007 Forest Place
Santa Fe Springs, CA 90670

RE: B191-194

Enclosed are the results of analyses for samples received by the laboratory on 12/07/22 13:22. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin

Joann Marroquin
Director of Operations

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB50-GW	T223523-01	Water	12/06/22 08:05	12/07/22 13:22
LB55-GW	T223523-02	Water	12/06/22 10:45	12/07/22 13:22
LB51-GW	T223523-03	Water	12/06/22 12:06	12/07/22 13:22

SunStar Laboratories, Inc.

Joann Marroquin

Joann Marroquin, Director of Operations

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.

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

DETECTIONS SUMMARY

Sample ID: LB50-GW **Laboratory ID:** T223523-01

No Results Detected

Sample ID: LB55-GW **Laboratory ID:** T223523-02

No Results Detected

Sample ID: LB51-GW **Laboratory ID:** T223523-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	**1.98**	1.00	ug/l	EPA 8270C SIM	
Benzo (b) fluoranthene	**3.78**	1.00	ug/l	EPA 8270C SIM	
Benzo (k) fluoranthene	**1.02**	1.00	ug/l	EPA 8270C SIM	
Benzo (a) pyrene	**1.22**	1.00	ug/l	EPA 8270C SIM	
Chrysene	**3.02**	1.00	ug/l	EPA 8270C SIM	
Fluoranthene	**1.22**	1.00	ug/l	EPA 8270C SIM	
Pyrene	**1.56**	1.00	ug/l	EPA 8270C SIM	

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Joann Marroquin

Joann Marroquin, Director of Operations

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

LB50-GW

T223523-01 (Water)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	1.00	ug/l	1	22L0148	12/09/22	12/13/22	EPA 8270C SIM	
Acenaphthylene	ND	1.00	"	"	"	"	"	"	
Anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	1.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	1.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	1.00	"	"	"	"	"	"	
Chrysene	ND	1.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	1.00	"	"	"	"	"	"	
Fluoranthene	ND	1.00	"	"	"	"	"	"	
Fluorene	ND	1.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	1.00	"	"	"	"	"	"	
Naphthalene	ND	1.00	"	"	"	"	"	"	
Phenanthrene	ND	1.00	"	"	"	"	"	"	
Pyrene	ND	1.00	"	"	"	"	"	"	
Surrogate: Terphenyl-dl4		*64.1 %*	*33-141*		"	"	"	"	

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.

Joann Marroquin

Joann Marroquin, Director of Operations

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

LB55-GW

T223523-02 (Water)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	1.00	ug/l	1	22L0148	12/09/22	12/13/22	EPA 8270C SIM	
Acenaphthylene	ND	1.00	"	"	"	"	"	"	
Anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	1.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	1.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	1.00	"	"	"	"	"	"	
Chrysene	ND	1.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	1.00	"	"	"	"	"	"	
Fluoranthene	ND	1.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	1.00	"	"	"	"	"	"	
Fluorene	ND	1.00	"	"	"	"	"	"	
Naphthalene	ND	1.00	"	"	"	"	"	"	
Phenanthrene	ND	1.00	"	"	"	"	"	"	
Pyrene	ND	1.00	"	"	"	"	"	"	
Surrogate: Terphenyl-dl4		*62.0 %*		*33-141*	"	"	"	"	

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Joann Marroquin

Joann Marroquin, Director of Operations

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

LB51-GW

T223523-03 (Water)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	1.00	ug/l	1	22L0148	12/09/22	12/13/22	EPA 8270C SIM	
Acenaphthylene	ND	1.00	"	"	"	"	"	"	
Anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (a) anthracene	**1.98**	1.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	**3.78**	1.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	**1.02**	1.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1.00	"	"	"	"	"	"	
Benzo (a) pyrene	**1.22**	1.00	"	"	"	"	"	"	
Chrysene	**3.02**	1.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	1.00	"	"	"	"	"	"	
Fluoranthene	**1.22**	1.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	1.00	"	"	"	"	"	"	
Fluorene	ND	1.00	"	"	"	"	"	"	
Naphthalene	ND	1.00	"	"	"	"	"	"	
Phenanthrene	ND	1.00	"	"	"	"	"	"	
Pyrene	**1.56**	1.00	"	"	"	"	"	"	
Surrogate: Terphenyl-dl4		*50.8 %*		*33-141*	"	"	"	"	

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 22L0148 - EPA 3510C GCMS/ECD										
Blank (22L0148-BLK1)				Prepared: 12/09/22 Analyzed: 12/13/22						
Acenaphthene	ND	1.00	ug/l							
Acenaphthylene	ND	1.00	"							
Anthracene	ND	1.00	"							
Benzo (a) anthracene	ND	1.00	"							
Benzo (b) fluoranthene	ND	1.00	"							
Benzo (k) fluoranthene	ND	1.00	"							
Benzo (g,h,i) perylene	ND	1.00	"							
Benzo (a) pyrene	ND	1.00	"							
Chrysene	ND	1.00	"							
Dibenz (a,h) anthracene	ND	1.00	"							
Fluoranthene	ND	1.00	"							
Indeno (1,2,3-cd) pyrene	ND	1.00	"							
Fluorene	ND	1.00	"							
Naphthalene	ND	1.00	"							
Phenanthrene	ND	1.00	"							
Pyrene	ND	1.00	"							
Surrogate: Terphenyl-dl4	*19.4*		"	*20.0*		*97.2*	*33-141*			
LCS (22L0148-BS1)				Prepared: 12/09/22 Analyzed: 12/13/22						
Acenaphthene	11.4	1.00	ug/l	20.0		56.9	50-130			
Pyrene	10.4	1.00	"	20.0		51.8	41.8-88			
Surrogate: Terphenyl-dl4	*19.8*		"	*20.0*		*98.8*	*33-141*			
LCS Dup (22L0148-BSD1)				Prepared: 12/09/22 Analyzed: 12/13/22						
Acenaphthene	12.2	1.00	ug/l	20.0		60.9	50-130	6.79	31	
Pyrene	10.2	1.00	"	20.0		50.9	41.8-88	1.75	30	
Surrogate: Terphenyl-dl4	*20.3*		"	*20.0*		*102*	*33-141*			

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/14/22 14:28

Notes and Definitions

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

T223523

Chain-of-Custody Record

JONES ENVIRONMENTAL, INC.
11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Client
Leighton Consulting

Project Name
B191-194

Project Address

Email
reports@jonesenv.com

Phone
(747) 449-9937

Report To **Sampler**
Colby Wakeman

Date
12/7/2022

Client Project #
12736.024

Turn Around Requested:
- □ Immediate Attention
- □ Rush 24 Hours
- □ Rush 48 Hours
- □ Rush 72 Hours
- X Normal

Report Options
EDD ____
EDF* - 10% Surcharge___
*Global ID _____

LAB USE ONLY
Jones Project #

Page
of

Sample Condition as Recieved:
Chilled ✓ yes □ no
Sealed □ yes □ no
2.6°C

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HNO3 - Nitric Acid
O - Other (See Notes)

Analysis Requested

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	PAHS EPA 8270 SIM											Number of Containers	Notes & Special Instructions
LB50-GW	12/6/2022	805		N		A	X												ST-21305-04
LB55-GW	12/6/2022	1045		N		A	X												ST-21305-17
LB51-GW	12/6/2022	1206		N		A	X												ST-21305-25

Relinquished By (Signature)	Printed Name: Doug Fowler	Received By (Signature)	Printed Name: Carlos
Company: JEL	Date: 12/07/22 Time: 12:39	Company: Sunstar	Date: 12/7/22 Time: 12:39
Relinquished By (Signature)	Printed Name: Carlos	Received By Laboratory (Signature)	Printed Name: Dave
Company: Sunstar	Date: 12/7/22 Time: 13:32	Company: Sunstar	Date: 12.7.22 Time: 1332

Total Number of Containers

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: _____

Client Name: Jones Project: Leighton Consulting - B191-194

Delivered by: ☐ Client ☒ SunStar Courier ☐ GLS ☐ FedEx ☐ Other

If Courier, Received by: Carlos Date/Time Courier Received: 12.7.22 1239

Lab Received by: Dave Date/Time Lab Received: 12.7.22 1332

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 8/2/23

Temperature:	Cooler #1	2.5 °C +/- the CF (+ 0.1°C)	= 2.6	°C corrected temperature
Temperature:	Cooler #2	°C +/- the CF (+ 0.1°C)	=	°C corrected temperature
Temperature:	Cooler #3	°C +/- the CF (+ 0.1°C)	=	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☒ **Yes** ☐ **No** ☐ **N/A**
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: DB 12.8.22

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T223523

Client: **Jones Environmental** **Project Manager:** **Joann Marroquin**
Project: **B191-194** **Project Number:** **ST-21305**

Report To:
Jones Environmental
Colby Wakeman
11007 Forest Place
Santa Fe Springs, CA 90670

Date Due: 12/14/22 17:00 (5 day TAT)
Received By: Dave Berner Date Received: 12/07/22 13:22
Logged In By: Rebecca Traficanto Date Logged In: 12/08/22 13:54

Samples Received at: **2.6°C**
Custody Seals No Received On Ice No
Containers Intact No
COC/Labels Agree No
Preservation Confirm No

Analysis	Due	TAT	Expires	Comments
T223523-01 LB50-GW [Water] Sampled 12/06/22 08:05 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/14/22 15:00	5	12/13/22 08:05	
T223523-02 LB55-GW [Water] Sampled 12/06/22 10:45 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/14/22 15:00	5	12/13/22 10:45	
T223523-03 LB51-GW [Water] Sampled 12/06/22 12:06 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/14/22 15:00	5	12/13/22 12:06	

Reviewed By Date

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949.297.5027 Fax

27 December 2022

Colby Wakeman
Jones Environmental
11007 Forest Place
Santa Fe Springs, CA 90670

RE: B191-194

Enclosed are the results of analyses for samples received by the laboratory on 12/19/22 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joann Marroquin
Director of Operations

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LB50-0.5	T223645-01	Soil	12/06/22 07:25	12/19/22 15:30
LB50-5	T223645-02	Soil	12/06/22 07:50	12/19/22 15:30
LB58-0.5	T223645-03	Soil	12/06/22 08:32	12/19/22 15:30
LB59-0.5	T223645-04	Soil	12/06/22 08:52	12/19/22 15:30
LB56-0.5	T223645-05	Soil	12/06/22 09:18	12/19/22 15:30
LB54-0.5	T223645-06	Soil	12/06/22 10:06	12/19/22 15:30
LB55-0.5	T223645-07	Soil	12/06/22 10:28	12/19/22 15:30
LB53-0.5	T223645-08	Soil	12/06/22 11:10	12/19/22 15:30
LB52-0.5	T223645-09	Soil	12/06/22 11:38	12/19/22 15:30
LB52-2.5	T223645-10	Soil	12/06/22 11:40	12/19/22 15:30

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Joann Marroquin, Director of Operations

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

DETECTIONS SUMMARY

Sample ID: LB50-0.5 **Laboratory ID:** T223645-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	77	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	93	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	57	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	60	50	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB50-5 **Laboratory ID:** T223645-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Acenaphthylene	70	50	ug/kg	EPA 8270C SIM	O-05, R-07
Anthracene	120	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) anthracene	150	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (b) fluoranthene	140	100	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	160	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	120	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	200	50	ug/kg	EPA 8270C SIM	O-05, R-07
Indeno (1,2,3-cd) pyrene	60	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	140	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	220	100	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB58-0.5 **Laboratory ID:** T223645-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	110	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	100	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	93	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	77	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	110	100	ug/kg	EPA 8270C SIM	O-05, R-07

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

Sample ID: LB59-0.5 **Laboratory ID:** T223645-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	73	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	140	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	160	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	57	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	60	50	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB56-0.5 **Laboratory ID:** T223645-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	7.0	5.0	ug/kg	EPA 8270C SIM	O-05
Benzo (g,h,i) perylene	11	5.0	ug/kg	EPA 8270C SIM	O-05
Chrysene	12	5.0	ug/kg	EPA 8270C SIM	O-05
Fluoranthene	8.3	5.0	ug/kg	EPA 8270C SIM	O-05
Phenanthrene	7.0	5.0	ug/kg	EPA 8270C SIM	O-05

Sample ID: LB54-0.5 **Laboratory ID:** T223645-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Acenaphthylene	400	50	ug/kg	EPA 8270C SIM	O-05, R-07
Anthracene	370	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) anthracene	570	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	310	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	1100	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	1800	50	ug/kg	EPA 8270C SIM	O-05, R-07
Naphthalene	9300	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	1600	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	1700	100	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB55-0.5 **Laboratory ID:** T223645-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Acenaphthene	380	100	ug/kg	EPA 8270C SIM	O-05, R-07
Acenaphthylene	120	50	ug/kg	EPA 8270C SIM	O-05, R-07
Anthracene	980	50	ug/kg	EPA 8270C SIM	O-05, R-07

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

Sample ID: LB55-0.5 **Laboratory ID:** T223645-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	580	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	170	50	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	670	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	3500	50	ug/kg	EPA 8270C SIM	O-05, R-07
Indeno (1,2,3-cd) pyrene	90	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	4500	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	3100	100	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB53-0.5 **Laboratory ID:** T223645-08

Analyte	Result	Reporting Limit	Units	Method	Notes
Acenaphthylene	170	50	ug/kg	EPA 8270C SIM	O-05, R-07
Anthracene	430	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) anthracene	690	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (b) fluoranthene	1200	100	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (k) fluoranthene	480	100	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	570	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) pyrene	640	100	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	1200	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	1100	50	ug/kg	EPA 8270C SIM	O-05, R-07
Indeno (1,2,3-cd) pyrene	490	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	460	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	1600	100	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB52-0.5 **Laboratory ID:** T223645-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Acenaphthylene	500	50	ug/kg	EPA 8270C SIM	O-05, R-07
Anthracene	1200	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) anthracene	1500	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (b) fluoranthene	3500	100	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (k) fluoranthene	990	100	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	1200	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (a) pyrene	1800	100	ug/kg	EPA 8270C SIM	O-05, R-07
Chrysene	3000	50	ug/kg	EPA 8270C SIM	O-05, R-07

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Joann Marroquin, Director of Operations

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

Sample ID: LB52-0.5 **Laboratory ID:** T223645-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Dibenz (a,h) anthracene	**320**	50	ug/kg	EPA 8270C SIM	O-05, R-07
Fluoranthene	**1600**	50	ug/kg	EPA 8270C SIM	O-05, R-07
Indeno (1,2,3-cd) pyrene	**1200**	50	ug/kg	EPA 8270C SIM	O-05, R-07
Phenanthrene	**290**	50	ug/kg	EPA 8270C SIM	O-05, R-07
Pyrene	**6300**	100	ug/kg	EPA 8270C SIM	O-05, R-07

Sample ID: LB52-2.5 **Laboratory ID:** T223645-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzo (a) anthracene	**50**	50	ug/kg	EPA 8270C SIM	O-05, R-07
Benzo (g,h,i) perylene	**83**	50	ug/kg	EPA 8270C SIM	O-05, R-07

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Lake Forest, California 92630
949.297.5020 Phone
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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

LB50-0.5

T223645-01 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	ND	50	"	"	"	"	"	"	O-05, R-07
Anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**77**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**93**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**57**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**60**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	ND	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	ND	50	"	"	"	"	"	"	O-05, R-07
Pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*126 %*	*18-137*		"	"	"	"	*O-05, R-07*

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

LB50-5

T223645-02 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	**70**	50	"	"	"	"	"	"	O-05, R-07
Anthracene	**120**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**150**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	**140**	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**160**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**120**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**200**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	**60**	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**140**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**220**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*121 %*		*18-137*	"	"	"	"	*O-05, R-07*

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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

LB58-0.5

T223645-03 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	ND	50	"	"	"	"	"	"	O-05, R-07
Anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**110**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**100**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**93**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	ND	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**77**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**110**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*107 %*	*18-137*		"	"	"	"	*O-05, R-07*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
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LB59-0.5

T223645-04 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	ND	50	"	"	"	"	"	"	O-05, R-07
Anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**73**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**140**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**160**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**57**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	ND	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**60**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*167 %*		*18-137*	"	"	"	"	*O-05, R-07, S-06*

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LB56-0.5

T223645-05 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	10	ug/kg	1	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05
Acenaphthylene	ND	5.0	"	"	"	"	"	"	O-05
Anthracene	ND	5.0	"	"	"	"	"	"	O-05
Benzo (a) anthracene	**7.0**	5.0	"	"	"	"	"	"	O-05
Benzo (b) fluoranthene	ND	10	"	"	"	"	"	"	O-05
Benzo (k) fluoranthene	ND	10	"	"	"	"	"	"	O-05
Benzo (g,h,i) perylene	**11**	5.0	"	"	"	"	"	"	O-05
Benzo (a) pyrene	ND	10	"	"	"	"	"	"	O-05
Chrysene	**12**	5.0	"	"	"	"	"	"	O-05
Dibenz (a,h) anthracene	ND	5.0	"	"	"	"	"	"	O-05
Fluoranthene	**8.3**	5.0	"	"	"	"	"	"	O-05
Fluorene	ND	10	"	"	"	"	"	"	O-05
Indeno (1,2,3-cd) pyrene	ND	5.0	"	"	"	"	"	"	O-05
Naphthalene	ND	5.0	"	"	"	"	"	"	O-05
Phenanthrene	**7.0**	5.0	"	"	"	"	"	"	O-05
Pyrene	ND	10	"	"	"	"	"	"	O-05
Surrogate: Terphenyl-dl4		*110 %*		*18-137*	"	"	"	"	*O-05*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
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LB54-0.5

T223645-06 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	**400**	50	"	"	"	"	"	"	O-05, R-07
Anthracene	**370**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**570**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**310**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**1100**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**1800**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	ND	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	**9300**	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**1600**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**1700**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*147 %*	*18-137*		"	"	"	"	*O-05, R-07, S-06*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
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LB55-0.5

T223645-07 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	**380**	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	**120**	50	"	"	"	"	"	"	O-05, R-07
Anthracene	**980**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**580**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**170**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**670**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**3500**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	**90**	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**4500**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**3100**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*164 %*	*18-137*		"	"	"	"	*O-05, R-07, S-06*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

LB53-0.5

T223645-08 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	**170**	50	"	"	"	"	"	"	O-05, R-07
Anthracene	**430**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**690**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	**1200**	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	**480**	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**570**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	**640**	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**1200**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**1100**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	**490**	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**460**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**1600**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*177 %*		*18-137*	"	"	"	"	*O-05, R-07, S-06*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
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LB52-0.5

T223645-09 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	**500**	50	"	"	"	"	"	"	O-05, R-07
Anthracene	**1200**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**1500**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	**3500**	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	**990**	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**1200**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	**1800**	100	"	"	"	"	"	"	O-05, R-07
Chrysene	**3000**	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	**320**	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	**1600**	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	**1200**	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	**290**	50	"	"	"	"	"	"	O-05, R-07
Pyrene	**6300**	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*168 %*	*18-137*		"	"	"	"	*O-05, R-07, S-06*

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11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

LB52-2.5

T223645-10 (Soil)

SunStar Laboratories, Inc.

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	100	ug/kg	10	22L0269	12/20/22	12/21/22	EPA 8270C SIM	O-05, R-07
Acenaphthylene	ND	50	"	"	"	"	"	"	O-05, R-07
Anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) anthracene	**50**	50	"	"	"	"	"	"	O-05, R-07
Benzo (b) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (k) fluoranthene	ND	100	"	"	"	"	"	"	O-05, R-07
Benzo (g,h,i) perylene	**83**	50	"	"	"	"	"	"	O-05, R-07
Benzo (a) pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Chrysene	ND	50	"	"	"	"	"	"	O-05, R-07
Dibenz (a,h) anthracene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluoranthene	ND	50	"	"	"	"	"	"	O-05, R-07
Fluorene	ND	100	"	"	"	"	"	"	O-05, R-07
Indeno (1,2,3-cd) pyrene	ND	50	"	"	"	"	"	"	O-05, R-07
Naphthalene	ND	50	"	"	"	"	"	"	O-05, R-07
Phenanthrene	ND	50	"	"	"	"	"	"	O-05, R-07
Pyrene	ND	100	"	"	"	"	"	"	O-05, R-07
Surrogate: Terphenyl-dl4		*179 %*		*18-137*	"	"	"	"	*O-05, R-07, S-06*

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.

Joann Marroquin

Joann Marroquin, Director of Operations

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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

Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 22L0269 - EPA 3550 ECD/GCMS										
Blank (22L0269-BLK1)				Prepared: 12/20/22 Analyzed: 12/21/22						
Acenaphthene	ND	10	ug/kg							
Acenaphthylene	ND	5.0	"							
Anthracene	ND	5.0	"							
Benzo (a) anthracene	ND	5.0	"							
Benzo (b) fluoranthene	ND	10	"							
Benzo (k) fluoranthene	ND	10	"							
Benzo (g,h,i) perylene	ND	5.0	"							
Benzo (a) pyrene	ND	10	"							
Chrysene	ND	5.0	"							
Dibenz (a,h) anthracene	ND	5.0	"							
Fluoranthene	ND	5.0	"							
Fluorene	ND	10	"							
Indeno (1,2,3-cd) pyrene	ND	5.0	"							
Naphthalene	ND	5.0	"							
Phenanthrene	ND	5.0	"							
Pyrene	ND	10	"							
Surrogate: Terphenyl-dl4	*332*		*"*	*333*		*99.6*	*18-137*			
LCS (22L0269-BS1)				Prepared: 12/20/22 Analyzed: 12/21/22						
Acenaphthene	279	10	ug/kg	333		83.6	50-130			
Pyrene	211	10	"	333		63.2	33.8-100			
Surrogate: Terphenyl-dl4	*394*		*"*	*333*		*118*	*18-137*			
LCS Dup (22L0269-BSD1)				Prepared: 12/20/22 Analyzed: 12/21/22						
Acenaphthene	281	10	ug/kg	333		84.2	50-130	0.715	31	
Pyrene	232	10	"	333		69.6	33.8-100	9.64	30	
Surrogate: Terphenyl-dl4	*424*		*"*	*333*		*127*	*18-137*			

SunStar Laboratories, Inc.

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949.297.5020 Phone
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Jones Environmental	Project: B191-194	
11007 Forest Place	Project Number: ST-21305	**Reported:**
Santa Fe Springs CA, 90670	Project Manager: Colby Wakeman	12/27/22 16:45

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
O-05	This sample was extracted outside of the EPA recommended holding time.
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.

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Joann Marroquin

Joann Marroquin, Director of Operations

T22365

JONES ENVIRONMENTAL, INC.
11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Chain-of-Custody Record

Client
Leighton Consulting

Project Name
B191-194

Project Address

Email
reports@jonesenv.com

Phone
(747) 449-9937

Report To Colby Wakeman

Sampler

Date
12/19/2022

Client Project #
12736.024

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24 Hours
- ☐ Rush 48 Hours
- ☐ Rush 72 Hours
- X Normal

Report Options
EDD ____
EDF* - 10% Surcharge____
*Global ID _____

LAB USE ONLY
Jones Project #

Page 1 of 1

Sample Condition as Recieved:
Chilled ☑ yes ☐ no
Sealed ☐ yes ☑ no

2.7°C

Sample Container / Preservative Abbreviations

AS - Acetate Sleeve
SS - Stainless Steel Sleeve
BS - Brass Sleeve
G - Glass
AB - Amber Bottle
P - Plastic
SOBI - Sodium Bisulfate
MeOH - Methanol
HCl - Hydrochloric Acid
HN03 - Nitric Acid
O - Other (See Notes)

Analysis Requested

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	PAHS EPA 8270 SIM	Number of Containers	Notes & Special Instructions
LB50-0.5 1	12/6/2022	725	01	N	P	S	X		ST-21305-01
LB50-5 2	12/6/2022	750	02	N	P	S	X		ST-21305-03
LB58-0.5 3	12/6/2022	832	03	N	P	S	X		ST-21305-05
LB59-0.5 4	12/6/2022	852	04	N	P	S	X		ST-21305-07
LB56-0.5 5	12/6/2022	918	05	N	P	S	X		ST-21305-09
LB54-0.5 6	12/6/2022	1006	06	N	P	S	X		ST-21305-13
LB55-0.5 7	12/6/2022	1028	07	N	P	S	X		ST-21305-15
LB53-0.5 8	12/6/2022	1110	08	N	P	S	X		ST-21305-18
LB52-0.5 9	12/6/2022	1138	09	N	P	S	X		ST-21305-20
LB52-2.5 10	12/6/2022	1140	10	N	P	S	X		ST-21305-21

Relinquished By (Signature)	Printed Name	Received By (Signature)	Printed Name	Total Number of Containers
Company	Date / Time	Company	Date / Time	
Jones Env.	12-19-22 14:36	SunStar	12-19-22 14:36	
Relinquished By (Signature)	Printed Name	Received By Laboratory (Signature)	Printed Name	
Company	Date / Time	Company	Date / Time	
SunStar	12-19-22 15:30	SunStar Labs	12/19/22 15:30	

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T22364J

Client Name: Jones Project: Leighton Consulting - B191-194

Delivered by: ☐ Client ☑ SunStar Courier ☐ GLS ☐ FedEx ☐ Other

If Courier, Received by: Travis Date/Time Courier Received: 12/19/22 14:36

Lab Received by: Paul Date/Time Lab Received: 12/19/22 15:30

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due : 8/2/23

Temperature: Cooler #1	2.6 °C +/- the CF (+ 0.1°C)	=	2.7 °C	corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 0.1°C)	=	°C	corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 0.1°C)	=	°C	corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☑ **Yes** ☐ **No** ☐ **N/A**
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: PB 12/19/22

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T223645

Client: Jones Environmental
Project: B191-194
Project Manager: Joann Marroquin
Project Number: ST-21305

Report To:
Jones Environmental
Colby Wakeman
11007 Forest Place
Santa Fe Springs, CA 90670

Date Due: 12/28/22 17:00 (5 day TAT)
Received By: Paul Berner
Date Received: 12/19/22 15:30
Logged In By: Rebecca Traficanto
Date Logged In: 12/20/22 09:08

Samples Received at: **2.7°C**
Custody Seals Yes Received On Ice Yes
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirm No

Analysis	Due	TAT	Expires	Comments
T223645-01 LB50-0.5 [Soil] Sampled 12/06/22 07:25 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 07:25	
T223645-02 LB50-5 [Soil] Sampled 12/06/22 07:50 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 07:50	
T223645-03 LB58-0.5 [Soil] Sampled 12/06/22 08:32 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 08:32	
T223645-04 LB59-0.5 [Soil] Sampled 12/06/22 08:52 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 08:52	
T223645-05 LB56-0.5 [Soil] Sampled 12/06/22 09:18 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 09:18	
T223645-06 LB54-0.5 [Soil] Sampled 12/06/22 10:06 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 10:06	
T223645-07 LB55-0.5 [Soil] Sampled 12/06/22 10:28 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 10:28	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T223645

Client:	**Jones Environmental**	**Project Manager:**	**Joann Marroquin**
Project:	**B191-194**	**Project Number:**	**ST-21305**

Analysis	Due	TAT	Expires	Comments
T223645-08 LB53-0.5 [Soil] Sampled 12/06/22 11:10 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 11:10	
T223645-09 LB52-0.5 [Soil] Sampled 12/06/22 11:38 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 11:38	
T223645-10 LB52-2.5 [Soil] Sampled 12/06/22 11:40 (GMT-08:00) Pacific Time (US &				
8270C PAH SIM	12/28/22 15:00	5	12/20/22 11:40	

Reviewed By

Date

APPENDIX C

SCAQMD RULE 1166, SCAQMD RULE 1455, and SCAQMD RULE 403

Leighton
a verdantas company

(Adopted August 5, 1988)(Amended July 14, 1995)(Amended May 11, 2001)

RULE 1166. VOLATILE ORGANIC COMPOUND EMISSIONS FROM DECONTAMINATION OF SOIL

(a) Applicability

This rule sets requirements to control the emission of Volatile Organic Compounds (VOC) from excavating, grading, handling and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.

(b) Definitions

(1) EXCAVATION is the process of digging out and removing materials, including any material necessary to that process such as the digging out and removal of asphalt or concrete necessary to expose, dig out and remove known VOC contaminated soil.

(2) GRADING is the process of leveling off to produce a smooth surface including the removal of any material necessary to that process such as asphalt and concrete necessary to expose known VOC contaminated soil.

(3) SOIL DECONTAMINATION MEASURE is any process approved by the Executive Officer to remediate, destroy, remove, or encapsulate VOC and VOC-contaminated soil.

(4) UNDERGROUND STORAGE TANK means any one or combination of tanks, including pipes connected thereto, which is used for the storage of organic liquid which is more than 50% beneath the surface of the ground.

(5) VOC CONTAMINATED SOIL is a soil which registers a concentration of 50 ppm or greater of Volatile Organic Compounds as measured before suppression materials have been applied and at a distance of no more than three inches from the surface of the excavated soil with an organic vapor analyzer calibrated with hexane.

(6) VOC CONTAMINATED SOIL MITIGATION PLAN is a plan to minimize VOC emissions to the atmosphere during excavation and any subsequent handling of VOC-contaminated soil.

(7) VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds. Exempt compounds are defined in Rule 102—Definition Of Terms.

(8) VOLATILE ORGANIC MATERIALS include gasoline, diesel, crude oil, lubricant, waste oil, adhesive, paint, stain, solvent, resin, monomer, and/or any other material containing VOC.

(c) Requirements

(1) A person excavating an underground storage tank and/or transfer piping storing or previously storing VOC materials, or excavating or grading soil containing VOC materials shall:

(A) Apply for, obtain and operate pursuant to a mitigation plan approved by the Executive Officer prior to commencement of excavation or handling. The mitigation plan general requirement and application requirements are found in Attachment A to this rule. A copy of the approved plan must be on site during the entire excavation period.

(B) Notify the Executive Officer at least 24 hours prior to excavation using a form approved by the Executive Officer which is fully completed.

If the excavation does not commence on start date, renotification is required.

An alternative notification procedure may be authorized for multiple excavations within a single facility, with prior written approval from the Executive Officer.

(C) Monitor for VOC contamination pursuant to subdivision (e), at least once every 15 minutes commencing at the beginning of excavation or grading and record all VOC concentration readings in a format approved by the Executive Officer; and

(D) When VOC-contaminated soil is detected during excavation or grading:

(i) Implement the approved mitigation plan (Attachment A).

(ii) Notify the Executive Officer within 24 hours of detection of VOC-contaminated soil.

(iii) Monitor and record VOC concentration readings as prescribed in the plan. Monitoring records must be kept available on site.

(iv) Keep calibration records for all monitoring instruments available on site.

(2) A person handling VOC-contaminated soil at or from an excavation or grading site shall:

(A) Segregate VOC-contaminated stockpiles from non-VOC contaminated stockpiles such that mixing of the stockpiles does not take place.

(B) Spray VOC-contaminated soil stockpiles with water and/or approved vapor suppressant and cover them with plastic sheeting for all periods of inactivity lasting more than one hour.

(C) Conduct a daily visual inspection of all covered VOC contaminated soil stockpiles to ensure the integrity of the plastic covered surfaces. A daily inspection record must be maintained on site.

(D) Comply with the provisions in subparagraph (c) (1)(A) and clause (c)(1)(D)(i).

(E) Maintain a record of the identification and business addresses of the generator, transporter and storage/treatment facilities. Such record shall be signed by each party at the time custody is transferred.

(F) Treat or remove contaminated soil from an excavation or grading site within 30 days from the time of excavation.

(3) If the VOC concentration in the excavated soil is measured at greater than 1000 ppm, spray the soil with water or vapor suppressant and:

(A) As soon as possible, but not more than 15 minutes, place the soil in sealed containers, or

(B) As soon as possible, but not more than 15 minutes, load into trucks, moisten with additional water, cover and transport off site, or

(C) Implement other alternative storage methods approved in writing by the Executive Officer.

(4) A person treating VOC-contaminated soil shall:

(A) Obtain a permit to construct and operate treatment equipment, as applicable, from the Executive Officer, and

(B) Implement VOC-contaminated soil decontamination measures, as approved by the Executive Officer in writing, which result in Best Available Control Technology applied during all segments, and which include, but are not limited to, at least one of the following:

(i) Installation and operation of an underground VOC collection system and a disposal system prior to excavation.

(ii) Collection and disposal of the VOC from the excavated soil on-site using equipment approved by the Executive Officer.

(iii) Any equivalent VOC-contaminated soil control measure previously approved in writing by the Executive Officer.

(5) A person shall not engage in or allow any on-site or off-site spreading, grading or screening of VOC-contaminated soil, which results in uncontrolled evaporation of VOC to the atmosphere.

(6) Loading trucks for contaminated soil must meet the following:

(A) The truck and trailer shall be adequately tarped prior to leaving the site; no excavated materials shall extend above the sides or rear of the truck or trailer to prevent soil spillage during transport, and

(B) The exterior of the truck, trailer and tires shall be cleaned off prior to the truck leaving the site.

(d) Exemptions

(1) The provisions of this rule shall not apply to the following:

(A) Excavation, handling, and treating of less than one (1) cubic yard of contaminated soil.

(B) Removal of soil for sampling purposes.

(C) Accidental spillage of five (5) gallons or less of VOC containing material.

(2) The provisions of paragraphs (c)(1) and (c)(2) shall not apply to soil excavation or handling as a result of an emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer. Whenever possible, the Executive Officer shall be notified by telephone prior to commencing such excavation. The Executive Officer shall be notified in writing no later than 48 hours following such excavation. Written notification shall include written emergency declaration from the authorized officer.

(e) Test Methods

(1) A person shall measure excavated soils for volatile organic compounds to determine contamination by:

(A) Using an organic vapor analyzer calibrated with hexane, complying with 40 CFR Part 60 Appendix A, EPA Reference Method 21 Section 3 or any equivalent method with prior approval in writing by the Executive Officer. If other calibrating gases are used, then the measured readings shall be correlated to and expressed as hexane.

(B) Placing the probe inlet at a distance of no more than three inches from the surface of the excavated soil and while slowly moving the probe across the soil surface, observe the instrument readout. If an increased meter reading is observed, continue to sample the excavated soil until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately double the instrument response time. If the maximum observed meter reading is greater than the 50 ppm standard in the regulation, record and report the results.

(2) The presence of VOC in stored or spillage materials shall be determined by SCAQMD Method 313 [Determination of Presence of Volatile Organic Compounds (VOC) in Headspace] and/or Method 304 (Determination of Volatile Organic Compounds in Various Materials) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual.

(f) Enforcement

(1) Violation of any provision of this rule or the violation of the approved mitigation plan shall be grounds for the Executive Officer to amend or revoke the mitigation plan, in addition to penalties provided by the Health & Safety Code.

(2) If the owner or operator is served with a Notice of Violation for creating a public nuisance, the owner or operator shall suspend operation until the public nuisance is mitigated to the satisfaction of the Executive Officer.

ATTACHMENT A
GENERAL MITIGATION PLANS REQUIREMENTS

VOC Contaminated Soil Mitigation Plans shall be written to minimize VOC emissions to the atmosphere during excavation, grading, handling and treatment of VOC contaminated soil. VOC Contaminated Soil Mitigation Plans shall consist of three types: Various Locations, Site Specific and Facility Treatment.

(1) General Requirements

(A) A plan is not transferable.

(B) A person responsible for the excavation, grading or handling of VOC contaminated soil must be completely familiar with the plan and must adhere to the plan requirement. The Executive Officer may require that the plan be signed by the owner and/or operator.

(C) A plan may be amended upon renewal.

(D) Permission to excavate, grade or handle VOC contaminated soil may be withdrawn by the District upon a finding by the Executive Officer that the excavation, grading or handling of the VOC contaminated soil is causing a public nuisance or violating other AQMD rules or regulations.

(2) Various Location Plans:

(A) Shall be limited to the excavation of 2000 cubic yards or less of VOC contaminated soil in any consecutive 12 month period at the same site.

(B) Shall not be used in conjunction with any other various location plan at the same site within a consecutive 12-month period.

(C) Shall expire after one year from issuance unless renewed.

(D) Shall not be issued for nor used for operations that involve grading, soil treatment or remediation, or landfills.

(3) Site Specific Plans:

(A) Shall be for excavation of greater than 2000 cubic yards of VOC contaminated soil.

(B) Shall be issued for specific excavation or grading locations for a period not to exceed two years.

(C) Shall not be renewable.

(4) Facility Treatment Plans:

(A) Shall be issued for a treatment facility at a permanent location.

(B) Shall expire after one year from issuance unless renewed.

(5) Applications for Site Specific Plans shall contain as a minimum:

(A) Reasons for excavation or grading.

(B) Cause of VOC soil contamination and history of the site.

(C) Description of tanks or piping associated with the soil contamination.

(D) An estimate of the amount of contaminated soil.

(E) The operating schedule for excavation and removal.

(F) Description of how the excavation or grading will be conducted.

(G) Description of mitigation measures for dust, odors and VOC.

(H) Details of disposal of VOC contaminated soil, including the ultimate receptor.

(I) Description of monitoring equipment and techniques.

(J) A map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential areas or other sensitive receptors such as hospitals or locations where children or elderly people live or work.

(K) Designation of a person who can conduct a site inspection with the Executive Officer prior to issuance of the plan.

(6) Applications for Facility Treatment Plans shall at a minimum:

(A) Include a list of all AQMD permits to construct or operate which have been issued for that treatment and control equipment.

(B) Provide for the implementation of VOC-contaminated soil decontamination measures, as approved by the Executive Officer in writing, which result in Best Available Control Technology during all operations.

(C) Provide a map showing the facility layout including the location of all proposed VOC and non-VOC contaminated soil stockpiles.

(D) Specify the total amount of VOC contaminated soil proposed to be stockpiled on site.

(E) Provide for VOC contaminated soil stockpiles to be kept moist with water or suppressant and be covered to prevent fugitive emissions.

(F) Provide for VOC contaminated soil stockpiles to be segregated from non-VOC contaminated soil stockpiles.

(G) Provide for maintenance of records for stockpiles according to the source name, address and dates of reception.

(H) Provide for records of the generator, transporter and storage/treatment facilities and indicate their identification and business addresses. Such records shall be signed by each party at the time custody is transferred.

(I) Provide a map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential area or other sensitive receptors such as hospitals, or locations where children or elderly people live or work.

(J) Designation of a person who can conduct a site inspection with the Executive Officer prior to issuance of the plan.

(K) Specify the operating schedule and maximum amount of VOC-contaminated soil proposed to be remediated on a daily basis.

(7) In approving a plan, the Executive Officer require reasonable conditions deemed necessary to ensure the operations comply with the plan and AQMD rules. The conditions may include, but shall not be limited to, procedures for ensuring responsibility for the implementation of the plan, accessibility to the site for AQMD staff, notification of actions required by the plan, identification of emission receptors, monitoring and testing, suppression and covering of stockpiles, prevention of public nuisance from VOC or dust emissions, prevention of fugitive emissions of VOC contaminated soil, loading of truck trailers, and disposal and treatment.

(8) In approving a plan, the Executive Officer may require any records deemed necessary to be maintained by the operator to demonstrate compliance with the plan. Such records shall be retained for at least 2 years and be made available to the Executive officer upon request.

(Adopted July 7, 2017)(Amended December 1, 2017)(Amended June 4, 2021)

RULE 1466. CONTROL OF PARTICULATE EMISSIONS FROM SOILS WITH TOXIC AIR CONTAMINANTS

(a) Purpose

The purpose of this rule is to minimize the amount of off-site fugitive dust emissions containing toxic air contaminants by reducing particulate emissions in the ambient air as a result of earth-moving activities, including, dredging, excavating, grading, earth-cutting and filling, loading, unloading, handling, mechanized land clearing, treating, stockpiling, transferring, and removing of soil that contains applicable toxic air contaminants, from sites that meet the applicability requirements of subdivision (b).

(b) Applicability

(1) This rule shall apply to any owner or operator conducting earth-moving activities of soil with applicable toxic air contaminant(s) as defined in paragraph (c)(16) that have been identified as contaminant(s) of concern at a site that has been designated and notified by:

(A) The U.S. Environmental Protection Agency (U.S. EPA) as a Superfund National Priorities List site;

(B) The California Department of Toxic Substances Control (DTSC) as a Brownfield or Cleanup Program site;

(C) The State Water Resources Control Board (State Water Board) or Regional Water Quality Control Board (Regional Water Board) as a Site Cleanup Program site;

(D) A county, local, or state regulatory agency as a Hazardous Material Release site, as defined in California Health and Safety Code Section 25260; or

(E) The Executive Officer pursuant to subdivision (i).

(2) This rule shall not apply to:

(A) Earth-moving activities of soil with applicable toxic air contaminant(s) of less than 50 cubic yards; or

(B) Removal of soil for sampling purposes.

(c) Definitions

(1) ADEQUATELY WET means the condition of being sufficiently mixed or penetrated with water to prevent the release of particulates or visible emissions. The process by which an adequately wet condition is achieved is by using a dispenser

or water hose with a nozzle that permits the use of a fine, low-pressure spray or mist.

(c) (2) ADJACENT ATHLETIC AREA means any outdoor athletic field or park where youth organized sports occur that is in physical contact or separated solely by a public roadway or other public right-of-way to a SCHOOL.

(3) ADJOINING means in physical contact with or separated solely by a public roadway or other public right-of-way.

(4) CHEMICAL STABILIZERS means any non-toxic chemicals that are used to bind soil together to control FUGITIVE DUST emissions.

(5) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for FUGITIVE DUST. This definition excludes those areas which have:

(A) Been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) Been paved or otherwise covered by a permanent structure; or

(C) Sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(6) DUST SUPPRESSANTS means water or hygroscopic materials, other than CHEMICAL STABILIZERS, that are used as a treatment material to reduce FUGITIVE DUST emissions.

(7) EARTH-MOVING ACTIVITIES means, for the purpose of this rule, any activity on a site that meets the applicability requirements of subdivision (b) where SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S) is being moved or uncovered, including: dredging, excavating, grading, earth-cutting and filling operations, loading, unloading, handling, mechanized land clearing, treating, transferring, removing, and adding to or removing from STOCKPILES, and vehicular movement of equipment associated with these activities. EARTH-MOVING ACTIVITIES do not include vehicular movement from: delivery vehicles, passenger vehicles transporting personnel to and from the site, vehicles used for administrative purposes, vehicles transporting personnel for the purposes of soil sampling and conducting ambient PM_{10} monitoring requirements, watering trucks, and equipment used exclusively on a portion(s) of the site where there is no SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S).

(c) (8) FUGITIVE DUST means, for the purpose of this rule, any solid particulate matter that is in contact with ambient air and has the potential to become airborne, other than solid particulate matter that is emitted from an exhaust stack.

(9) JOINT USE AGREEMENT PROPERTY means a shared public facility in which a formal agreement exists between a SCHOOL and another government entity setting forth the terms and conditions for shared use.

(10) OWNER OR OPERATOR means any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, contractor, or other capacity.

(11) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excludes access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal, or any other governmental or quasi-governmental agencies. Private paved roads are any PAVED ROADS not defined as public.

(12) PROPERTY LINE means the boundary of an area where a person has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(13) SCHOOL means any public or private education center, including juvenile detention facilities with classrooms, used for the education of more than 12 children at the education center in kindergarten through grade 12. A SCHOOL also includes an Early Learning and Developmental Program by the U.S. Department of Education or any state or local early learning and development programs such as preschools, Early Head Starts, Head Start, First Five, and Child Development Centers. A SCHOOL does not include any private education center in which education is primarily conducted in private homes. A SCHOOL includes any building or structure, playground, athletic field, or other area of school property.

(14) SLAG means, for the purpose of this rule, the by-product material that is separated from metals during smelting or refining of ore.

(15) SOIL means dirt, sand, gravel, clay, SLAG, and aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(16) SOIL WITH APPLICABLE TOXIC AIR CONTAMINANT(S) means, for the purpose of this rule, SOIL that has been identified by the U.S. EPA, the DTSC, the

State Water Board, the Regional Water Board, or a county, local, or state regulatory agency, to contain one or more of the applicable toxic air contaminants listed in Table I that exceed action levels as specified by the designating agency, or soil that has been identified by the Executive Officer to contain one or more of the toxic air contaminants listed in Rule 1401 – New Source Review of Toxic Air Contaminants (Table I) or Hazardous Air Pollutants Identified as Toxic Air Contaminants as listed in California Code of Regulations Section 93001, excluding volatile organic compounds regulated under Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil.

(c) (17) STABILIZED SURFACE means any previously DISTURBED SURFACE AREA or STOCKPILE, which through the application of CHEMICAL STABILIZERS or DUST SUPPRESSANTS, shows visual or other evidence of surface crusting and is resistant to WIND-DRIVEN FUGITIVE DUST, and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the most current version of the South Coast AQMD *Rule 403 Fugitive Dust Implementation Handbook* or in Volumes I and II of South Coast AQMD's *Dust Control in the Coachella Valley*.

(18) STOCKPILE means any accumulation of SOIL, which is not fully enclosed and which attains a height of three feet or more and a total surface area of 150 square feet or more.

(19) TRACK-OUT means, for the purpose of this rule, any SOIL that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that has been released onto a PAVED ROAD and that can be removed by a vacuum sweeper under normal operating conditions.

(20) WIND-DRIVEN FUGITIVE DUST means visible emissions from any DISTURBED SURFACE AREA, which is generated by wind action alone.

(d) Monitoring Requirements

(1) When on-site earth-moving activities occur, the owner or operator shall conduct continuous direct-reading near real-time ambient monitoring of PM_{10} concentrations pursuant to paragraph (d)(3).

(2) If the PM_{10} concentration exceeds 25 micrograms per cubic meter, as measured pursuant to paragraph (d)(3) and as determined pursuant to paragraph (d)(9), the owner or operator shall cease on-site earth-moving activities, apply dust suppressant to fugitive dust sources, or implement other dust control measures as

necessary until the PM_{10} concentration is equal to or less than 25 micrograms per cubic meter averaged over 30 minutes.

(d) (3) The owner or operator conducting on-site earth-moving activities shall install PM_{10} monitors and conduct ambient PM_{10} monitoring:

(A) In accordance with a U.S. EPA-approved equivalent method for PM_{10} monitoring or using a Rule 1466 Approved PM_{10} Monitor;

(B) Using a minimum of two monitors, placing each monitor as close to the property line as feasible, where:

(i) One or more monitors is in the seasonal prevailing wind direction upwind of the area(s) of on-site earth-moving activity, indicative of background PM_{10} levels, and not generally influenced by fugitive dust sources from the site; and

(ii) One or more monitors is in the seasonal prevailing wind direction downwind of the area(s) of on-site earth-moving activity;

(C) Using PM_{10} monitors that are identical in: make and model, settings, and configuration; and

(D) Using ambient PM_{10} monitors that are operated, maintained, and calibrated in accordance with appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent methods for PM_{10} and manufacturer's instructions.

(4) On and before December 31, 2021, the owner or operator shall collect ambient PM_{10} data with a data acquisition system (DAS) that is capable of logging direct-reading near real-time data providing the date, time, and PM_{10} concentration in micrograms per cubic meter every 10 minutes or less.

(5) On and after January 1, 2022, the owner or operator shall collect ambient PM_{10} data with a DAS that is capable of logging direct-reading near real-time data providing the date and time, calibrated to Pacific Standard Time (PST), and PM_{10} concentration in micrograms per cubic meter every 1 minute or less.

(6) On and after January 1, 2022, the owner or operator shall operate PM_{10} monitors with the heated sampler inlet on.

(7) On and after January 1, 2022, prior to conducting any on-site earth-moving activities, and weekly thereafter, the owner operator shall conduct intra-instrument precision tests with the PM_{10} monitors in accordance with *Appendix 2 – Procedures to Demonstrate Intra-Instrument Precision*, or make available documentation and supporting data certifying that such intra-instrument precision tests were run by an

equipment rental company or other third party, that demonstrate an intra-instrument precision of:

(d) (7) (A) No more than 25 percent as calculated pursuant to Step 7a in *Appendix 2* when ambient PM_{10} concentrations are equal to or greater than 15 micrograms per cubic meter; or

(B) No more than 5 micrograms per cubic meter as calculated pursuant to Step 7b in *Appendix 2* when ambient PM_{10} concentrations are less than 15 micrograms per cubic meter.

(8) On and after January 1, 2022, each day prior to conducting on-site earth-moving activities, the owner or operator shall conduct a passing zero check on each PM_{10} monitor in accordance with:

(A) Steps 4 and 5 of *Appendix 2* that demonstrates an average PM_{10} concentration of 0 ± 3 micrograms per cubic meter; or

(B) Manufacturer's instructions if a monitor is operated using an auto-zero check procedure that directs filtered particle-free air into the measurement chamber.

(9) The owner or operator shall calculate the PM_{10} concentration as a 120-minute rolling average, where:

(A) The initial average starts at the commencement of on-site earth-moving activities and ends 120 minutes after the commencement of on-site earth-moving activities;

(B) On and before December 31, 2021, the averages subsequent to the initial average specified in subparagraph (d)(9)(A) are to be calculated every 10 minutes and cover the previous 120-minute period;

(C) On and after January 1, 2022, the averages subsequent to the initial average specified in subparagraph (d)(9)(A) are to be calculated every 1 minute and cover the previous 120-minute period;

(D) The PM_{10} concentration is calculated by subtracting the results of the upwind monitor(s) from the downwind monitor(s) for the same averaging period;

(i) If the wind direction is in the seasonal prevailing wind direction, then the monitor(s) described pursuant to clause (d)(3)(B)(i) shall be designated as the upwind monitor(s) and the monitor(s) described pursuant to clause (d)(3)(B)(ii) shall be designated as the downwind monitor(s); and

(d) (9) (D) (ii) If there is greater than a ± 90 degree change in wind direction from the seasonal prevailing wind direction, then the monitor(s) described pursuant to clause (d)(3)(B)(i) shall be designated as the downwind monitor(s) and the monitor(s) described pursuant to clause (d)(3)(B)(ii) shall be designated as the upwind monitor(s);

(E) If there is more than one upwind monitor, the upwind result is the average concentration of all upwind monitors for the same rolling averaging period;

(F) If there is more than one downwind monitor, the downwind result is the maximum concentration of any of the downwind monitors for the same rolling averaging period;

(G) On and before December 31, 2021, when on-site earth-moving activities resume after ceasing pursuant to paragraph (d)(2), the average shall start when on-site earth-moving activities resume and shall end 120 minutes after on-site earth-moving activities resume, and the subsequent averages are to be calculated every 10 minutes and shall cover the previous 120-minute period; and

(H) On and after January 1, 2022, when on-site earth-moving activities resume after ceasing pursuant to paragraph (d)(2), the average shall start when on-site earth-moving activities resume and shall end 120 minutes after on-site earth-moving activities resume, and the subsequent averages are to be calculated every one minute and shall cover the previous 120-minute period.

(10) An owner or operator that elects to move the monitors accordingly when there is a change in wind direction in place of meeting the requirements specified in clauses (d)(3)(B)(i), (d)(3)(B)(ii), (d)(9)(D)(i), and (d)(9)(D)(ii), shall:

(A) Place a minimum of one upwind monitor in the upwind direction of the area(s) of on-site earth-moving activity, indicative of background PM_{10} levels, and not generally influenced by fugitive dust sources from the site;

(B) Place a minimum of one downwind monitor in the downwind direction of the area(s) of on-site earth-moving activity; and

(C) Move the monitor(s) in subparagraph (d)(10)(A) to the new upwind location and the monitor(s) in subparagraph (d)(10)(B) to the new downwind location when there is a change in wind direction.

(11) In the event that a DAS fails to log ambient PM_{10} data pursuant to paragraph (d)(5) or that the data management system integrated with the PM_{10} monitor(s) and

DAS(s) fails to calculate PM_{10} concentrations pursuant to subparagraph (d)(9)(C) due to a technical issue beyond the reasonable control of an owner or operator, including, but not limited to, internet connection disruptions and computer malfunctions, the owner or operator shall:

(d) (11) (A) Restore the DAS or data management system to working condition as soon as practicable and no later than the start of the next working day; and

(B) Manually record the PM_{10} concentration from the monitor(s) associated with the non-operational DAS once every 10 minutes or less and calculate the PM_{10} concentration pursuant to the averages specified in subparagraph (d)(9)(B) until the DAS is restored or calculate the PM_{10} concentration pursuant to the averages specified in subparagraph (d)(9)(B) until the data management system is restored.

(12) When conducting ambient PM_{10} monitoring as required in paragraph (d)(1), the owner or operator shall monitor wind direction and speed using a minimum of one stationary anemometer or wind sensor that:

(A) Is sited over open, level terrain within the project site with minimal obstructions to the wind flow at a minimum height of eight feet above grade;

(B) Meets the performance criteria of:

(i) Wind direction accuracy of ± 7 degrees and resolution of 1 degree; and

(ii) Wind speed accuracy of 2 miles per hour (mph) or ± 5 percent of the observed wind speed, whichever is greater, and resolution of 1 mph;

(C) Has a National Institute of Standards and Technology (NIST) Traceability certification;

(D) Is equipped with a data logger that records wind direction and speed data once every 1 minute or less and archives the recorded wind direction and speed data, including the date and time, calibrated to PST; and

(E) Is operated, calibrated, and maintained in accordance with manufacturer's specifications, but no less frequent than once every 6 months of cumulative operation.

(13) The Executive Officer may approve a PM_{10} monitor to be added as a Rule 1466 Approved PM_{10} Monitor if the PM_{10} monitor meets the specifications listed in *Appendix 1 – Rule 1466 Approved PM_{10} Monitors*. The request for a PM_{10} monitor to be added as a Rule 1466 Approved PM_{10} Monitor shall:

(A) Be submitted to Rule1466ApprovedMonitors@aqmd.gov;

(d) (13) (B) Include a description of the PM_{10} monitor, any accessories, and all monitor specifications; and

(C) Include documentation demonstrating compliance with each specification listed in *Appendix 1*.

(e) Requirements to Minimize Fugitive Dust Emissions

(1) On and before December 31, 2021, an owner or operator shall not conduct on-site earth-moving activities unless the area is surrounded with fencing that is a minimum of 6 feet tall and at least as tall as the height of the tallest stockpile, with a windscreen that has a porosity of 50 ± 5 percent. A section of the perimeter surrounding an on-site earth-moving activity area may be excluded from this requirement if that section:

(A) Has a solid physical barrier, such as a solid wall or other solid feature that minimizes air flow, that is a minimum of 6 feet tall but at least 6 inches taller than the height of the tallest stockpile; or

(B) Does not have on-site earth-moving activity occurring within 300 feet from the perimeter of that section.

(2) On and after January 1, 2022, an owner or operator shall not conduct on-site earth-moving activities unless the area is surrounded with fencing that is a minimum of 6 feet tall but at least 6 inches taller than the height of the tallest stockpile, with a windscreen that has a porosity of 50 ± 5 percent or a mesh windscreen that has a shade value or opacity of 85 ± 5 percent. A section of the perimeter surrounding an on-site earth-moving activity area may be excluded from this requirement if that section meets the conditions as specified in subparagraph (e)(1)(A) or (e)(1)(B).

(3) An owner or operator conducting on-site earth-moving activities shall:

(A) Adequately wet to the depth of earth-moving activity and allow time for penetration; and

(B) Adequately wet at frequencies to prevent the generation of visible dust plumes.

(4) An owner or operator that is moving vehicles on, within, or off a site shall:

(A) Post signs at all entrances of the site to designate the speed limit as 15 mph;

(B) Stabilize the surface of all vehicular traffic and parking areas by applying gravel, paving, chemical stabilizers pursuant to paragraph (e)(13), or dust suppressant;

(C) Not allow any track-out outside of the property line that is 25 feet or more in cumulative length. Remove any track-out at a minimum frequency of

once each day using a vacuum equipped with a filter(s) rated by the manufacturer to achieve a 99.97 percent control efficiency for 0.3 micron particles;

(e) (4) (D) Clean the soil from the exterior of trucks, trailers, and tires prior to the truck leaving the site, without the use of forced air; and

(E) Utilize at least one of the following measures at each vehicle egress from the site to a public road:

(i) Install a pad consisting of washed gravel (minimum-size: 1 inch), maintained in a clean condition, to a depth of at least 6 inches and extending at least 30 feet wide and at least 50 feet long;

(ii) Pave the surface extending at least 100 feet from the property line and at least 30 feet wide;

(iii) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipes, or grates) at least 24 feet long and 30 feet wide; or

(iv) Install and utilize a wheel washing system to remove soil from tires and vehicle undercarriages.

(5) An owner or operator conducting on-site earth-moving activities shall ensure that stockpiles with any soil with applicable toxic air contaminant(s) be:

(A) Segregated from non-contaminated stockpiles;

(B) Labelled with "South Coast AQMD Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminant(s) Applicable Soil";

(C) Maintained to avoid steep sides or faces that exceed the angle of repose;

(D) No more than 400 cubic yards of soil;

(E) Maintained to minimize fugitive dust emissions containing toxic air contaminants by applying chemical stabilizers pursuant to paragraph (e)(13), applying dust suppressant, or completely covering pursuant to paragraph (e)(14); and

(F) Either chemically stabilized pursuant to paragraph (e)(13) and/or completely covered pursuant to paragraph (e)(14) at all times when earth-moving activities and ambient PM_{10} monitoring are not occurring.

(6) An owner or operator conducting truck and trailer loading activities of soil containing applicable toxic air contaminant(s) shall:

(A) Apply dust suppressant to material prior to loading;

(B) Empty the loader bucket slowly so that no visible dust plumes are generated;

(e) (6) (C) Minimize the drop height from the loader bucket;

(D) Maintain at least 6 inches of space between the soil and the top of the truck bed and trailer while transporting within a site; and

(E) Completely cover the truck bed and trailer prior to leaving the site.

(7) An owner or operator conducting truck and trailer unloading activities of soil containing applicable toxic air contaminant(s) shall:

(A) Apply dust suppressant to material prior to unloading; and

(B) Empty the trailer slowly so that no visible dust plumes are generated.

(8) The owner or operator shall immediately remove any spilled soil.

(9) The owner or operator shall cease on-site earth-moving activities if the wind speed is greater than 15 mph averaged over a 15-minute period or the instantaneous wind speed exceeds 25 mph.

(10) During on-site earth-moving activities, the owner or operator shall have an on-site dust control supervisor that:

(A) Is employed by or contracted with the owner or operator;

(B) Is located on the site during working hours;

(C) Is in a position to expeditiously employ sufficient dust control measures to ensure compliance with all rule requirements;

(D) Has completed the South Coast AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(E) Has the following credentials, if asbestos is an applicable toxic air contaminant:

(i) Successfully completed the Asbestos Abatement Contractor/Supervisor course pursuant to the Asbestos Hazard Emergency Response Act (AHERA), and obtained and maintained accreditation as an AHERA Asbestos Abatement Contractor/Supervisor; and

(ii) Trained on the provisions of 40 CFR Part 61.145, 61.146, 61.147 and 61.152 (Asbestos NESHAP provisions) and Part 763, and has the means to comply with these provisions.

(11) An owner or operator shall apply a chemical stabilizer pursuant to paragraph (e)(13) and/or use a cover pursuant to paragraph (e)(14) on potential sources of fugitive dust when earth-moving activities are not occurring in the specific location(s) containing the potential source(s) of fugitive dust.

(e) (12) An owner or operator shall inspect daily, including days when no on-site earth-moving activities are occurring, labeled stockpiles pursuant to subparagraph (e)(5)(B) and stabilized or covered stockpiles pursuant to (e)(5)(F).

(A) For a stabilized stockpile, such inspections shall include a demonstration of stabilization by one or more of the applicable test methods contained in the most current version of the South Coast AQMD *Rule 403 Fugitive Dust Implementation Handbook* or Volumes I and II of South Coast AQMD's *Dust Control in the Coachella Valley*.

(B) For a covered stockpile, such inspections shall include a visual inspection of all seams and plastic cover surfaces to ensure that no portion of the soil is exposed to the atmosphere.

(13) When utilizing a chemical stabilizer, an owner or operator shall:

(A) Ensure the chemical stabilizer meets any specifications, criteria, or tests required by any federal, state, or local agency or any applicable law, rule, or regulation; and

(B) Unless otherwise indicated, use a sufficient concentration of the chemical stabilizer and an application frequency sufficient to maintain a stabilized surface and no less than what is specified by the manufacturer for the period of inactivity.

(14) When using a cover for stockpiles, an owner or operator shall ensure the cover:

(A) Is at least 10 mil thick plastic sheeting that overlaps a minimum of 24 inches; and

(B) Is anchored and secured so that no portion of the soil is exposed to the atmosphere.

(15) An owner or operator that is conducting earth-moving activities of soil with applicable toxic air contaminant(s) at a school, joint use agreement property, adjacent athletic area, or at a site that is adjoining a school, joint use agreement property, or adjacent athletic area shall:

(A) Only conduct earth-moving activities at a school or at a site that is adjoining a school outside of the hours between 7:30 a.m. and 4:30 p.m. on days when the school is in session;

(B) Not conduct earth-moving activities at a school, joint use agreement property, adjacent athletic area, or at a site that is adjoining a school, joint use agreement property, or adjacent athletic area if there is a school sponsored activity or youth organized sports taking place at that site;

(e) (15) (C) Handle excavated soils with applicable toxic air contaminant(s) by:

(i) Immediately placing soil in a leak-tight container whereby any contained solids or liquids are prevented from escaping or spilling out;

(ii) Directly loading soil in truck beds, trailers, and bins for transport, applying chemical stabilizer pursuant to paragraph (e)(13) or dust suppressant, and completely covering prior to transporting; or

(iii) Stockpiling pursuant to paragraph (e)(5), in a fenced area that is not accessible to the general public, and locked when not in use; and

(D) Within five days of its excavation, remove all soil with applicable toxic air contaminant(s) from the site.

(f) Notification Requirements

(1) The owner or operator shall electronically submit an initial notification to the Executive Officer, using a format approved by the Executive Officer, of the intent to conduct any on-site earth-moving activities.

(A) Initial notifications shall be submitted:

(i) At least 72 hours but no more than 30 days prior to conducting any earth-moving activities on any site meeting the applicability requirements of subdivision (b); or

(ii) As soon as the information becomes available but no later than 48 hours after the information becomes available that on-site earth-moving activities of soil with applicable toxic air contaminant(s) exceed 50 cubic yards.

(B) Initial notifications shall include the following requirements:

(i) Name, address, telephone number, and e-mail address of the owner or operator;

(ii) Name, telephone number, and e-mail address of the on-site dust control supervisor;

(iii) Project name and, if applicable, the project identification number from the designating agency;

(iv) Project location (address and/or coordinates);

(v) Identify whether the site is a school, joint use agreement property, adjacent athletic area, or is adjoining a school, joint use agreement property, or adjacent athletic area;

(f) (1) (B) (vi) A map indicating the specific location(s) of each on-site earth-moving activity and the concentrations of the applicable toxic air contaminant(s) and location of PM_{10} monitors;

(vii) A description of the on-site earth-moving activities, estimated volume of soil with applicable toxic air contaminant(s), and a schedule that includes the anticipated start and completion dates of on-site earth-moving activities;

(viii) Current and/or previous type of operation(s) and use(s) at the site;

(ix) Applicable exemption(s); and

(x) Whether the notice being provided is a revised notification.

(2) Notification Updates

Initial notifications pursuant to paragraph (f)(1) shall be updated when any of the following conditions arise:

(A) Earlier Start Date

A change in the start date of on-site earth-moving activities to an earlier date shall be reported to the South Coast AQMD no later than 72 hours before any on-site earth-moving activities begin.

(B) Later Start Date

A delay in the start date of on-site earth-moving activities shall be reported to the South Coast AQMD as soon as the information becomes available, but no later than the original start date.

(C) Change in Exemption Status

Any change(s) in exemption status pursuant to subdivision (k) shall be reported to the South Coast AQMD as soon as the information becomes available, but no later than 48 hours after the information becomes available.

(D) Completion Date

The completion date of on-site earth-moving activities shall be reported to the South Coast AQMD no later than 48 hours after on-site earth-moving activities are completed.

(3) Within 72 hours of an exceedance of the PM_{10} emission limit specified in paragraph (d)(2), the owner or operator shall electronically submit a notification to the Executive Officer, using a format approved by the Executive Officer, of the exceedance and shall include the following information:

(f) (3) (A) Name, address, telephone number, and e-mail address of the owner or operator;

(B) Name, telephone number, and e-mail address of the on-site dust control supervisor;

(C) Project name and, if applicable, the project identification number from the designating agency;

(D) Project location (address and/or coordinates);

(E) PM_{10} monitoring results and wind direction and speed results pursuant to subdivision (d), including location of monitors, result, date and time of exceedance(s), 12 hours before first exceedance, and 12 hours after last exceedance;

(F) On-site earth-moving activities occurring at the date and time of exceedance(s); and

(G) Dust control measure(s) taken to mitigate fugitive dust.

(g) Signage Requirements

When conducting on-site earth-moving activities, the owner or operator shall install and maintain project signage.

(1) Unless otherwise approved in writing by the Executive Officer, signage shall:

(A) Be installed at all entrances and at intervals of 1,000 feet or less along the property line or perimeter of the site, with a minimum of one sign along each side;

(B) Be located between 6 and 8 feet above grade from the bottom of the sign;

(C) Display lettering at least 4 inches tall with text contrasting with the sign background; and

(D) Display the following information:

(i) Local or toll-free phone number for the site contact or pre-recorded notification center that is accessible 24 hours a day; and

(ii) Warning statement:

"THIS SITE CONTAINS SOILS THAT CONTAIN THE FOLLOWING CHEMICALS: [LIST APPLICABLE TOXIC AIR CONTAMINANT(S)]
TO REPORT ANY DUST LEAVING THE SITE PLEASE CALL [FACILITY CONTACT AND PHONE NUMBER] OR THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AT 1-800-CUT-SMOG".

(g) (2) If signage pursuant to paragraph (g)(1) exceeds 48 inches by 96 inches, the owner or operator or designating agency shall include the warning statement referenced in clause (g)(1)(D)(ii), displaying lettering at least 4 inches tall with text contrasting with the sign background, but may use 2.5 inch tall lettering to list applicable toxic air contaminant(s). All other signage requirements set forth in paragraph (g)(1) shall remain the same. If signage continues to exceed 48 inches by 96 inches with these parameters, the owner or operator or designating agency may use alternative signage as set forth in paragraph (g)(3).

(3) The owner or operator or designating agency may use alternative signage approved by the Executive Officer pursuant to subdivision (j). Notwithstanding subdivision (j), the request shall include a visual representation of the alternative sign, including proposed lettering height, and locations and, at a minimum, the alternative signage shall:

(A) Display text contrasting with the sign background; and

(B) Display the following warning statement:

"THIS SITE CONTAINS SOILS THAT CONTAIN THE FOLLOWING CHEMICALS: [LIST APPLICABLE TOXIC AIR CONTAMINANT(S)] TO REPORT ANY DUST LEAVING THE SITE PLEASE CALL THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AT 1-800-CUT-SMOG".

(4) The owner or operator may be excluded from installing and maintaining project signage pursuant to subparagraph (g)(1)(A) at any entrance(s) or interval(s) along the property line or perimeter of the site that is not visible and not accessible to the public unless the site is a school, joint use agreement property, or adjacent athletic area or the site is adjoining a school, joint use agreement property, or adjacent athletic area.

(h) Recordkeeping Requirements

The owner or operator shall maintain records for a period of not less than 3 years and shall make such records available to the Executive Officer upon request. At a minimum, records shall be maintained daily and shall include:

(1) Inspections of all stabilized or covered stockpiles containing soils with applicable toxic air contaminant(s) and all re-stabilization, cover repair, and label maintenance activities, including dates and times the specific activities were conducted;

(2) Results of wind and PM_{10} monitoring, including: ambient PM_{10} data; rolling average PM_{10} concentrations and calculations; wind direction and speed

corresponding to the rolling average PM_{10} concentrations; movement of monitoring instruments corresponding to wind direction changes; instrument make and model; settings; proof of valid calibration in accordance with manufacturer's recommended schedule; configuration; calibration, correction, and correlation factors; maintenance; operator training; daily instrument performance check records and manual zero or auto-check results; weekly zero calibration records and intra-instrument precision test data and calculation results; and all instrument logs for all monitoring instruments;

(h) (3) All instrument maintenance activities, including: zero calibration, cleaning, filter replacement, and performance checks, including dates and times of the specific procedures;

(4) Documentation of all DAS and data management system failures, including date and time of the failure, date and time of the correction, the technical issue(s) causing the failure, and activities performed to restore the failed DAS or data management system to working condition;

(5) On-site earth-moving activities conducted and the corresponding volume of soil with applicable toxic air contaminant(s);

(6) Names and business addresses of the transporting and receiving facilities, and a copy of the shipping manifest;

(7) Complaints called in, including the name of complainant and contact information, date and time, on-site earth-moving activities occurring at the date and time, complaint, and action taken to mitigate the source of the complaint; and

(8) A copy of all submitted notifications for the project.

(i) Executive Officer Designated Sites

(1) The Executive Officer may designate a site if the Executive Officer has evidence that the site contains soil with applicable toxic air contaminant(s) as defined in paragraph (c)(16), after consultation with U.S. EPA, DTSC, the State Water Resources Control Board, the Regional Water Quality Control Board, and/or local, county, or state regulatory agencies, and consideration of the following:

(A) Site history, including current and/or previous type(s) of operation(s) and use(s) at the site and regulatory history;

(B) Concentration(s) of applicable toxic air contaminant(s) in the soil;

(C) Background concentration(s) of applicable toxic air contaminant(s);

(D) Volume of soil with applicable toxic air contaminant(s);

(i) (1) (E) Distance to a residence, park, school, joint use agreement property, adjacent athletic area, or a site adjoining a school, joint use agreement property, or adjacent athletic area;

(F) Meteorological data;

(G) Health risk information or other data provided by the owner or operator, if available; and

(H) Ambient monitoring data and other applicable data, if available.

(2) Prior to making a determination, the Executive Officer will notify the owner or operator in writing that the site may be subject to this rule.

(A) In the event the owner or operator exercises this opportunity to demonstrate that this rule does not apply, the owner or operator shall submit information to the Executive Officer within 14 days of the notification substantiating why the site should be excluded from this rule.

(B) Upon final determination, the Executive Officer will notify the owner or operator in writing if the site is subject to this rule.

(3) During the determination period, the owner or operator shall comply with the provisions of this rule or cease all on-site earth-moving activities until a determination is made.

(j) Alternative Provisions

(1) If requesting an alternative provision pursuant to paragraph (g)(3), the owner or operator or designating agency shall submit the request in writing at least 30 days prior to conducting any earth-moving activities and include all information to the Executive Officer to substantiate its position.

(2) The Executive Officer may request additional information from the owner or operator or designating agency.

(3) The owner or operator or designating agency shall submit all requested information within 14 days of the request for additional information.

(4) The Executive Officer will review the request for an alternative provision and will approve or reject the data and notify the owner or operator or designating agency in writing. Approved alternative provisions may not be used retroactively.

(5) Alternative provisions that were approved and notified in writing by the Executive Officer before June 4, 2021 shall be deemed compliant with the requirements of the applicable provisions of the rule, shall remain in effect only for the period of time and for the specific project for which they were granted, and shall not be renewed or extended.

(k) Exemptions

(1) The owner or operator may be exempt from one or more provisions of this rule provided there is written confirmation that the designating agency under subparagraphs (b)(1)(A) through (b)(1)(D) has consulted with the Executive Officer and has determined that the provision(s) are not needed based on information specified in subparagraphs (i)(1)(A) through (i)(1)(H).

(2) On-site earth-moving activities performed within an enclosed system vented to South Coast AQMD permitted air pollution control equipment shall be exempt from all requirements except: subparagraphs (e)(4)(C) through (e)(4)(E), subparagraphs (e)(6)(D) and (e)(6)(E), and subdivisions (f), (g), and (h).

(3) Linear trenching for natural gas, power, sewer, and water projects on roadways with soil with applicable toxic air contaminant(s), directly loaded into a truck bed, trailer, or bin for transport, shall be exempt from all requirements except: paragraphs (e)(3) through (e)(9), paragraphs (e)(13) and (e)(15), and subdivisions (f), (h), and (i).

(4) On-site earth-moving activities consisting only of excavation activities of soil with applicable toxic air contaminant(s) of less than 500 cubic yards, directly loaded into a truck bed, trailer, or bin for transport, shall be exempt from all requirements except: paragraphs (e)(3) through (e)(9), paragraphs (e)(13) and (e)(15), and subdivisions (f), (h), and (i).

(5) On-site earth-moving activities conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer shall be exempt from all requirements. The Executive Officer shall be notified electronically no later than 48 hours following such on-site earth-moving activities. Written notification shall include written emergency declaration from the authorized officer.

(6) On-site earth-moving activities conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency disruptions shall be exempt from all requirements. The Executive Officer shall be notified electronically no later than 48 hours following such on-site earth-moving activities.

Table I – Applicable Toxic Air Contaminants

CAS Number	Substance
7440-38-2	**arsenic and arsenic compounds (inorganic)**
	including, but not limited to:
	arsenic compounds (inorganic)
7784-42-1	arsine
1332-21-4	Asbestos
7440-43-9	cadmium and cadmium compounds
57-74-9	chlordane
	dibenzo-p-dioxins (chlorinated)
1746-01-6	tetrachlorodibenzo-p-dioxin, 2,3,7,8-
40321-76-4	pentachlorodibenzo-p-dioxin, 1,2,3,7,8-
39227-28-6	hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-
57653-85-7	hexachlorodibenzo-p-dioxin, 1,2,3,6,7,8-
19408-74-3	hexachlorodibenzo-p-dioxin, 1,2,3,7,8,9-
35822-46-9	heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8-
3268-87-9	octachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8,9-
41903-57-5	total tetrachlorodibenzo-p-dioxin
36088-22-9	total pentachlorodibenzo-p-dioxin
34465-46-8	total hexachlorodibenzo-p-dioxin
37871-00-4	total heptachlorodibenzo-p-dioxin
72-54-8	dichlorodiphenyldichloroethane
72-55-9	dichlorodiphenyldichloroethylene
50-29-3	dichlorodiphenyltrichloroethane

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
18540-29-9	**chromium (hexavalent) and chromium compounds**
	including, but not limited to:
10294-40-3	barium chromate
13765-19-0	calcium chromate
7758-97-6	lead chromate
10588-01-9	sodium dichromate
7789-06-2	strontium chromate
13530-65-9	zinc chromate
7439-92-1	**lead and lead compounds (inorganic, including elemental lead)**
	including, but not limited to:
	lead compounds (inorganic)
301-04-2	lead acetate
7758-97-6	lead chromate
7446-27-7	lead phosphate
1335-32-6	lead subacetate
7439-97-6	**mercury and mercury compounds (inorganic)**
	including, but not limited to:
7487-94-7	mercuric chloride
593-74-8	methyl mercury

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
7440-02-0	**nickel and nickel compounds**
	including, but not limited to:
373-02-4	nickel acetate
3333-67-3	nickel carbonate
13463-39-3	nickel carbonyl
12054-48-7	nickel hydroxide
1313-99-1	nickel oxide
12035-72-2	nickel subsulfide
1271-28-9	nickelocene
	refinery dust from the pyrometallurgical process
1336-36-3	**polychlorinated biphenyls (PCBs)**
32598-13-3	3,3’,4,4’-tetrachlorobiphenyl (PCB 77)
70362-50-4	3,4,4’,5-tetrachlorobiphenyl (PCB 81)
32598-14-4	2,3,3’,4,4’-pentachlorobiphenyl (PCB 105)
74472-37-0	2,3,4,4’,5-pentachlorobiphenyl (PCB 114)
31508-00-6	2,3’,4,4’,5-pentachlorobiphenyl (PCB 118)
65510-44-3	2,3',4,4',5'-pentachlorobiphenyl (PCB 123)
57465-28-8	3,3’,4,4’,5-pentachlorobiphenyl (PCB 126)
38380-08-4	2,3,3’,4,4’,5-hexachlorobiphenyl (PCB 156)
69782-90-7	2,3,3’,4,4’,5’-hexachlorobiphenyl (PCB 157)
52663-72-6	2,3’,4,4’,5,5’-hexachlorobiphenyl (PCB 167)
32774-16-6	3,3’,4,4’,5,5’-hexachlorobiphenyl (PCB 169)
39635-31-9	2,3,3’4,4’,5,5’-heptachlorobiphenyl (PCB 189)

Table I – Applicable Toxic Air Contaminants (cont.)

CAS Number	Substance
	polycyclic aromatic hydrocarbons (PAHs)
56-55-3	benzo[a]anthracene
50-32-8	benzo[a]pyrene
205-99-2	benzo[b]fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-c,d]pyrene

Appendix 1 – Rule 1466 Approved PM_{10} Monitors

The Executive Officer may approve PM_{10} monitors that meet the following physical and performance requirements.

1. Physical Requirements
   - 1.1. PM_{10} monitors shall be continuous direct-reading near-real time monitors and shall monitor particulate matter less than 10 microns.
   - 1.2. PM_{10} monitors shall be equipped with:
     - 1.2.a. Omni-directional heated sampler inlet;
     - 1.2.b. Sample pump with active flow control mechanism;
     - 1.2.c. Enclosure;
     - 1.2.d. Data logger capable of logging each data point with average concentration, time, date, and data point number; and
     - 1.2.e. Conductive tubing that minimizes particle loss for any external tubing used to carry sampled air prior to measurement.

2. Performance Requirements
   - 2.1 PM_{10} monitors shall have the following minimum performance standards:
     - 2.1.a. Range: 0 - 10,000 $\mu g/m^3$;
     - 2.1.b. Accuracy, determined through factory testing against a U.S. EPA Federal Reference Method or Federal Equivalent Method, for a minimum of 30 measurements each averaged over 24 hours, to show:
       - 2.1.b.i. ± 5% of reading ± precision; or
       - 2.1.b.ii. Coefficient of determination (R^2) of ≥ 0.95 through simple linear regression;
     - 2.1.c. Resolution: 1.0 $\mu g/m^3$;
     - 2.1.d. Flow control accuracy of ± 5% of factory setpoint; and
     - 2.1.e. Measurement Cycle: User selectable (30 minute and 2 hour).
   - 2.2 Monitors that have a valid *Monitoring Certification Scheme* certification meeting the latest version of the *Monitoring Certification Scheme* (*MCERTS): Performance Standard for Indicative Ambient Particulate Monitors* may be exempt from meeting the performance requirements listed above, but shall meet all stated physical requirements.

3. Quality Assurance/Quality Control Requirements

In order to ensure the validity of the PM_{10} measurements performed, there shall be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the owner or operator to adequately supplement QA/QC Plans to include the following critical features: instrument calibration, instrument maintenance, operator training, and daily instrument performance checks.

Appendix 2 – Procedures to Demonstrate Intra-Instrument Precision

An owner or operator shall perform the following procedures to demonstrate the intra-instrument precision of all PM_{10} monitors as required in paragraph (d)(7).

1. Ensure monitors are identical in make and model, settings, and configuration.
2. Ensure monitor inlets are at the same height and located within 4 meters of each other but no less than 1 meter apart for the duration of the test.
3. Power on the monitors and turn on the heated sampler inlet. Allow the monitors to warm-up per manufacturer's recommendations or when readings have stabilized.
4. For each monitor, conduct a zero calibration in accordance with manufacturer's instructions, then conduct a manual zero check by removing any sampling inlet and installing a filter, rated by the manufacturer to achieve a 99.97 percent control efficiency for 0.3 micron particles, on the inlet of the monitor for a minimum of 10 minutes. If the monitors are operated using an auto-zero check procedure that directs filtered particle-free air into the measurement chamber, conduct the zero check in accordance with manufacturer's instructions.
5. Log the PM_{10} concentration reading every minute, and calculate and record the average of the readings of the manual zero check. The average of the manual zero check readings shall be 0 ± 3 micrograms per cubic meter before proceeding to Step 6. If conducting an auto-zero check, the monitor shall pass the zero check in accordance with manufacturer's instructions before proceeding to Step 6. If any monitors fail either the manual zero check or the auto-zero check, the owner or operator shall conduct a zero calibration in accordance with manufacturer's instructions and/or correct any issue(s) causing the failure, followed by conducting a passing zero check on the PM_{10} monitor(s) in accordance with Steps 4 and 5.
6. Remove the filter and install the monitor inlet as required. After waiting 10 minutes, operate the monitors simultaneously and log the PM_{10} concentration reading every minute for a minimum of 60 minutes.

7. Calculate the intra-instrument precision using either of the following equations:
   a. Intra-instrument precision in relative standard deviation or correlation of variation (%) when ambient PM_{10} concentrations are greater than or equal to 15 micrograms per cubic meter:

$$P = \frac{S_t}{C_t} \, x \, 100\%$$

where,

P = Intra-instrument precision in percent (%);

S_t = Standard deviation of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration, to be calculated as:

$$S_t = \sqrt{\frac{\sum(x_i - \bar{x})^2}{(n-1)}}$$

where,

x_i = Mean of the PM_{10} concentration readings for a tested monitor over time t of testing duration,

$\bar{x}$ = Mean of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration, and

n = Number of tested monitors; and

C_t = Mean of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration; or

   b. Intra-instrument precision in absolute value (micrograms per cubic meter) when ambient PM_{10} concentrations are less than 15 micrograms per cubic meter:

$$P = S_t$$

where,

P = Intra-instrument precision in micrograms per cubic meter, and

S_t = Standard deviation of the averaged PM_{10} concentration readings from all tested monitors over the time t of testing duration.

8. Record the results of the calculations.

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX D

Port of Los Angeles Environmental Guidance for Industrial Fill Material, December 2021

Leighton
a verdantas company

ENVIRONMENTAL GUIDANCE FOR INDUSTRIAL FILL MATERIAL

DECEMBER 2021

The City of Los Angeles Harbor Department (Harbor Department) Environmental Management Division (EMD) has prepared and routinely updates this guidance document to ensure that fill materials (i.e., soil, topsoil, CMB, etc.) meet both Harbor Department and regulatory and environmental standards for acceptable industrial land use fill material. In addition, the guidance procedures are intended to both reduce Harbor Department liability and potential future cleanup costs by preventing the inadvertent placement or reuse of contaminated soil/fill material on Port property. The environmental chemical concentrations listed in this section are intended only for industrial land use for the protection of human health and the environment. They are not appropriate in determining suitable soil/fill material for use at former or active regulated/cleanup sites, public access/land use areas, or for worker health & safety protection.

• Environmental Suitability of Soil/Fill Material for Industrial Use

The general process steps for determining the environmental suitability of fill material for industrial land use are the following:

1. Source Location Identification and Suitability
2. Volume Estimation of Soil/Fill Materials
3. Sampling Requirements and Sample Frequency Determination
4. Chemical Analyses Based on Source
5. Representative Sample Collection
6. Applicable Samples Analyses
7. Comparisons with Allowable Concentrations
8. Documentation and Retention

• Source Location Identification and Suitability

It is important to know the source location of the soil/fill material, including the former and current land uses of the material. Past activities performed on, or near, the proposed source location can directly affect the quality of the fill material and the suitability of use of the material. Prior use of the source site should be documented and be made available for review.

Also, the unique hydrogeological characteristics of the Port area (i.e., shallow groundwater and proximity to harbor waters) require added attention for the protection of water quality. It is strongly recommended that clean crushed miscellaneous base (CMB) only be used for applications such as road base, paving, container terminal construction, and/or asphalt/concrete parking. CMB should not be used as a substitute for soil as general fill, or within sensitive-use areas including, but not limited to, sites

under regulatory oversight or remediation, park lands, public access areas, and waterfront areas in potential contact with harbor waters.

- **Volume Estimation of Soil/Fill Material**

  The volume of soil/fill material determines the sampling frequency required. It is important to have a fairly accurate estimate of the material volume prior to sample collection and analysis. If the volume of soil/fill material cannot be accurately determined, the upper-end estimate of the volume shall be used for purposes of determining sampling frequency.

- **Sampling Requirements and Sampling Frequency Determination**

  The minimum sampling frequency and number of total samples of soil/fill material for stockpile sampling are shown in Table 1. All samples should be collected as individual grab samples. Composite samples are not acceptable. Borrow sources that are not contiguous to each other are considered to be separate or different sources and should be tested separately according to the frequencies described in Table 1. In order to distinguish between multiple borrow sources, the sampler/supplier shall provide a "unique identifier" for each stockpile or borrow source sampled (e.g. Stockpile A, Stockpile B, etc.). A site plan (e.g. map) showing the location of the source material and sample locations should be provided. In addition, the results of laboratory analytical chemical data and an approval certification stating the environmental status/condition of the material from the supplier for the sources should also be provided.

Table 1. Sampling Frequency for Each (Separate) Source of Stockpiled Fill Material

Volume of Borrow Area Stockpile	Required Number of Samples per Volume
Up to 1,000 CY	1 sample per 250 CY
1,000 to 5,000 CY	4 samples for first 1000 CY +1 sample per each additional 500 CY
Greater than 5,000 CY	12 samples for first 5,000 CY +1 sample per each additional 1,000 CY

NOTE: CY = Cubic Yard
Source: Information Advisory Clean Imported Fill Material, DTSC, October 2001

The number of samples per volume for sources not yet excavated or stockpiled (i.e., in-situ sources) may differ from the table above. This is described further in the *Representative Sample Collection* section below.

- **Chemical Analyses Based on Source**

  Table 2 provides a set of recommended chemical analyses based on the source or origin of the fill material. Except as noted, soil/fill source areas shall NOT be located in:

  a. Industrial/manufacturing areas (with the exception of soils/material generated within the Port of Los Angeles [Port]).
  b. Sites designated for or undergoing environmental cleanup or within a one-mile radius of sites undergoing environmental cleanup.
  c. Sites where hazardous materials were historically used or hazardous wastes were generated (e.g., service or fueling stations, dry cleaners, oil refineries, scrap yards, boatyards, chemical/liquid storage areas, painting facilities, metal processing shops, etc.).

  The potential for the proposed borrow site to be located in an area related to items a, b, and/or c above should be determined by the contractor PRIOR to proposing the borrow site to the Harbor Department. At a minimum, the contractor must demonstrate due diligence in obtaining the information (e.g., Phase I, searched on Geotracker and Envirostor, etc.) about historical property land uses at proposed existing and off-site borrow locations prior to placement of the material within the Port.

  For both excavated on-site and off-site material, target compounds to be analyzed for testing the suitability of the fill source may be pre-determined or reduced by assessing environmental conditions of the borrow area prior to implementing the excavation. Although, the Harbor Department does not recommend the use of soil/fill material from land adjacent to freeways and highways, mining areas, and/or agricultural lands, Table 2 provides a suggested list of target compounds and sampling tests for such locations.

Table 2. Recommended Chemical Analyses of Material Based on Source/Origin

Fill Source	Target Compounds and Analyses
Land adjacent to or within 250 feet from existing freeway or major highway	• TPH (modified EPA Method 8015) • Lead (EPA Method 6010B) • PAHs (EPA Method 8310)
Mining area or rock quarry	• Heavy metals (EPA Methods 6020 and 7471A) • Asbestos (polarized light microscopy)
Agricultural	• Pesticides and Herbicides (Organochlorine Pesticides: EPA Method 8081A or 8080A; Organophosphorus Pesticides: EPA Method 8141A; Chlorinated Herbicides: EPA Method 8151A) • Heavy metals (EPA Methods 6020 and 7471A), including hexavalent chromium (EPA Method 7199)

Fill Source	Target Compounds and Analyses
Acceptable commercial land	• VOCs (EPA Method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035) • Semi-VOCs (EPA Method 8270SIM) • TPH (modified EPA Method 8015B) • PCBs (EPA Method 8082 or 8080A) • Heavy metals including lead (EPA Methods 6020 and 7471A), including hexavalent chromium (EPA Method 7199)

- ## Representative Sample Collection

  Soil/fill material samples need to be collected in a manner (both in sample number and depth) that accurately represents the overall environmental chemical quality of the excavation area, borrow site, or stockpile(s). In-situ sampling requirements for in-place fill material is more complex than stockpile sampling, and the proposed plan for characterization shall be determined in advance with consultation/discussions with qualified Port personnel (e.g., Project Manager/Construction Manager). Table 1 is not necessarily appropriate for in-situ sampling. At a minimum, a map showing the borrow site boundaries, depths of proposed excavation, depth horizons that will be used for fill, and proposed number of samples and analyses, must be provided to the Port for initial discussion. Additional information may be requested by the Port based on the information provided. Sampling must be overseen by an environmental professional.

  Any and all samples must be collected and properly preserved/stored (e.g., specified temperatures, within appropriate containers and holding times, etc.) until delivery to a California-certified analytical laboratory (e.g., ELAP and/or NELAP certification) for analyses. Appropriate sample handling and preservation procedures are specified in the US EPA "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods (SW-846)." Each collected soil/material sample will be recorded on a chain-of-custody form prior to submittal to the laboratory for analysis.

- ## Applicable Samples Analyses

  All soil samples need to be analyzed using the applicable EPA Methods listed in Table 3. If one is aware of, has knowledge of, or suspects possible contaminants in the soil/fill material (e.g., observations of staining, discoloration, and/or odors) that are not included in the list, an analysis of the suspected contaminant(s) should be conducted.

- ## Comparisons with Allowable Concentrations

  Table 3 presents the chemical concentrations for soil/ fill material at the Port of Los Angeles. Generally, soil/fill material with sample results below (less than) the permissible chemical concentrations may be used as industrial-use fill within the Port. Soil/fill material with sample results above (greater than) the permissible chemical concentrations material cannot be used as fill and must be properly disposed of, unless directed otherwise. It's important to note that the recommended sampling frequencies in Table 1 and the subsequent sampling results only provide an indication of potential

contamination with the soil/fill material. Slight exceedances in Table 3 limits in some of the samples do not necessarily make the entire stockpile or borrow area unusable. Unless the exceedances are present throughout a number of the samples, a combination of both professional judgment and sectioning-off of the contaminated areas will likely allow use of most of the selected fill material.

In general, the primary target or 'driver' compounds of concern in the Port are TPH, benzene, PCBs, lead, and copper. While there are a number of other chemicals (including human carcinogens) found in the Port, these target compounds are the most prevalent. At a minimum, all samples should be tested for these target compounds.

Please note in Table 3 that any soil/fill sample having undergone chemical analyses with a dilution factor greater than 1 (see Footnote #3) or uses detection limits greater than the permissible concentrations in Table 3 may be rejected due to potentially elevated concentrations of one or more contaminants.

As a reminder, the environmental chemical concentrations listed in Table 3 are intended only for general industrial land use for the protection of human health and the environment. The listed concentrations are not intended to be applicable or to determine suitable soil/fill material for use at former or active regulated/cleanup sites, public/recreation land use areas, or for worker health & safety protection.

Table 3. Permissible Chemical Concentrations in Fill Material[1]

Chemicals of Concern (COC) Industrial Land Use	Soil/Fill Material Concentration (*mg/kg*)	Source
Total Petroleum Hydrocarbons (TPH) *(EPA Method 8015M/8015B)*		
TPH (Total Petroleum Hydrocarbons)	1,000	Cal-EPA SWRCB[2]
➢ Gasoline (if present)	180	Cal-EPA SWRCB/DTSC[2]
➢ Diesel (if present)	180	Cal-EPA SWRCB/DTSC[2]
Heavy Metals *(EPA Method 6020/7471A)*		
Antimony	150	10 X STLC[3]
Arsenic	8.7	Cal-EPA SWRCB/DTSC[2]
Barium	1000	10 X STLC[3]
Beryllium	7.5	10 X STLC[3]
Cadmium	1.4	Cal-EPA SWRCB/DTSC[2]
Chromium VI (EPA Method 7199/3060A)	2.8	Cal-EPA SWRCB/DTSC[2]
Total Chromium	100	20 X TCLP/STLC[3]
Cobalt	350	Cal-EPA SWRCB/DTSC[2]
Copper	69	Cal-EPA SWRCB/DTSC[2]
Lead	50	10 X STLC[3]
Mercury	0.69	Cal-EPA SWRCB/DTSC[2]
Molybdenum	4.4	Cal-EPA SWRCB/DTSC[2]
Nickel	200	10 X STLC[3]
Selenium	0.23	Cal-EPA SWRCB[2]
Silver	3.75	Cal-EPA SWRCB/DTSC[2]
Thallium	0.95	Cal-EPA SWRCB[2]
Vanadium	240	10 X STLC[3]
Zinc	680	Cal-EPA SWRCB/DTSC[2]
BTEX *(EPA Method 8260)*		
Benzene	0.055	Cal-EPA SWRCB/DTSC[2]
Toluene	56	Cal-EPA SWRCB[2]
Ethylbenzene	3.9	Cal-EPA SWRCB[2]
Xylene	7.2	Cal-EPA SWRCB[2]
Naphthalene	0.17	Cal-EPA SWRCB[2]
Asbestos *(OSHA Method ID-191)*	ND	Laboratory Reporting Limit[4]
Polychlorinated Biphenyls (PCBs) *(EPA 8082)*	ND	Laboratory Reporting Limit[4]/USEPA
Chemicals of Concern[5]		
Volatile Organic Compounds (VOCs) (EPA Method 8260)	ND	Laboratory Reporting Limit[4]
Polynuclear Aromatic Hydrocarbons (PAHs) (EPA Method 8310)	ND	Laboratory Reporting Limit[4]
Semi Volatile Organic Compounds (SVOCs) (EPA Method8270)	ND	Laboratory Reporting Limit[4]
Organochlorine Pesticides (EPA Method 8081A)	ND	Laboratory Reporting Limit[4]
Organophosphorus Pesticides (EPA Method 8141A)	ND	Laboratory Reporting Limit[4]
Chlorinated Herbicides (EPA Method 8151A)	ND	Laboratory Reporting Limit[4]

NOTES:

1. Acceptable Soil/Fill Material concentrations may vary between regulated Sites. Please consult the Port **prior to** analysis of samples to ensure the correct Laboratory Reporting Limits are achieved.
2. Cal-EPA State Water Resources Control Board & Department of Toxic Substances Control Action Goals for Industrial Land Use sites only. The listed concentrations/levels may not be applicable for former or active cleanup sites, public land use, or worker health & safety.
3. Soluble Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP), California Code of Regulations (CCR), Title 22, Section 66261.24. Characteristic of Toxicity.
4. Laboratory Reporting Limit is based on reporting limits commonly used by Southern California laboratories (DAF=1). Note that for some regulated Sites (to be determined by the Port) target Laboratory Reporting Limits may need to be provided to the laboratory prior to sampling.
5. Any other suspected constituents or contaminants not shown on this table should be discussed with the Port.

- **Documentation and Retention**

  A written, preferably electronic, record of the sampling protocols, sampling locations, photographs, analytical results, and determination of suitability for industrial land use as fill shall be maintained and made available for staff review, upon request.

- **Authorization for Soil/Fill Concentrations**

  The chemical/contaminant criteria utilized in this document for industrial land use soil/fill material were compiled from a number of current sources, standards, regulations, and/or guidance documents including, but not limited to:

  - Compliance with applicable laws and regulations;
  - California Environmental Protection Agency - State Water Resources Control Board (SWRCB) and Department of Toxic Substances Control (DTSC);
  - Title 40, Code of Federal Regulations (40 CFR)
  - California Health and Safety Code (HSC), Division 20, Chapter 6.5, Hazardous Waste Control Law and California Code of Regulations, Division 4.5, Title 22 CCR;
  - Information Advisory Clean Imported Fill Material (DTSC, October 2001);
  - User's Guide: Derivation and Application of Environmental Screening Levels (SFRWQCB), 2019);
  - Revised Responses to Stakeholder's Comments Memorandum – Former GATX Los Angeles Marine Terminal (LAMT), Bertha 171 through 173, Wilmington, CA (Cleanup and Abatement Order No. R4-2008-006), (LARWQCB Geotracker), January 19, 2010); and
  - Commonly reported Laboratory Reporting Limits (LRLs) and Method Detection Limits (MDLs) by analytical laboratories in Southern California.

Approval of Soil/Fill Material

An Import Material Checklist (Attachment 1), along with a photograph(s) of the source in which it represents, will be submitted for each proposed fill source. All analytical data submitted to determine the quality and suitability of the soil/fill material will be reviewed by qualified Port personnel. Meeting the concentration criteria listed in Table 3 is essential for the fill or excavated material to be considered minimally acceptable for industrial use as general fill within the Port. This guidance document and its contents may be amended or updated to reflect future changes in Port policies and/or regulatory requirements. The Port reserves the right to observe contractor's sampling activities and data; and independently sample, analyze, and/or verify the results of any analytical data submitted for evaluation.

The Port will not be responsible for any construction schedule delays or costs if the soil/fill material is rejected due to incomplete or inaccurate data submittals, exceedances of permissible chemical concentrations (i.e., sample results fail to meet the criteria requirements in this section), and/or the soil/fill material does not comply with regulatory requirements (e.g., material would be classified as hazardous wastes,

SCAQMD Rule 1166 requirements, UST requirements, site-specific plans or directives, etc.). If a third-party (e.g., contractor) brings any soil/fill material into the Port that classifies as hazardous waste (i.e., RCRA and non-RCRA), the third party will be considered the generator of the waste. The third-party (contractor) will be responsible for all costs, including costs incurred by the Port, associated with removal and proper disposal of the waste. Further, the third party will also have signatory responsibility for the hazardous waste uniform manifest.

Acronym List

BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
Cal-EPA	California Environmental Protection Agency
CY	Cubic Yard
DTSC	Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
EMD	Environmental Management Division
ESL	Environmental Screening Level
LARWQCB	Los Angeles Regional Water Quality Control Board
LRL	Laboratory Reporting Limit
MHHW	Mean Higher High Water
MDL	Method Detection Limit
NELAP	National Environmental Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
POLA	Port of Los Angeles
SCAQMD	South Coast Air Quality Management District
SFRWQCB	San Francisco Regional Water Quality Control Board
STLC	Soluble Threshold Limit Concentration
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TPH	Total Petroleum Hydrocarbons
TTLC	Total threshold Limit Concentration
USEPA	United Stated Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

References

Asbestos - https://ww2.arb.ca.gov/sites/default/files/classic/toxics/atcm/asb2atcm.htm

Benzene - https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=14

CCR - https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I77C6B3D0D4BA11DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)

Clean Imported Fill Material - https://dtsc.ca.gov/information-advisory-clean-imported-fill-material-fact-sheet/

Copper - https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=37

DTSC - https://www.dtsc.ca.gov/

ELAP - http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml

Generator - http://www.dtsc.ca.gov/HazardousWaste/Generators.cfm

Geotracker - http://geotracker.waterboards.ca.gov/view_documents.asp?global_id=SL377432476&enforcement_id=6041012

Hazardous wastes - https://dtsc.ca.gov/defining-hazardous-waste/

Hazardous waste uniform manifest - https://dtsc.ca.gov/hazardous-waste-manifest-information/

HSC - https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=HSC&division=20.&title=&part=&chapter=6.5.&article

Laboratory Reporting Limits - https://www.mywaterquality.ca.gov/monitoring_council/collaboration_network/docs/bvanbuuren_jan2012.pdf

Lead - https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=22

MDLs - http://water.usgs.gov/owq/OFR_99-193/detection.html

NELAP - http://www.nelac-institute.org/

non-RCRA - https://www.law.cornell.edu/regulations/california/22-CCR-Sec-66261-101#

PCBs - https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=26

RCRA - https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations

Rule 1166 - http://www.aqmd.gov/home/regulations/compliance/rule-1166-site-specific-and-various-locations-soil-mitigation-plan

SFRWQCB - https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.html

STLC - http://www.eurofinsus.com/media/161417/hazardous_waste_regulatory_limits.pdf

SWRCB - http://www.swrcb.ca.gov/

SW-846 - https://www.epa.gov/hw-sw846/sw-846-test-method-8327-and-polyfluoroalkyl-substances-pfas-liquid-chromatographytandem

TPH - https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=423&toxid=75

UST - http://www.waterboards.ca.gov/ust/

20 X TCLP/STLC - https://www.ssalabs.com/wp-content/uploads/2019/06/STLC-TTLC-Regulatory-Limits.pdf

40 CFR - http://www2.epa.gov/laws-regulations/regulations

ATTACHMENT 1

Import Material Checklist

LOS ANGELES HARBOR DEPARTMENT
IMPORT MATERIAL CHECKLIST

GENERAL INFORMATION

POLA Project Name: _____ **Contract Spec No.**: _____

POLA Project Address: _____

Source of Import Material*
Name/Address of Source: _____Unique Identifier (if any): _____
*For stockpiled materials, enter information for the source and staging of the stockpiles.

Origin of Import Material: Quarry:____ Industrial/Commercial: _____ Other: _____

Current/Historical Operations of the Source: _____

SAMPLING INFORMATION

Sampling Firm Name: _____

Firm Address:_____

Sampler's Name(s): _____
Sample Type: Grab from within stockpile(s): ___ In-Situ (Contractor should have a Port-Approved sampling plan): ____

Analytical Laboratory Name/Address: _____

Laboratory Report Number (s): _____

_____

CERTIFICATION

I certify that all information, sampling, and analytical laboratory data and results provided regarding the subject material are representative, accurate, correct, and complete to the best of my knowledge and belief.

_____ Date: _____
Contractor Signature – Licensed Professional

_____ Title: _____
Print Contractor Name – Licensed Professional

Note: Contractor must attach copies of all pertinent information, including approved sampling plan (if applicable), sample location map, laboratory reports, and photographs for checklist verification.

POLA ACCEPTANCE

_____Approved _____Reject (Explain): _____

_____ _____ _____
POLA Authorization Signature Print Name Date

APPENDIX E

DTSC Clean Fill Material Advisory

Leighton
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Information Advisory
Clean Imported Fill Material

October 2001

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California

California Environmental Protection Agency

Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contamination and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

**The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location
Volume of Borrow Area Stockpile	**Samples per Volume**
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

terials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all compounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

For further information, call Shahir Haddad, P.E. at (714) 484-5368.

APPENDIX F

Potential Waste Disposal Facilities

Leighton
a verdantas company

B. Waste Disposal Service providers:

RCRA Hazardous and TSCA Waste for Landfill or Treatment:

- Chemical Waste Management - Kettleman Hills, Kettleman City, CA
- Clean Harbors Buttonwillow, LLC, Buttonwillow, CA (very limited TSCA)
- US Ecology Nevada, Beatty, NV

Non-RCRA Hazardous (California Haz) Waste for Landfill

- Chemical Waste Management - Kettleman Hills, Kettleman City, CA
- Clean Harbors Buttonwillow, LLC, Buttonwillow, CA
- US Ecology Nevada, Beatty, NV

Nonhazardous Contaminated Waste for Landfill

- Simi Valley Landfill - Waste Management, Simi Valley, CA
- Sunshine Canyon Landfill – Republic Services, Sylmar, CA
- Chiquita Canyon Landfill – Waste Connections, Valencia, CA

Non-hazardous Contaminated Waste for Thermal Desorption Recycling (nonhazardous TPH contaminated soil)

- Thermal Remediation Solutions (TRS) Facility – Waste Management, Azusa, CA
- Soil Safe, Inc., Adelanto, CA

Treated Weathered Wood Waste (railroad ties, etc.)

- Sunshine Canyon Landfill – Republic Services, Sylmar, CA
- Chiquita Canyon Landfill – Waste Connections, Valencia, CA
- Simi Valley Landfill – Waste Management, Simi Valley, CA

RCRA Hazardous Waste Liquid, Non-RCRA (California Haz) Waste Liquid, and/or Nonhazardous Waste Liquid

- DeMenno/ Kerdoon, Compton, CA
- Clean Harbors, Wilmington, CA