APPENDIX D

Soil Management Plans

Sean Hunt
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May 23, 2024

Los Angeles Regional Water Quality Control Board
320 West 4th Street
Los Angeles, CA 90013

RE: Los Angeles Marine Terminal – Berths 148-151- SCP NO.0120, Site ID NO. 2040090
Soil and Water Management Plan, Perjury Statement

Dear Dr. Thompson:

This statement is being provided per the California Regional Water Quality Control Board's, *Order to Provide Technical Report,* under California Water Code §13267. Please note that this statement should be read in conjunction with the comments on the document provided concurrently with the statement.

On May 23, 2024, Trihydro Corporation submitted the referenced document on behalf of Phillips 66 Company ("Phillips 66"). The following perjury statement is pertaining to that document per the *Cleanup and Abatement Order No. R4-2022-0139,* executed on July 7, 2022.

> "I certify under penalty of perjury that I am ***Program Manager*** for Phillips 66 Company, and that the ***Soil and Water Management Plan***, May 23, 2024, was prepared under the direction or supervision of a Phillips 66 employee whose responsibilities included ensuring that qualified personnel properly gathered and evaluated the information submitted to the Regional Board at the time it was provided. Based on my inquiry of the person or persons responsible for gathering the information, the information submitted to the Regional Board in the above referenced report was, to the best of my knowledge and belief, true, accurate, and complete at the time it was submitted."
>
> I do so certify, this 23rd day of May 2024
>
> _____
> Sean H. Hunt
> Phillips 66 Company

Please contact me if you have any questions or concerns regarding Phillips 66 proceeding in this manner. I can be reached at (562) 290-1724.

Sincerely,

Sean H. Hunt
Phillips 66
Program Manager

202405_WBPerjurySWMP_LTR.docx

May 23, 2024

Mr. Jeffrey Thompson
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Soil and Water Management Plan, Phillips 66 Los Angeles Refinery, Marine Terminal, Port of Los Angeles, Berths 148 - 151, Wilmington, California (SCP No. 0120, Site ID No. 2040090)

Dear Mr. Thompson:

On behalf of Phillips 66 Company ("Phillips 66"), Trihydro Corporation (Trihydro), respectfully submits a site-specific Soil and Water Management Plan (SWMP) for the Phillips 66 Los Angeles Marine Terminal (LAMT) located at the Port of Los Angeles, Berths 148 - 151, Wilmington, California. The SWMP is submitted to the Los Angeles Regional Water Quality Control Board (Regional Board) per the March 21, 2024, correspondence requiring its submittal by June 21, 2024 (Regional Board 2024).

The LAMT consists of 13.5 acres of leased land, owned by the City of Los Angeles (City), located within the 15-acre area at the Port of Los Angeles (Port of LA), Berths 148 through 151 (Figure 1) identified as the "Site" in the Cleanup and Abatement Order No. R4-2022-0139, issued by the Regional Board on July 7, 2022 (CAO) (Regional Board 2022). Petroleum products are stored and transferred between the LAMT and the Phillips 66 Los Angeles Refinery, Wilmington Plant through underground pipelines and distributed from the LAMT. In the middle central corridor of the 15-acre Site is a 0.74-acre parcel known as "560 Pier 'A' Place," owned by the City and referred to in this SWMP and the CAO as the "Sliver Area" (Figure 2). The Sliver Area currently is unoccupied, but was historically occupied and operated by, among others, Hooker Chemical Company (now known as Occidental Chemical Corporation), and L.A. Terminals, Inc. (LAT) for the receipt, storage, and distribution of various chemicals, including halogenated volatile organic compounds (HVOCs). Adjacent to the Sliver Area and the LAMT, also in the central corridor of the Site, is a 0.76-acre unoccupied parcel owned by the City, which consists of roads and a railroad right-of-way (Railroad Parcel).

Purpose of Soil and Water Management Plan

This SWMP was prepared in response to the Regional Board's correspondence dated March 21, 2024. The Regional Board requested the following:

- Response 5: "Based on preliminary review of the TPH HHERA, construction and maintenance workers at the Site are potentially exposed to contaminants, including TPH, which present significant cancer and noncancer risks. The TPH HHERA identifies that existing Policy and Procedures (P&P)

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developed by an industrial hygienist for the Phillips 66 Los Angeles Refinery to comply with Occupational Safety and Health Administration (OSHA) requirements are implemented at the Site.

The Los Angeles Water Board notes that the TPH HHERA did not provide a copy of the P&P, and as such, mitigation measures have not been reviewed by the Los Angeles Water Board. A copy of the P&P or a site-specific soil and water management plan documenting procedures to prevent unacceptable exposure to site contaminants, including TPH, during soil moving and dewatering activities at the Site is required to be submitted to the Los Angeles Water Board for review and approval no later than June 21, 2024."

The SWMP encompasses excavation and dewatering activities at the Site and documents procedures to prevent unacceptable exposure of workers on Phillips 66 projects to site impacts. The SWMP includes:

- Compliance with requirements pursuant to the South Coast Air Quality Management District (SCAQMD) Rule 1166 during excavation, grading, and storage activities.
- Protection of human health and the environment during future construction or maintenance activities.

The SWMP does not prescribe the containment, handling and off-site disposal of excavated material, groundwater, dewatering fluids, and debris, which is managed by the Phillips 66 Los Angeles Refinery's (LAR's) Environmental Services according to Federal and state of California regulations.

Summary of Human Health Evaluation

Soil, groundwater, and soil vapor samples have been collected at the LAMT and on Sliver Area as part of ongoing environmental investigations. Impacts associated with historical uses have been identified in all three media on the LAMT and on the Sliver Area. Human Health and Ecological Risk Assessments (HHERA) were completed for both Phillips 66 (Trihydro 2024a) and Occidental Chemical Company (Trihydro 2024b). Both HHERAs evaluated a construction worker exposure to soil, groundwater, and soil vapor at the Site. A human health evaluation included as Attachment A provides a discussion of impacts and recommended procedures for seven areas at the Site in relation to a construction worker receptor. To confirm concentrations, soil samples should be collected and evaluated prior to excavation activities. Direct exposure (i.e. incidental ingestion and dermal contact) to groundwater is not evaluated since water will be removed via pumping, without worker contact.

Health and Safety

Project-specific Health and Safety Plans (HASPs) and Safe Work Execution Plans (SWEPs) will be prepared by Health and Safety (H&S) personnel from the designated contractors who will be involved in Site construction activities. HASPs will be prepared in accordance with 29 Code of Federal Regulations (CFR) 1910 General Industry standards, 1910.120, Hazardous Waste Operations and Emergency

Response (HAZWOPER) and Cal/ Occupational Safety and Health Administration (Cal/OSHA) Title 8 §5192. Contractor H&S will be provided with Site contaminants of concern data for inclusion of toxicological information so that workers have appropriate personal protective equipment (PPE) available. Field work will be conducted in accordance with the project-specific HASPs and SWEPs.

Before commencing field activities, a daily "tailgate" health and safety meeting will be conducted by Phillips 66 and/or contractor personnel. Additionally, a job safety analysis (JSA) will be performed and reviewed prior to commencing field activities to further identify and mitigate potential hazards associated with the scope of work. At a minimum, the HASPs and JSA will be reviewed to address potential physical, chemical, mechanical, and biological hazards associated with the proposed scope.

LAR Policies and Procedures

LAR Policies and Procedures (P&Ps) will be followed for soil excavation activities (Attachment B). The LAMT Soil Excavation P&P provides procedures to be followed for soil excavation and handling to be in compliance with SCAQMD Rule 1166, "Volatile Organic Compound Emissions from Decontamination of Soil", and hazardous waste regulations. In accordance with Rule 1166, volatile organic compounds (VOC) emissions from soil will be monitored with an organic vapor analyzer (OVA) at least every 15 minutes and recorded on a log. The LAR Industrial Hygienist will conduct hazard assessments to assess employee exposure hazards, and to determine appropriate controls, including PPE and respiratory protection throughout soil excavation and dewatering activities at the Site.

Please contact the undersigned at (562) 453-3536, or Sean Hunt of Phillips 66 at (562) 290-1724 if you have questions or require additional information.

Sincerely,
Trihydro Corporation

Katherine Swords

Katherine Swords, P.E.
Project Manager

PHILL-024-0060

Attachments

REFERENCES

Regional Water Quality Control Board, Los Angeles (Regional Board). 2022. Cleanup and Abatement Order No. R4-2022-0139, Phillips 66 Los Angeles Marine Terminal, Berths 148 – 151, Port of Los Angeles, Wilmington, California (SCP No. 0120, Site ID No. 2040090). July 7, 2022.

Regional Board. 2024. Response to Request for Approval of Updated Interim Remedial Action Plan for Petroleum-Related Compounds; Amendment to Cleanup and Abatement Order No. R4-2022-0139, Unocal Marine Terminal, Berths 148 – 151, Port of Los Angeles, Wilmington, California (SCP No. 0120, Site ID No. 2040090). March 21, 2024.

Trihydro Corporation (Trihydro). 2024a. Human Health Risk Assessment and Ecological Risk Assessment for Petroleum-Related Compounds, Phillips 66 Los Angeles Refinery, Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. March 1, 2024.

Trihydro. 2024b. Human Health Risk Assessment and Ecological Risk Assessment for HVOCs, Unocal Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. March 1, 2024.

FIGURES


EXPLANATION
PROPERTY BOUNDARY
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors
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N Fries Ave
Island Ave
Broad Ave
Lake Ave
Eubank Ave
McFarland Ave
Lecouvreur Ave
Oleary Ave
N Access Rd
S Avalon Blvd
WWL Vehicle Services Americas, Inc.
TraPac Container Terminal
Pier A St
S Fries Ave
E Water St
Canal Ave
Yacht St
Yang Ming Marine Transport
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Fries St
Yusen Container Terminal
China Shipping North America Container Terminal
N Seaside Ave
W MacArthur Ave
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Pilchard St
Terminal Way
Everport Terminal Services
Albacore St
Berth 151
Berth 150
Berth 149
Berth 148
Canary St
Wharf St
Bass St
Earle St
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FIGURE 1
LOCATION MAP
PHILLIPS 66 LOS ANGELES REFINERY,
MARINE TERMINAL, BERTHS 148 – 151,
PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA
Drawn By: DH
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FIGURE 2

SITE MAP OF STRUCTURES

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148-151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: KS	Scale: 1 " = 200 '	Date: 9/8/22	File: 2_SiteMap_Building.mxd

ATTACHMENT A

SUMMARY OF HUMAN HEALTH EVALUATION

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

Soil, groundwater, and soil vapor samples have been collected at the Phillips 66 Company (Phillips 66) Los Angeles Refinery, Marine Terminal (LAMT, Figure 1) and on the 0.74-acre parcel previously used as a bulk chemical facility, known as the "Sliver Area", as part of ongoing environmental investigations. Impacts associated with historic uses have been identified in all three media on the LAMT and on Sliver Area. Human Health and Ecological Risk Assessments (HHERA) were completed for both Phillips 66 (Trihydro 2024a) and Occidental Chemical Company (Trihydro 2024b). Both HHERAs evaluated a construction worker exposure to soil, groundwater, and soil vapor at the "Site", which is identified by the Cleanup and Abatement Order No. R4-2022-0139, issued by the Los Angeles Regional Water Quality Control Board (Regional Board) on July 7, 2022 (CAO) (Regional Board 2022) as the 15-acre area at the Port of Los Angeles (Port of LA), Berths 148 through 151. The HHERAs had a noncancer hazard index for the construction worker of 130 and 170, respectively, which are above the target hazard index of 1, and the cancer risks of 7.3E-04 and 7.7E-04, respectively, which are above the target cancer risk of 1E-06. The noncancer hazard indices and cancer risks were primarily driven by compounds associated with the Sliver Area. Although compounds associated with LAMT contributed to the noncancer hazard indices, but the elevated concentrations of these compounds were isolated and further discussed below. Therefore, the Site as identified by the CAO was divided into seven different areas (Figure 2).

This human health evaluation provides discussion of impacts for each of the seven areas in relation to a construction worker receptor and focuses on the medias independently of each other in relation to exposure rather than like the HHERA where they were combined. In this human health evaluation, soil was the only media that was quantitatively evaluated because direct exposure (i.e. incidental ingestion, dermal contact, and inhalation to particulates/vapors) to soil is more likely to occur during construction activities than groundwater, since groundwater will likely be pumped from any excavation pits/trenches for work to be completed. Groundwater and soil vapor will be discussed based on presence or absence of compounds. Additionally, a discussion of the presence or absence of light non-aqueous phase liquid (LNAPL) in groundwater will be provided for each area.

In general, soil samples were collected from the Site at depths ranging from surface to 60 feet below ground surface (bgs). Soil samples were analyzed for one or more of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs). Human health risks to soil typically occur in soils between surface to 10 feet bgs, which are herein referred to as shallow soils (Figure 3). This evaluation evaluated the shallow soils for a construction worker exposure using published construction worker direct exposure soil screening levels from San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs) published February 2019. Compounds where construction worker ESLs were not established the industrial worker screening levels from the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) published November 2023 were used. The soil samples were compared to the lowest screening level (Table 1), and noncancer hazard index and cancer risk were calculated for each soil sample location located in the shallow soil using the noncancer and cancer screening levels (Table 2 and Attachment A). The noncancer hazard index and cancer risk were calculated using the following equations:

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

Noncancer Hazard Index:

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ (\frac{mg}{kg})}{Noncancer\ Screening\ Level(\frac{mg}{kg})} \times Target\ Hazard\ Index(1)$$

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

Cancer Risk:

$$Cancer\ Risk\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Cancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Cancer\ Risk(1E^{-}06)$$

$$Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

The target noncancer hazard of 1 and target cancer risk 1E-06 is consistent with the development of the ESLs and RSLs. The noncancer hazard index and cancer risk are discussed below for each area.

Groundwater at the Site is monitored semiannually in the shallow and deep groundwater zones. The shallow groundwater zone is further discussed in this evaluation, since it will be the zone that will be potentially encountered during construction activities. Groundwater is measure at 3 to 6 feet bgs in the shallow zone wells and is tidally influenced (Figure 4). Groundwater samples collected within the last five years (2018 to 2023) were evaluated in this qualitative human health evaluation, which is the same groundwater data set used in the HHERAs. Groundwater samples were analyzed for TPH and/or VOCs. LNAPL has also been measured as part of groundwater investigations at the Site. The presence or absence of LNAPL in the last five years is discussed below for each area. The LNAPL plume map from the Fall 2023 Semiannual Groundwater Monitoring and LNAPL Recovery Report (Trihydro 2024c), a map showing the historical types of LNAPL, and LNAPL smear zone map are provided in Attachment B.

Soil vapor samples were collected in 2023 in Area 3 and Area 4 as part of the Site Assessment Completion Report for Petroleum-Related Compounds (Trihydro 2024d) and HVOCs Site Assessment Completion Report (Trihydro 2024e). One sample was collected in Area 3 below the slab as part of the indoor air investigation at the Guard Shack (Trihydro 2024d, and 15 samples throughout Area 4 at depths between 2.5 and 4 feet bgs (Trihydro 2024e), which depended on the groundwater elevation (Figure 5). Soil vapor is further discussed in this evaluation since it potentially can affect air concentrations in the trench and outdoor air during construction activities.

<u>Area 1 Evaluation</u>

Approximately 23 soil samples from 13 locations have been collected within Area 1 (Table 1 and Figure 3). Twenty-six compounds were detected in one or more soil samples. TPH as diesel range organics (DRO) was the only compound with an exceedance of the screening level. The exceedance is associated with the 0 to 0.5 feet bgs sample collected from Tank 384-HA-1. One noncancer hazard index was greater than the target noncancer hazard

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

of 1, which was associated with Tank 384-HA-1 (0.5-0 ft), and the cancer risks were all below the target cancer risk of 1E-06. The construction worker noncancer hazard index for detected concentrations ranged from 2.7E-05 to 20, and the cancer risk ranged from 1.7E-11 to 7.4E-09 (Table 2 and Attachment A).

Groundwater samples were collected from 9 locations with 29 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Within the last five years MW-5, MW-7, MW-10, MW-11, and MW-12 had either a sheen or measurable LNAPL. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

Table 5 presents all compounds detected in soil and groundwater in Area 1. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 1 Recommendations

Areas where LNAPL has been measured in wells and in the area of Tank 384-HA-1 soil samples should be collected prior to excavation activities. Since VOCs were detected in soils and groundwater, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

Area 2 Evaluation

Approximately 7 soil samples from 6 locations have been collected within Area 2 (Table 1 and Figure 3). Seventeen compounds were detected in one or more soil samples. No compounds exceeded their respective screening level, and the noncancer hazard indices and cancer risks were below their target value of 1 and 1E-06, respectively. The construction worker noncancer hazard index for detected concentrations ranged from 1.1E-04 to 0.46, and the cancer risk ranged from 2.4E-10 to 6.7E-08 (Table 2 and Attachment A).

Groundwater samples were collected from 1 location (MW-9A) with 20 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Within the last five years MW-13, RW-2, RW-3, RW-4, RW-8, and RW-9 had either a sheen or measurable LNAPL present. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

Table 6 presents all compounds detected in soil and groundwater in Area 2. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 2 Recommendations

Soil samples should be collected prior to excavation activities in the areas where LNAPL is known or may be present (See Area 4 summary and recommendations). Since VOCs were detected in soils and groundwater and the Area is adjacent to Area 4, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

Area 3 Evaluation

Approximately 11 soil samples from 7 locations have been collected within Area 3 (Table 1 and Figure 3). Five compounds were detected in one or more soil samples. No compounds exceeded their respective screening level,

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

and the noncancer hazard indices and cancer risks were below their target value of 1 and 1E-06, respectively. The construction worker noncancer hazard index for detected concentrations ranged from 3.3E-05 to 0.36, and the cancer risk ranged from 7.7E-12 to 1.3E-08 (Table 2 and Attachment A).

Groundwater samples were collected from 1 location (MW-4) with 4 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Within the last five years MW-4 did not have any LNAPL or sheen present. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

A sub-slab soil vapor sample was collected from one location in conjunction with indoor air sampling at the Guard shack as part of the Site Assessment Completion Report for Petroleum-Related Compounds (Trihydro 2024d; Figure 5). Twenty-four compounds were detected in the sub-slab soil vapor sample (Table 4).

Table 7 presents all compounds detected in soil, groundwater, and sub-slab soil vapor in Area 3. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 3 Recommendations

Soil samples should be collected prior to excavation activities in the areas where LNAPL may be present (See Area 2 summary and recommendations). Since VOCs were detected in soils and groundwater and the Area is adjacent to Area 4, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

Area 4 Evaluation

Approximately 11 soil samples from 7 locations have been collected within Area 4 (Table 1 and Figure 3). Thirty-four compounds were detected in one or more soil samples. Five compounds (DRO, tetrachloroethene (PCE), 1,1,1-trichloroethane, trichloroethene (TCE), and vinyl chloride) exceeded their respective screening level, and the noncancer hazard indices and cancer risks were above their target value of 1 and 1E-06, respectively, due to these compounds. The construction worker noncancer hazard index for detected concentrations ranged from 1.3E-02 to 140 where 12 locations exceeded the target hazard index of 1, and the cancer risk ranged from 5.0E-10 to 4.3E-05 where 16 locations exceeded the target cancer risk of 1E-06 (Table 2 and Attachment A).

Groundwater samples were collected from 2 locations (L-4 and L-9) with 30 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Compounds cis-1,2-dichloroethene (DCE), PCE, TCE, are vinyl chloride were the primary compounds that were driving the hazard index and cancer risk for construction worker in the HHERAs in groundwater exposure. The concentrations of these compounds in L-4 were detected at concentrations greater than exposure point concentrations used in calculations in the HHERA. Within the last five years L-1, L-2, L-3, L-9, L-10, and L-12 had either a sheen or measurable LNAPL. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

Soil vapor samples were collected from 15 locations with 21 compounds detected in one or more soil vapor samples (Table 4 and Figure 5).

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

Table 8 presents all compounds detected in soil, groundwater, and soil vapor in Area 4. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 4 Recommendations

Soil samples should be collected prior to excavation activities. Since VOCs were detected in soils, groundwater, and soil vapor, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

Area 5 / Area 6 Evaluation

Areas 5 and 6 are discussed as one area, since one soil sample was collected from Area 5 and only analyzed for VOCs. Both areas are immediately adjacent to Area 4 and have LNAPL present; therefore, recommendations will be the same.

Approximately 9 soil samples from 5 locations have been collected within Area 5 / Area 6 (Table 1 and Figure 3). Twenty-four compounds were detected in one or more soil samples. DRO was the only compound with an exceedance of the screening level in five samples. All soil samples from 2.5 to 3 feet bgs had an exceedance and SS-14 had an exceedance in the 0.3 to 0.9 feet bgs sample. All five locations with a DRO exceedance had noncancer hazard indices greater than the target noncancer hazard of 1, and the cancer risks were all below the target cancer risk of 1E-06. The construction worker noncancer hazard index for detected concentrations ranged from 5.7E-03 to 76, and the cancer risk ranged from 2.6E-09 to 8.6E-08 (Table 2 and Attachment A).

Groundwater samples were collected from 2 locations (MW-3 in Area 5 and MW-15 in Area 6) with 29 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Within the last five years MW-2, MW-14, RW-5, RW-6, RW-7, RW-12, and TW-14 had either a sheen or measurable LNAPL. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

Table 9 presents all compounds detected in soil and groundwater in Area 5 / Area 6. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 5 / Area 6 Recommendations

Soil samples should be collected prior to excavation activities in Areas 5 and 6 due to the presence of LNAPL and DRO detected at concentrations greater than the screening levels in five of the eight samples analyzed for TPH in Area 6. Since VOCs were detected in soils and groundwater and the Areas are adjacent to Area 4, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

Area 7 Evaluation

Approximately 12 soil samples from 6 locations have been collected within Area 7 (Table 1 and Figure 3). Twelve compounds were detected in one or more soil samples. DRO was the only compound with an exceedance of the screening level. The exceedance is associated with the 0.3 to 0.9 feet bgs sample collected from SS-17. One noncancer hazard index was greater than the target noncancer hazard of 1, which was associated with SS-17

ATTACHMENT A. SUMMARY OF HUMAN HEALTH EVALUATION

(0.3-0.9 ft), and the cancer risks were all below the target cancer risk of 1E-06. The construction worker noncancer hazard index for detected concentrations ranged from 2.3E-08 to 2.7, and the cancer risk ranged from 3.7E-13 to 6.3E-10 (Table 2 and Attachment A).

Groundwater samples were collected from 2 locations (MW-1, MW-16, and MW-21) with 18 compounds detected in one or more groundwater samples (Table 3 and Figure 4). Within the last five years MW-8, MW-16, and RW-14 had either a sheen or measurable LNAPL. The Fall 2023 LNAPL plume is shown on the Figure in Attachment B.

Table 10 presents all compounds detected in soil and groundwater in Area 7. The table provides the minimum and maximum soil concentrations with the location of maximum soil concentration for each detected compound in soil and identifies if the compound was detected in groundwater.

Area 7 Recommendations

Soil samples should be collected prior to excavation activities in the areas where LNAPL has been measured in wells and in the area of SS-17. Since VOCs were detected in soils and groundwater, air monitoring of the trench and ambient air should be completed during excavation activities. Proper PPE should be worn to minimize exposure to soil and the LNAPL in groundwater.

References

Regional Water Quality Control Board, Los Angeles Region (Regional Board). 2022. Cleanup and Abatement Order No. R4-2022-0139, Phillips 66 Los Angeles Marine Terminal, Berths 148 - 151, Port of Los Angeles, Wilmington, California (SCP No. 0120, Site ID No. 2040090). July 7, 2022.

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

Trihydro Corporation (Trihydro). 2024a. Human Health Risk Assessment and Ecological Risk Assessment for Petroleum-Related Compounds, Phillips 66 Los Angeles Refinery, Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. March 1, 2024.

Trihydro. 2024b. Human Health Risk Assessment and Ecological Risk Assessment for HVOCs, Unocal Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. March 1, 2024.

Trihydro. 2024c. Fall 2023 Semiannual Groundwater Monitoring and LNAPL Recovery Report, Phillips 66 Los Angeles Refinery, Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. January 25, 2024.

Trihydro. 2024d. Site Assessment Completion Report for Petroleum-Related Compounds, Phillips 66 Los Angeles Refinery, Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. February 28, 2024.

Trihydro. 2024e. HVOCs Site Assessment Completion Report, Unocal Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. March 1, 2024.

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PHILL-024-0060

TABLES

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel (mg/kg)	Motor Oil (C23-C43) [a] (mg/kg)	Benzene (mg/kg)	n-Butylbenzene (mg/kg)	sec-Butylbenzene (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroform (mg/kg)	1,4-Dichlorobenzene (mg/kg)
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(10)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(10)	ND(1)	0.066 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	110 NJ	595	0.0012 J+	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(10)	ND(1)	0.0018 J+	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	160 NJ	418	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)
SS-3 (2.5-3 ft)	05/30/23	2.5-3	12 NJ	45.2	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	8.9 NJ	30.5	0.0013 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-4 (2.5-3 ft)	05/30/23	2.5-3	17 NJ	35.3	0.0025 J+	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(10)	ND(1)	0.0012 J+	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
SS-5 (2.5-3 ft)	05/30/23	2.5-3	200 NJ	437	0.0038 J+	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	16 NJ	51.7	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)
SS-6 (2.5-3 ft)	05/30/23	2.5-3	8.4 NJ	31.2	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	78 NJ	382	0.0018 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005) UJ
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(10)	ND(1)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(10)	ND(1)	0.002 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(10)	ND(1)	0.0063 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	31 NJ	103	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)
SS-9 (2.5-3 ft)	05/30/23	2.5-3	620 NJ	1335	ND(0.25)	1.1	0.78	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	**22000**	--	0.002	0.1	0.033	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	ND(58)	--	ND(0.004)	0.01	0.0017	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	0.0013	0.17	0.085	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	ND(0.12)	1.8	1.1	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
Area 2											
IW-1 (3 ft)	01/15/14	3	ND(10)	18.3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
IW-9 (3 ft)	01/15/14	3	ND(10)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
MW-23 (3 ft)	01/15/14	3	ND(10)	12.4	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	110 NJ	456	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12) UJ	ND(0.12)	ND(0.12) UJ
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(10)	ND(1)	0.00083 J	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	ND(0.25)	ND(0.25)	0.069	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	ND(10)	--	0.0015 J	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)
PR-38 (3-5 ft) Dup	12/06/10	3-5	ND(10)	--	0.0024 J	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	330 NJ	1480	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	46 NJ	235	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044) UJ	ND(0.0044)	ND(0.0044) UJ
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	350 NJ	2076	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
SS-18 (2.5-3 ft)	05/31/23	2.5-3	240 NJ	850	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(230)	ND(23)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12) UJ	ND(0.12)	ND(0.12) UJ
SS-24 (2.5-3 ft)	05/31/23	2.5-3	17 NJ	65	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12) UJ	ND(0.12)	ND(0.12) UJ
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,1-Dimethylethanol (mg/kg)	Ethylbenzene (mg/kg)	Isopropyl-benzene (mg/kg)
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	0.0016 J	ND(0.005)
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.043)	ND(0.0043)	ND(0.0043)
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.059)	ND(0.0059)	ND(0.0059)
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.038)	ND(0.0038)	ND(0.0038)
SS-3 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.043)	ND(0.0043)	ND(0.0043)
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-4 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.061)	ND(0.0061)	ND(0.0061)
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
SS-5 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.045)	ND(0.0045)	ND(0.0045)
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.045)	ND(0.0045)	ND(0.0045)
SS-6 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.082)	ND(0.0082)	ND(0.0082)
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(2.2)	ND(0.22)	ND(0.22)
SS-9 (2.5-3 ft)	05/30/23	2.5-3	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(2.5)	1.4	1
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.041)	0.71	0.049
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.004)	ND(0.04)	0.0057	0.0014
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	0.022	ND(0.005)	ND(0.005)	0.13	ND(0.005)	0.11
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	1.8	1.5
Area 2											
IW-1 (3 ft)	01/15/14	3	0.002	ND(0.005)	0.0018	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
IW-9 (3 ft)	01/15/14	3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
MW-23 (3 ft)	01/15/14	3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	ND(0.12)
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.041)	ND(0.0041)	ND(0.0041)
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	ND(0.25)	ND(0.25)	0.58	29	ND(1.2)	ND(0.25)	ND(2.5)	0.079	ND(0.25)
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	--	ND(0.0033)	ND(0.0033)
PR-38 (3-5 ft) Dup	12/06/10	3-5	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	--	ND(0.0045)	ND(0.0045)
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(1.1)	ND(0.11)	ND(0.11)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
SS-18 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	ND(0.12)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	ND(0.12)
SS-24 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	ND(0.12)
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.79)	ND(0.079)	ND(0.079)
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene (mg/kg)	Methylene Chloride (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Propylbenzene (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	Tetra-chloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.012	ND(0.005)
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0043)	ND(0.0086)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0059)	ND(0.012)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0038)	ND(0.0076)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)
SS-3 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0043)	ND(0.0087)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	0.0041 J	ND(0.0043)
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-4 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0061)	ND(0.012)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0044)	ND(0.0089)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	0.00077 J	ND(0.0044)
SS-5 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0045)	ND(0.0089)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	0.00068 J	ND(0.0045)
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0045)	ND(0.0089)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	0.0012 J	ND(0.0045)
SS-6 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.0013 J	ND(0.005)
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0082)	ND(0.016)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.0019 J	ND(0.005)
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.22)	ND(0.43)	ND(0.22)	ND(0.22)	0.044 J	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)
SS-9 (2.5-3 ft)	05/30/23	2.5-3	0.11 J	ND(0.5)	ND(0.25)	1.6	2.3	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	0.059	ND(0.0082)	ND(0.0041)	0.053	1.9	ND(0.0041)	ND(0.0041)	0.0022	ND(0.0041)
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	0.0038	ND(0.008)	ND(0.004)	0.017	0.012	ND(0.004)	ND(0.004)	0.00097	ND(0.004)
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	ND(0.005)	ND(0.01)	ND(0.005)	0.26	0.27	ND(0.005)	ND(0.005)	0.0014	ND(0.005)
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	0.13	ND(0.25)	ND(0.12)	0.16	3.9	ND(0.12)	0.12	ND(0.12)	ND(0.12)
Area 2											
IW-1 (3 ft)	01/15/14	3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.13	ND(0.005)	0.11
IW-9 (3 ft)	01/15/14	3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.021	ND(0.005)	0.0028
MW-23 (3 ft)	01/15/14	3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.11	ND(0.005)	0.036
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.36	0.048 J-	ND(0.12)
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.0068	ND(0.005)	ND(0.005)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	ND(0.0041)	ND(0.0083)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	0.015	ND(0.0041)	ND(0.0041)
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	ND(0.25)	ND(0.5)	ND(0.25)	0.27	0.092	ND(0.25)	2.2	0.13	56
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	ND(0.0033)	ND(0.0066)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	.0011J/ND(0.0033)U	ND(0.0033)
PR-38 (3-5 ft) Dup	12/06/10	3-5	ND(0.0045)	ND(0.0091)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.11)	ND(0.23)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	ND(0.0044)	ND(0.0088)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044) UJ	ND(0.0044)
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0044)	ND(0.0087)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
SS-18 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.37	ND(0.12)	ND(0.12)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.031 J	ND(0.12) UJ	ND(0.12)
SS-24 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	ND(0.25)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12) UJ	ND(0.12)
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	ND(0.079)	ND(0.16)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	0.15	ND(0.079)	ND(0.079)
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	1,1,2-Trichloro-trifluoroethane (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003) UJ	ND(0.003) UJ
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003)	ND(0.003)
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0086)	ND(0.06)	ND(0.06)
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.0059)	ND(0.012)	ND(0.006)	ND(0.006)
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0076)	ND(0.015) UJ	ND(0.015) UJ
SS-3 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0087)	ND(0.006)	ND(0.006)
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.006)	ND(0.006)
SS-4 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.0061)	ND(0.012)	ND(0.003) UJ	ND(0.003) UJ
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0089)	ND(0.003)	ND(0.003)
SS-5 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0089)	ND(0.06)	ND(0.06)
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0089)	ND(0.006) UJ	ND(0.006) UJ
SS-6 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.015) UJ	ND(0.015) UJ
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.06)	ND(0.06)
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.0082)	ND(0.016)	ND(0.003)	ND(0.003)
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003)	ND(0.003)
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003)	ND(0.003)
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.43)	ND(0.006)	ND(0.006)
SS-9 (2.5-3 ft)	05/30/23	2.5-3	ND(0.25)	ND(0.25)	ND(0.25)	0.51	0.2 J	ND(0.25)	ND(0.5)	ND(0.12)	ND(0.12)
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	ND(0.0041)	ND(0.0041)	ND(0.0041)	4.3	0.049	ND(0.0041)	9.2	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	ND(0.004)	ND(0.004)	ND(0.004)	0.034	0.0014	ND(0.004)	0.072	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	ND(0.12)	ND(0.12)	ND(0.12)	0.068	0.11	ND(0.12)	0.081	--	--
Area 2											
IW-1 (3 ft)	01/15/14	3	ND(0.005)	0.019	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
IW-9 (3 ft)	01/15/14	3	ND(0.005)	0.0038	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
MW-23 (3 ft)	01/15/14	3	ND(0.005)	0.017	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	0.028 J	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.25)	ND(0.047)	ND(0.047)
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(0.005)	0.0013 J	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003)	ND(0.003)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	ND(0.0041)	0.0013	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0083)	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	ND(0.25)	ND(0.25)	ND(0.25)	0.25	0.079	ND(0.25)	0.23	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0033)	ND(0.0066)	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0045)	ND(0.0091)	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.23)	ND(0.06)	ND(0.06)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	ND(0.0044)	ND(0.0044) UJ	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0088)	ND(0.06)	ND(0.06)
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0044)	0.001 J+	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0087)	ND(0.32) UJ	ND(0.32) UJ
SS-18 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	0.23 J+	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.25)	ND(0.06)	ND(0.06)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.12)	0.23 J-	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.25)	ND(0.05)	ND(0.05)
SS-24 (2.5-3 ft)	05/31/23	2.5-3	ND(0.12)	ND(0.12) UJ	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.25)	ND(0.003)	ND(0.003)
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	ND(0.079)	0.043	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.16)	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	ND(0.005)	0.0018	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene (mg/kg)	Benzo(a)- pyrene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(ghi)-perylene (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003) UJ
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.06) UJ	ND(0.06) UJ	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06)
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(0.006) UJ	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006)
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.015) UJ	ND(0.015) UJ	ND(0.015) UJ	ND(0.015)	ND(0.015)	ND(0.015) UJ	ND(0.015) UJ	ND(0.015)	ND(0.015) UJ
SS-3 (2.5-3 ft)	05/30/23	2.5-3	ND(0.006) UJ	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006)
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.006) UJ	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006)
SS-4 (2.5-3 ft)	05/30/23	2.5-3	0.032 J	0.045 J	0.058 J	0.031	0.038	0.066 J	ND(0.003) UJ	0.026	ND(0.003) UJ
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-5 (2.5-3 ft)	05/30/23	2.5-3	ND(0.06) UJ	ND(0.06) UJ	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06)
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.006) UJ	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006)	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006) UJ
SS-6 (2.5-3 ft)	05/30/23	2.5-3	ND(0.015) UJ	ND(0.015) UJ	ND(0.015) UJ	ND(0.015)	ND(0.015)	ND(0.015) UJ	ND(0.015) UJ	ND(0.015)	ND(0.015) UJ
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.06) UJ	ND(0.06) UJ	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06) UJ	ND(0.06)	ND(0.06)	ND(0.06)
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.006) UJ	ND(0.006) UJ	ND(0.006) UJ	ND(0.006)	ND(0.006)	0.052 J	ND(0.006)	ND(0.006)	ND(0.006)
SS-9 (2.5-3 ft)	05/30/23	2.5-3	ND(0.12) UJ	ND(0.12) UJ	ND(0.12) UJ	ND(0.12)	ND(0.12)	ND(0.12) UJ	ND(0.12)	ND(0.12)	ND(0.12)
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	--	--	--	--	--	--	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	--	--	--	--	--	--	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	--	--	--	--	--	--	--
Area 2											
IW-1 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-9 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
MW-23 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)	ND(0.047)
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	--	--	--	--	--	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	--	--	--	--	--	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	--	--	--	--	--	--	--	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	--	--	--	--	--	--	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32)	ND(0.32) UJ	ND(0.32)	ND(0.32) UJ
SS-18 (2.5-3 ft)	05/31/23	2.5-3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
SS-24 (2.5-3 ft)	05/31/23	2.5-3	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	--	--	--	--	--	--	--

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
Area 1				
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003)	ND(0.003) UJ
SS-1 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003)	ND(0.003) UJ
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.06)	ND(0.06) UJ
SS-2 (2.5-3 ft)	05/30/23	2.5-3	ND(0.006)	ND(0.006) UJ
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.015)	ND(0.015) UJ
SS-3 (2.5-3 ft)	05/30/23	2.5-3	ND(0.006)	ND(0.006) UJ
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.006)	ND(0.006) UJ
SS-4 (2.5-3 ft)	05/30/23	2.5-3	0.028	0.066 J
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003)	ND(0.003) UJ
SS-5 (2.5-3 ft)	05/30/23	2.5-3	ND(0.06)	ND(0.06) UJ
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.006)	ND(0.006) UJ
SS-6 (2.5-3 ft)	05/30/23	2.5-3	ND(0.015)	ND(0.015) UJ
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.06)	ND(0.06) UJ
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003)	ND(0.003) UJ
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND(0.003)	ND(0.003) UJ
SS-8 (2.5-3 ft)	05/30/23	2.5-3	ND(0.003)	ND(0.003) UJ
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	0.079	0.045 J
SS-9 (2.5-3 ft)	05/30/23	2.5-3	ND(0.12)	ND(0.12) UJ
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--
Area 2				
IW-1 (3 ft)	01/15/14	3	--	--
IW-9 (3 ft)	01/15/14	3	--	--
MW-23 (3 ft)	01/15/14	3	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.047)	ND(0.047)
SS-23 (2.5-3 ft)	05/31/23	2.5-3	ND(0.003)	ND(0.003)
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--
Area 3				
PR-38 (3-5 ft)	12/06/10	3-5	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.06)	ND(0.06)
SS-10 (2.5-3 ft)	05/31/23	2.5-3	ND(0.06)	ND(0.06)
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.32)	ND(0.32)
SS-18 (2.5-3 ft)	05/31/23	2.5-3	ND(0.06)	ND(0.06)
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.05)	ND(0.05)
SS-24 (2.5-3 ft)	05/31/23	2.5-3	ND(0.003)	ND(0.003)
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel (mg/kg)	Motor Oil (C23-C43) [a] (mg/kg)	Benzene (mg/kg)	n-Butylbenzene (mg/kg)	sec-Butylbenzene (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroform (mg/kg)	1,4-Dichlorobenzene (mg/kg)
Area 4											
HA-1 (3 ft)	08/05/14	3	150	1250	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
HA-2 (3 ft)	01/16/14	3	12	79	0.004	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
HA-3 (1 ft)	08/05/14	1	36	134	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)
IW-10 (3 ft)	01/15/14	3	160	451	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.0015	ND(0.005)
IW-12 (6 ft)	08/05/14	6	500	236	ND(0.83)	1	0.85	ND(0.83)	ND(0.83)	ND(0.83)	ND(0.83)
IW-13 (3 ft)	01/15/14	3	48	167	0.0018	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
IW-14 (6 ft)	08/05/14	6	**6200**	2097	ND(1)	1.4	1.3	ND(1)	ND(1)	ND(1)	ND(1)
IW-15 (6 ft)	08/05/14	6	**150000**	40810	ND(0.83)	2.8	2.8	ND(0.83)	ND(0.83)	ND(0.83)	ND(0.83)
IW-16 (5 ft)	08/05/14	5	17	22.1	ND(0.5)	ND(0.5)	ND(0.5)	0.56	ND(0.5)	ND(0.5)	ND(0.5)
IW-17 (5 ft)	08/05/14	5	**11000**	9590	ND(0.84)	0.31	0.4	ND(0.84)	ND(0.84)	ND(0.84)	ND(0.84)
IW-2 (3 ft)	08/05/14	3	9	21.8	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
IW-3 (3 ft)	01/17/14	3	21	90	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
IW-4 (4.5 ft)	08/05/14	4.5	96	88.6	ND(0.0038)	ND(0.0038)	0.00097	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)
IW-5 (3 ft)	01/15/14	3	10	38.1	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)
IW-6 (4.5 ft)	08/05/14	4.5	38	28	ND(1)	0.6	0.57	ND(1)	ND(1)	ND(1)	ND(1)
IW-7 (3 ft)	01/15/14	3	**7200**	6050	ND(0.88)	0.46	0.45	ND(0.88)	ND(0.88)	0.14	ND(0.88)
IW-8 (5.5 ft)	08/05/14	5.5	**93000**	41760	ND(0.88)	4.2	4.6	ND(0.88)	ND(0.88)	ND(0.88)	ND(0.88)
MW-22 (3 ft)	01/15/14	3	**2100**	5670	0.0051	ND(0.0044)	ND(0.0044)	ND(0.0044)	0.048	0.012	0.035
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	450 NJ	1425	0.001 J	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005) UJ
SS-21 (2.5-3 ft)	06/01/23	3-2.5	38 NJ	136	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22) UJ	ND(0.22)	ND(0.22) UJ
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	230 NJ	830	0.0012 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005) UJ
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	ND(0.21)	ND(0.21)	0.057	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	710 NJ	2934	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064) UJ	ND(0.0064)	ND(0.0064) UJ
SS-11 (2.5-3 ft)	06/01/23	3-2.5	**62000 NJ**	17450	ND(0.21)	2.6	2	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	890 NJ	2950	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005) UJ
SS-12 (2.5-3 ft)	06/01/23	3-2.5	**83000 NJ**	13700	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043) UJ	ND(0.0043)	ND(0.0043) UJ
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	220 NJ	410	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005) UJ
SS-13 (2.5-3 ft)	06/01/23	3-2.5	**23000 NJ**	10530	ND(1.2)	5.3	3.5	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	**9400 NJ**	15770	ND(0.25)	0.66	1.3	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
SS-14 (2.5-3 ft)	06/01/23	3-2.5	**12000 NJ**	4709	ND(0.25)	1.4	2	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	0.0051	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	ND(10)	--	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)
PR-36 (3-5 ft) Dup	11/09/10	3-5	ND(10)	--	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	9.7 NJ	45.2	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	10 NJ	56.1	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(10)	ND(1)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	78 NJ	374	0.001 J+	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,1-Dimethylethanol (mg/kg)	Ethylbenzene (mg/kg)	Isopropyl-benzene (mg/kg)
Area 4											
HA-1 (3 ft)	08/05/14	3	0.022	ND(0.005)	0.0016	ND(0.005)	ND(0.005)	ND(0.005)	0.098	ND(0.005)	ND(0.005)
HA-2 (3 ft)	01/16/14	3	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
HA-3 (1 ft)	08/05/14	1	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(1.2)	ND(0.12)	ND(0.12)
IW-10 (3 ft)	01/15/14	3	0.12	0.0013	0.44	0.06	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
IW-12 (6 ft)	08/05/14	6	18	ND(0.83)	14	22	0.3	ND(0.83)	ND(8.3)	1	1.2
IW-13 (3 ft)	01/15/14	3	0.29	ND(0.0044)	0.073	0.0081	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
IW-14 (6 ft)	08/05/14	6	46	ND(1)	4.8	5.5	ND(1)	ND(1)	ND(10)	ND(1)	1.8
IW-15 (6 ft)	08/05/14	6	40	ND(0.83)	0.52	13	ND(0.83)	ND(0.83)	ND(8.3)	ND(0.83)	3.6
IW-16 (5 ft)	08/05/14	5	3.6	ND(0.5)	ND(0.5)	0.62	ND(0.5)	0.56	ND(5)	ND(0.5)	ND(0.5)
IW-17 (5 ft)	08/05/14	5	15	ND(0.84)	0.55	3.6	0.33	ND(0.84)	ND(8.4)	ND(0.84)	0.57
IW-2 (3 ft)	08/05/14	3	0.0033	ND(0.005)	ND(0.005)	0.0029	ND(0.005)	ND(0.005)	0.035	ND(0.005)	ND(0.005)
IW-3 (3 ft)	01/17/14	3	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
IW-4 (4.5 ft)	08/05/14	4.5	0.27	ND(0.0038)	0.034	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.038)	ND(0.0038)	ND(0.0038)
IW-5 (3 ft)	01/15/14	3	0.03	ND(0.0044)	0.042	0.031	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)
IW-6 (4.5 ft)	08/05/14	4.5	7.9	ND(1)	22	ND(1)	ND(1)	ND(1)	4.8	0.93	0.59
IW-7 (3 ft)	01/15/14	3	11	ND(0.88)	1.1	3.5	0.38	ND(0.88)	ND(8.8)	0.31	0.27
IW-8 (5.5 ft)	08/05/14	5.5	21	ND(0.88)	0.56	1.5	5.7	ND(0.88)	ND(8.8)	0.92	5.7
MW-22 (3 ft)	01/15/14	3	3.7	ND(0.0044)	0.35	1.1	ND(0.5)	ND(0.0044)	ND(0.044)	0.0027	0.003
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-21 (2.5-3 ft)	06/01/23	3-2.5	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(2.2)	ND(0.22)	ND(0.22)
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	0.02 J+	ND(0.005)	ND(0.005)	0.0079 J+	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	41	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(50)	ND(5)	ND(5)
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	4	ND(0.21)	ND(0.21)	21	0.98	ND(0.21)	ND(2.1)	ND(0.21)	ND(0.21)
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	0.38	ND(0.21)	9.4	0.2	ND(0.21)	ND(0.21)	ND(2.1)	0.05	0.069
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	3.5	ND(0.25)	7.3	2.8	ND(0.25)	ND(0.25)	ND(2.5)	ND(0.25)	ND(0.25)
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.064)	ND(0.0064)	ND(0.0064)
SS-11 (2.5-3 ft)	06/01/23	3-2.5	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(2.1)	0.072 J	2.6
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-12 (2.5-3 ft)	06/01/23	3-2.5	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.043)	ND(0.0043)	ND(0.0043)
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-13 (2.5-3 ft)	06/01/23	3-2.5	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(12)	0.56 J	4.3
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(2.5)	ND(0.25)	2.3
SS-14 (2.5-3 ft)	06/01/23	3-2.5	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(2.5)	ND(0.25)	2.4
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	0.031	ND(0.005)	0.0039	0.025	0.007	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	--	ND(0.0048)	ND(0.0048)
PR-36 (3-5 ft) Dup	11/09/10	3-5	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	--	ND(0.0043)	ND(0.0043)
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.041)	ND(0.0041)	ND(0.0041)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.042)	ND(0.0042)	ND(0.0042)
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.042)	ND(0.0042)	ND(0.0042)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.044)	ND(0.0044)	ND(0.0044)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene (mg/kg)	Methylene Chloride (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Propylbenzene (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	Tetra-chloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
Area 4											
HA-1 (3 ft)	08/05/14	3	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.011	ND(0.005)	0.065
HA-2 (3 ft)	01/16/14	3	ND(0.0044)	ND(0.0087)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	0.069	0.0034	0.0013
HA-3 (1 ft)	08/05/14	1	ND(0.12)	0.11	0.21	ND(0.12)	ND(0.12)	ND(0.12)	0.44	ND(0.12)	0.3
IW-10 (3 ft)	01/15/14	3	ND(0.005)	0.0079	ND(0.005)	ND(0.005)	ND(0.005)	0.0011	**98**	0.0014	6.3
IW-12 (6 ft)	08/05/14	6	0.75	21	ND(0.83)	9.8	1.9	ND(0.83)	**46**	ND(0.83)	240
IW-13 (3 ft)	01/15/14	3	ND(0.0044)	ND(0.0089)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	**45**	0.0012	11
IW-14 (6 ft)	08/05/14	6	1.1	35	ND(1)	13	2.9	ND(1)	**340**	ND(1)	**910**
IW-15 (6 ft)	08/05/14	6	2.7	3.9	ND(0.83)	27	5.4	ND(0.83)	24	ND(0.83)	37
IW-16 (5 ft)	08/05/14	5	ND(0.5)	6.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	7.2	ND(0.5)	ND(0.5)
IW-17 (5 ft)	08/05/14	5	ND(0.84)	130	ND(0.84)	5.4	0.85	ND(0.84)	1.7	ND(0.84)	2.1
IW-2 (3 ft)	08/05/14	3	ND(0.005)	ND(0.01)	ND(0.005)	0.021	ND(0.005)	ND(0.005)	21	ND(0.005)	0.15
IW-3 (3 ft)	01/17/14	3	ND(0.0044)	0.0051	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	**62**	ND(0.0044)	0.72
IW-4 (4.5 ft)	08/05/14	4.5	0.0092	0.0099	ND(0.0038)	0.017	0.0018	ND(0.0038)	**190**	ND(0.0038)	220
IW-5 (3 ft)	01/15/14	3	ND(0.0044)	0.0039	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	7.4	ND(0.0044)	2
IW-6 (4.5 ft)	08/05/14	4.5	0.47	2.5	0.16	3.2	0.9	ND(1)	**48**	0.27	58
IW-7 (3 ft)	01/15/14	3	ND(0.88)	1	ND(0.88)	ND(0.88)	0.61	ND(0.88)	**610**	ND(0.88)	640
IW-8 (5.5 ft)	08/05/14	5.5	3.5	390	ND(0.88)	25	8.5	ND(0.88)	0.31	ND(0.88)	ND(0.88)
MW-22 (3 ft)	01/15/14	3	ND(0.0044)	0.3	ND(0.0044)	ND(0.0044)	0.0048	ND(0.0044)	**370**	0.0076	140
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.093	ND(0.005) UJ	ND(0.005)
SS-21 (2.5-3 ft)	06/01/23	3-2.5	ND(0.22)	ND(0.43)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	0.32	ND(0.22) UJ	ND(0.22)
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.38	ND(0.005) UJ	0.24 J+
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	ND(5)	**890**	ND(5)	350
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	ND(0.21)	ND(0.41)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	2.7	ND(0.21)	ND(0.21)
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	ND(0.21)	ND(0.42)	ND(0.21)	0.16	0.087	ND(0.21)	**1400**	ND(0.21)	600
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	ND(0.25)	3.1	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	**710**	ND(0.25)	85
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.0064)	ND(0.013)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064) UJ	ND(0.0064)
SS-11 (2.5-3 ft)	06/01/23	3-2.5	1.6	ND(0.42)	ND(0.21)	9.8	4	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)
SS-12 (2.5-3 ft)	06/01/23	3-2.5	ND(0.0043)	ND(0.0086)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043) UJ	ND(0.0043)
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005) UJ	ND(0.005)
SS-13 (2.5-3 ft)	06/01/23	3-2.5	4.3	ND(2.5)	ND(1.2)	34	8	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.25)	ND(0.5)	ND(0.25)	2.7	3.6	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
SS-14 (2.5-3 ft)	06/01/23	3-2.5	ND(0.25)	ND(0.5)	ND(0.25)	ND(0.25)	4.1	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.003	ND(0.005)	ND(0.005)
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	ND(0.0048)	ND(0.0095)	0.012 J	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)
PR-36 (3-5 ft) Dup	11/09/10	3-5	ND(0.0043)	ND(0.0085)	0.024 J	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0083)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0042)	ND(0.0084)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	0.0016 J	ND(0.0042)
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0042)	ND(0.0084)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0044)	ND(0.0088)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	1,1,2-Trichloro-trifluoroethane (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)
Area 4											
HA-1 (3 ft)	08/05/14	3	ND(0.005)	0.012	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
HA-2 (3 ft)	01/16/14	3	ND(0.0044)	0.0032	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0087)	--	--
HA-3 (1 ft)	08/05/14	1	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.25)	--	--
IW-10 (3 ft)	01/15/14	3	ND(0.005)	1.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
IW-12 (6 ft)	08/05/14	6	ND(0.83)	**860**	ND(0.83)	ND(0.83)	1.2	2	2	--	--
IW-13 (3 ft)	01/15/14	3	ND(0.0044)	6	0.061	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0089)	--	--
IW-14 (6 ft)	08/05/14	6	ND(1)	**1200**	ND(1)	ND(1)	1.8	0.86	0.78	--	--
IW-15 (6 ft)	08/05/14	6	ND(0.83)	**83**	ND(0.83)	2.2	3.6	**26**	2.1	--	--
IW-16 (5 ft)	08/05/14	5	0.26	2.1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	--	--
IW-17 (5 ft)	08/05/14	5	ND(0.84)	**49**	ND(0.84)	ND(0.84)	0.57	1.6	ND(1.7)	--	--
IW-2 (3 ft)	08/05/14	3	ND(0.005)	0.41	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	--	--
IW-3 (3 ft)	01/17/14	3	ND(0.0044)	6.2	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0087)	--	--
IW-4 (4.5 ft)	08/05/14	4.5	ND(0.0038)	**20**	ND(0.0038)	0.0025	ND(0.0038)	ND(0.0038)	0.0028	--	--
IW-5 (3 ft)	01/15/14	3	ND(0.0044)	0.57	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0088)	--	--
IW-6 (4.5 ft)	08/05/14	4.5	ND(1)	**300**	ND(1)	ND(1)	0.59	ND(1)	1.6	--	--
IW-7 (3 ft)	01/15/14	3	ND(0.88)	**810**	ND(0.88)	ND(0.88)	ND(0.88)	ND(0.88)	ND(1.8)	--	--
IW-8 (5.5 ft)	08/05/14	5.5	ND(0.88)	**41**	ND(0.88)	2	5.7	ND(0.88)	4.9	--	--
MW-22 (3 ft)	01/15/14	3	ND(0.0044)	**120**	0.0068	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0088)	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	0.007 J-	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.25)	ND(0.25)
SS-21 (2.5-3 ft)	06/01/23	3-2.5	ND(0.22)	ND(0.22) UJ	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.22)	ND(0.43)	ND(0.03)	ND(0.03)
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	0.56 J	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.082)	ND(0.082)
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	ND(5)	**950**	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	ND(0.21)	1.8	ND(0.21)	ND(0.21)	ND(0.21)	**4.4**	ND(0.41)	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	ND(0.21)	**47**	ND(0.21)	0.28	0.13	ND(0.21)	0.23	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	ND(0.25)	**50**	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.5)	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.0064)	ND(0.0064) UJ	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.0064)	ND(0.013)	ND(0.47) UJ	ND(0.47) UJ
SS-11 (2.5-3 ft)	06/01/23	3-2.5	ND(0.21)	ND(0.21)	ND(0.21)	1.2	1	ND(0.21)	0.64	ND(0.15)	ND(0.15)
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.69)	ND(0.69)
SS-12 (2.5-3 ft)	06/01/23	3-2.5	ND(0.0043)	ND(0.0043) UJ	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0086)	ND(2.6)	ND(2.6)
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.005)	ND(0.005) UJ	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.03) UJ	ND(0.03) UJ
SS-13 (2.5-3 ft)	06/01/23	3-2.5	ND(1.2)	ND(1.2)	ND(1.2)	4.8	5.3	ND(1.2)	6.6	ND(3.2)	ND(3.2)
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.25)	ND(0.25)	ND(0.25)	0.1 J	ND(0.25)	ND(0.25)	ND(0.5)	ND(1.4)	ND(1.4)
SS-14 (2.5-3 ft)	06/01/23	3-2.5	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.5)	0.91	0.73
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	ND(0.005)	0.092	ND(0.005)	ND(0.005)	ND(0.005)	0.049	ND(0.01)	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0048)	ND(0.0095)	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0043)	ND(0.0085)	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0083)	ND(0.003)	ND(0.003)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0084)	ND(0.003) UJ	ND(0.003) UJ
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0042)	ND(0.0084)	ND(0.003)	ND(0.003)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0044)	0.0068 J+	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0044)	ND(0.0088)	ND(0.03)	ND(0.03)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene (mg/kg)	Benzo(a)- pyrene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(ghi)-perylene (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)
Area 4											
HA-1 (3 ft)	08/05/14	3	--	--	--	--	--	--	--	--	--
HA-2 (3 ft)	01/16/14	3	--	--	--	--	--	--	--	--	--
HA-3 (1 ft)	08/05/14	1	--	--	--	--	--	--	--	--	--
IW-10 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-12 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-13 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-14 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-15 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-16 (5 ft)	08/05/14	5	--	--	--	--	--	--	--	--	--
IW-17 (5 ft)	08/05/14	5	--	--	--	--	--	--	--	--	--
IW-2 (3 ft)	08/05/14	3	--	--	--	--	--	--	--	--	--
IW-3 (3 ft)	01/17/14	3	--	--	--	--	--	--	--	--	--
IW-4 (4.5 ft)	08/05/14	4.5	--	--	--	--	--	--	--	--	--
IW-5 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-6 (4.5 ft)	08/05/14	4.5	--	--	--	--	--	--	--	--	--
IW-7 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-8 (5.5 ft)	08/05/14	5.5	--	--	--	--	--	--	--	--	--
MW-22 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
SS-21 (2.5-3 ft)	06/01/23	3-2.5	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)	ND(0.082)
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	--	--	--	--	--	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	--	--	--	--	--	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	--	--	--	--	--	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	--	--	--	--	--	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ	ND(0.47) UJ
SS-11 (2.5-3 ft)	06/01/23	3-2.5	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	0.82	ND(0.15)	0.99
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)	ND(0.69)
SS-12 (2.5-3 ft)	06/01/23	3-2.5	ND(2.6)	ND(2.6)	ND(2.6)	ND(2.6)	ND(2.6)	ND(2.6)	15	ND(2.6)	7
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ	ND(0.03) UJ
SS-13 (2.5-3 ft)	06/01/23	3-2.5	ND(3.2)	ND(3.2)	ND(3.2)	ND(3.2)	ND(3.2)	ND(3.2)	ND(3.2)	ND(3.2)	13
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)
SS-14 (2.5-3 ft)	06/01/23	3-2.5	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	2.9	ND(0.1)	0.85
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	--	--	--	--	--	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	--	--	--	--	--	--	--	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	--	--	--	--	--	--	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)	ND(0.003)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
Area 4				
HA-1 (3 ft)	08/05/14	3	--	--
HA-2 (3 ft)	01/16/14	3	--	--
HA-3 (1 ft)	08/05/14	1	--	--
IW-10 (3 ft)	01/15/14	3	--	--
IW-12 (6 ft)	08/05/14	6	--	--
IW-13 (3 ft)	01/15/14	3	--	--
IW-14 (6 ft)	08/05/14	6	--	--
IW-15 (6 ft)	08/05/14	6	--	--
IW-16 (5 ft)	08/05/14	5	--	--
IW-17 (5 ft)	08/05/14	5	--	--
IW-2 (3 ft)	08/05/14	3	--	--
IW-3 (3 ft)	01/17/14	3	--	--
IW-4 (4.5 ft)	08/05/14	4.5	--	--
IW-5 (3 ft)	01/15/14	3	--	--
IW-6 (4.5 ft)	08/05/14	4.5	--	--
IW-7 (3 ft)	01/15/14	3	--	--
IW-8 (5.5 ft)	08/05/14	5.5	--	--
MW-22 (3 ft)	01/15/14	3	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.25)	ND(0.25)
SS-21 (2.5-3 ft)	06/01/23	3-2.5	ND(0.03)	ND(0.03)
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.082)	ND(0.082)
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--
Area 5 / Area 6				
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.47) UJ	ND(0.47) UJ
SS-11 (2.5-3 ft)	06/01/23	3-2.5	1.2 J+	ND(0.15)
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.69)	ND(0.69)
SS-12 (2.5-3 ft)	06/01/23	3-2.5	31 J+	ND(2.6)
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(0.03) UJ	ND(0.03) UJ
SS-13 (2.5-3 ft)	06/01/23	3-2.5	16 J+	ND(3.2)
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	ND(1.4)	ND(1.4)
SS-14 (2.5-3 ft)	06/01/23	3-2.5	4.5	ND(0.1)
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--
Area 7				
PR-36 (3-5 ft)	11/09/10	3-5	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.003)	ND(0.003)
SS-15 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003) UJ	ND(0.003) UJ
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.003)	ND(0.003)
SS-16 (2.5-3 ft)	05/31/23	3-2.5	ND(0.03)	ND(0.03)

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel (mg/kg)	Motor Oil (C23-C43) [a] (mg/kg)	Benzene (mg/kg)	n-Butylbenzene (mg/kg)	sec-Butylbenzene (mg/kg)	Carbon tetrachloride (mg/kg)	Chlorobenzene (mg/kg)	Chloroform (mg/kg)	1,4-Dichlorobenzene (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	**2800 NJ**	8150	ND(0.2)	0.17 J	0.2	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
SS-17 (2.5-3 ft)	05/31/23	3-2.5	13 NJ	27.5	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	120 NJ	760	0.0092 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	22 NJ	98	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	76 NJ	270	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(10)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Published Screening Levels [b]											
SFBRWQCB Construction Worker ESL - Noncancer			1100	54000	45	---	---	220	1200	860	15000
SFBRWQCB Construction Worker ESL - Cancer			---	---	33	---	---	53	---	34	280
USEPA Industrial RSL - Noncancer			---	---	---	58000	120000	---	---	---	---
USEPA Industrial RSL - Cancer			---	---	---	---	---	---	---	---	---
Lowest Screening Level			1100	54000	33	58000	120000	53	1200	34	280

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

-- = not analyzed

--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane (mg/kg)	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	1,1-Dichloropropene (mg/kg)	1,1-Dimethylethanol (mg/kg)	Ethylbenzene (mg/kg)	Isopropyl-benzene (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(2)	ND(0.2)	0.38
SS-17 (2.5-3 ft)	05/31/23	3-2.5	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(2.5)	ND(0.25)	ND(0.25)
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.038)	ND(0.0038)	ND(0.0038)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.041)	ND(0.0041)	ND(0.0041)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)	ND(0.005)	ND(0.005)
Published Screening Levels [b]											
SFBRWQCB Construction Worker ESL - Noncancer			71000	130	350	78	570	---	---	15000	---
SFBRWQCB Construction Worker ESL - Cancer			370	45	---	---	---	---	---	540	---
USEPA Industrial RSL - Noncancer			---	---	---	---	---	---	270000	---	9900
USEPA Industrial RSL - Cancer			---	---	---	---	---	---	6500	---	--
Lowest Screening Level			370	45	350	78	570	---	6500	540	9900

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

-- = not analyzed

--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene (mg/kg)	Methylene Chloride (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	n-Propylbenzene (mg/kg)	1,1,2,2-Tetrachloroethane (mg/kg)	Tetra-chloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.2)	ND(0.4)	ND(0.2)	0.25	0.53	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
SS-17 (2.5-3 ft)	05/31/23	3-2.5	ND(0.25)	ND(0.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.0023 J	0.002 J	ND(0.005)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0038)	ND(0.0076)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0081)	0.0015 J+	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	0.001 J	ND(0.0041)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(0.005)	ND(0.01)	0.0015 J+	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Published Screening Levels [b]											
SFBRWQCB Construction Worker ESL - Noncancer			---	1400	65000	500	---	7100	350	4700	720
SFBRWQCB Construction Worker ESL - Cancer			---	490	4100	400	---	49	33	---	---
USEPA Industrial RSL - Noncancer			---	---	---	---	24000	---	---	---	---
USEPA Industrial RSL - Cancer			---	---	---	---	---	---	---	---	---
Lowest Screening Level			---	490	4100	400	24000	49	33	4700	720

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

-- = not analyzed

--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	1,1,2-Trichloro-trifluoroethane (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.38)	ND(0.38)
SS-17 (2.5-3 ft)	05/31/23	3-2.5	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.5)	ND(0.003)	ND(0.003)
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.03)	ND(0.03)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0038)	ND(0.0076)	ND(0.03)	ND(0.03)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0041)	ND(0.0081)	ND(0.03)	ND(0.03)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	ND(0.003) UJ	ND(0.003) UJ
Published Screening Levels [b]											
SFBRWQCB Construction Worker ESL - Noncancer			6.3	18	---	---	---	300	2400	10000	---
SFBRWQCB Construction Worker ESL - Cancer			110	130	---	---	---	3.4	---	---	---
USEPA Industrial RSL - Noncancer			---	---	28000	1800	1500	---	---	---	---
USEPA Industrial RSL - Cancer			---	---	---	---	---	---	---	---	---
Lowest Screening Level			6.3	18	28000	1800	1500	3.4	2400	10000	---

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

-- = not analyzed

--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene (mg/kg)	Benzo(a)- pyrene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(ghi)-perylene (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.38) UJ	ND(0.38) UJ	ND(0.38) UJ	ND(0.38)	ND(0.38)	ND(0.38) UJ	ND(0.38)	ND(0.38)	ND(0.38)
SS-17 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003) UJ	ND(0.003)	ND(0.003)	ND(0.003)
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ	ND(0.003) UJ
Published Screening Levels [b]											
SFBRWQCB Construction Worker ESL - Noncancer			---	10	---	---	---	---	---	---	500
SFBRWQCB Construction Worker ESL - Cancer			110	11	110	---	9100	6700	6700	110	400
USEPA Industrial RSL - Noncancer			---	---	---	---	---	---	---	---	---
USEPA Industrial RSL - Cancer			---	---	---	---	---	---	---	---	---
Lowest Screening Level			110	10	110	---	9100	6700	6700	110	400

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

-- = not analyzed

--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 1. SOIL ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.38)	ND(0.38) UJ
SS-17 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003)	ND(0.003) UJ
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.03)	ND(0.03)
SS-19 (2.5-3 ft)	05/31/23	3-2.5	ND(0.03)	ND(0.03)
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND(0.03)	ND(0.03)
SS-20 (2.5-3 ft)	05/31/23	3-2.5	ND(0.003) UJ	ND(0.003) UJ
Published Screening Levels [b]				
SFBRWQCB Construction Worker ESL - Noncancer			---	---
SFBRWQCB Construction Worker ESL - Cancer			---	5000
USEPA Industrial RSL - Noncancer			---	---
USEPA Industrial RSL - Cancer			---	---
Lowest Screening Level			---	5000

Highlighted values are detected concentrations.

Bolded values exceeded the lowest screening levels

Abbreviations:

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--- = screening level not established

bgs = below ground surface

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

mg/kg = milligrams per kilogram

ND(#) = not detected above the reporting limit provided

NJ = Tentative identification and estimated concentration

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

TABLE 2. SOIL NONCANCER HAZARD INDEX AND CANCER RISK
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Noncancer Hazard Index TH = 1	Cancer Risk TR = 1E-06
Area 1				
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	ND	ND
SS-1 (2.5-3 ft)	05/30/23	2.5-3	1.5E-03	2.0E-09
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.1E-01	3.6E-11
SS-2 (2.5-3 ft)	05/30/23	2.5-3	4.0E-05	5.5E-11
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.5E-01	ND
SS-3 (2.5-3 ft)	05/30/23	2.5-3	1.2E-02	ND
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	8.7E-03	3.9E-11
SS-4 (2.5-3 ft)	05/30/23	2.5-3	2.1E-02	5.2E-09
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	2.7E-05	3.6E-11
SS-5 (2.5-3 ft)	05/30/23	2.5-3	1.9E-01	1.2E-10
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.6E-02	ND
SS-6 (2.5-3 ft)	05/30/23	2.5-3	8.2E-03	ND
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	7.8E-02	5.5E-11
SS-7 (2.5-3 ft)	05/30/23	2.5-3	ND	ND
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	4.4E-05	6.1E-11
SS-8 (2.5-3 ft)	05/30/23	2.5-3	1.4E-04	1.9E-10
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	3.0E-02	1.7E-11
SS-9 (2.5-3 ft)	05/30/23	2.5-3	5.9E-01	6.6E-09
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	**2.0E+01**	1.5E-09
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	8.5E-05	5.3E-11
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	8.6E-04	7.1E-10
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	ND	ND
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	1.3E-03	7.4E-09
Minimum Cancer Risk / Noncancer Hazard =			2.7E-05	1.7E-11
Maximum Cancer Risk / Noncancer Hazard =			**2.0E+01**	7.4E-09
Area 2				
IW-1 (3 ft)	01/15/14	3	1.9E-03	4.1E-09
IW-9 (3 ft)	01/15/14	3	2.8E-04	6.7E-10
MW-23 (3 ft)	01/15/14	3	1.5E-03	3.5E-09
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	1.1E-01	1.1E-08
SS-23 (2.5-3 ft)	05/31/23	2.5-3	1.1E-04	2.4E-10
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	1.2E-04	4.6E-10
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	4.6E-01	6.7E-08
Minimum Cancer Risk / Noncancer Hazard =			1.1E-04	2.4E-10
Maximum Cancer Risk / Noncancer Hazard =			4.6E-01	6.7E-08

TABLE 2. SOIL NONCANCER HAZARD INDEX AND CANCER RISK
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Noncancer Hazard Index TH = 1	Cancer Risk TR = 1E-06
Area 3				
PR-38 (3-5 ft)	12/06/10	3-5	3.3E-05	4.5E-11
PR-38 (3-5 ft) Dup	12/06/10	3-5	5.3E-05	7.3E-11
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	3.3E-01	ND
SS-10 (2.5-3 ft)	05/31/23	2.5-3	4.6E-02	ND
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	3.6E-01	7.7E-12
SS-18 (2.5-3 ft)	05/31/23	2.5-3	2.5E-01	1.3E-08
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	1.3E-02	2.7E-09
SS-24 (2.5-3 ft)	05/31/23	2.5-3	1.7E-02	ND
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	ND	ND
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	2.8E-03	4.9E-09
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	1.0E-04	1.4E-11
Minimum Cancer Risk / Noncancer Hazard =			3.3E-05	7.7E-12
Maximum Cancer Risk / Noncancer Hazard =			3.6E-01	1.3E-08
Area 4				
HA-1 (3 ft)	08/05/14	3	1.6E-01	5.0E-10
HA-2 (3 ft)	01/16/14	3	1.3E-02	2.2E-09
HA-3 (1 ft)	08/05/14	1	3.7E-02	1.4E-08
IW-10 (3 ft)	01/15/14	3	5.5E-01	**3.0E-06**
IW-12 (6 ft)	08/05/14	6	**4.9E+01**	**8.7E-06**
IW-13 (3 ft)	01/15/14	3	5.2E-01	**1.4E-06**
IW-14 (6 ft)	08/05/14	6	**7.5E+01**	**2.0E-05**
IW-15 (6 ft)	08/05/14	6	**1.4E+02**	**9.2E-06**
IW-16 (5 ft)	08/05/14	5	2.1E-01	2.7E-07
IW-17 (5 ft)	08/05/14	5	**1.3E+01**	**1.2E-06**
IW-2 (3 ft)	08/05/14	3	9.2E-02	6.4E-07
IW-3 (3 ft)	01/17/14	3	5.4E-01	**1.9E-06**
IW-4 (4.5 ft)	08/05/14	4.5	**2.0E+00**	**5.9E-06**
IW-5 (3 ft)	01/15/14	3	6.6E-02	2.3E-07
IW-6 (4.5 ft)	08/05/14	4.5	**1.7E+01**	**3.8E-06**
IW-7 (3 ft)	01/15/14	3	**5.4E+01**	**2.5E-05**
IW-8 (5.5 ft)	08/05/14	5.5	**8.8E+01**	**1.2E-06**
MW-22 (3 ft)	01/15/14	3	**9.9E+00**	**1.2E-05**
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	4.4E-01	2.9E-09
SS-21 (2.5-3 ft)	06/01/23	3-2.5	3.8E-02	9.7E-09
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	2.6E-01	1.6E-08
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	**5.6E+01**	**3.4E-05**
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	3.9E-01	**1.4E-06**
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	**7.5E+00**	**4.3E-05**
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	**5.0E+00**	**2.2E-05**
Minimum Cancer Risk / Noncancer Hazard =			1.3E-02	5.0E-10
Maximum Cancer Risk / Noncancer Hazard =			**1.4E+02**	**4.3E-05**

TABLE 2. SOIL NONCANCER HAZARD INDEX AND CANCER RISK
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Noncancer Hazard Index TH = 1	Cancer Risk TR = 1E-06
Area 5 / Area 6				
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	7.0E-01	ND
SS-11 (2.5-3 ft)	06/01/23	3-2.5	**5.7E+01**	2.5E-08
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	8.6E-01	ND
SS-12 (2.5-3 ft)	06/01/23	3-2.5	**7.6E+01**	2.0E-08
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	2.1E-01	ND
SS-13 (2.5-3 ft)	06/01/23	3-2.5	**2.1E+01**	8.6E-08
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	**8.8E+00**	6.8E-09
SS-14 (2.5-3 ft)	06/01/23	3-2.5	**1.1E+01**	2.6E-09
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	5.7E-03	1.5E-08
Minimum Cancer Risk / Noncancer Hazard =			5.7E-03	2.6E-09
Maximum Cancer Risk / Noncancer Hazard =			**7.6E+01**	8.6E-08
Area 7				
PR-36 (3-5 ft)	11/09/10	3-5	1.8E-07	2.9E-12
PR-36 (3-5 ft) Dup	11/09/10	3-5	3.7E-07	5.9E-12
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	9.7E-03	ND
SS-15 (2.5-3 ft)	05/31/23	3-2.5	1.0E-02	ND
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	ND	ND
SS-16 (2.5-3 ft)	05/31/23	3-2.5	7.8E-02	8.3E-11
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	**2.7E+00**	6.3E-10
SS-17 (2.5-3 ft)	05/31/23	3-2.5	1.2E-02	ND
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	1.2E-01	3.5E-10
SS-19 (2.5-3 ft)	05/31/23	3-2.5	2.2E-02	ND
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	7.4E-02	3.7E-13
SS-20 (2.5-3 ft)	05/31/23	3-2.5	2.3E-08	3.7E-13
Minimum Cancer Risk / Noncancer Hazard =			2.3E-08	3.7E-13
Maximum Cancer Risk / Noncancer Hazard =			**2.7E+00**	6.3E-10

Note: Attachment A presents the calculations of the hazard quotients and cancer risks for each chemical at each location.
Bold and highlighted values indicate an exceedance of either the TH or TR.

Abbreviations:
ND = all compounds with either a noncancer or cancer screening level were non-detect
bgs = below ground surface
TH = target noncancer hazard index
TR = target cancer risk

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	GRO as Gasoline (µg/L)	DRO as Diesel (µg/L)	Motor Oil / Fuel Oil (µg/L)	Benzene (µg/L)	Bromodi-chloromethane (µg/L)	Bromoform (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	tert-Butylbenzene (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	1,3-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloropropene (µg/L)	1,1-Dimethylethanol (µg/L)	1,2-Dichloropropane (µg/L)
Area 1																						
MW-5	04/10/18	ND(500)	1900	1300 NJ	10	ND(0.5)	ND(0.5)	22	0.35 J	0.4 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	110	ND(0.5)
MW-5	10/15/19	ND(500)	4200 NJ	790 NJ	3.2	ND(0.5)	ND(0.5)	0.95	3.8	0.57	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	59	ND(0.5)
MW-5	09/29/20	ND(1000)	5600 NJ	670 NJ	6.7	ND(0.5)	ND(0.5)	2.2	4.2	0.54	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	74	ND(0.5)
MW-5	03/29/21	390 NJ	4200 NJ	430 NJ	1.7	ND(0.5)	ND(0.5)	4.3	3.6	0.37 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	64	ND(0.5)
MW-5	04/20/23	ND(500)	4100 NJ	ND(500)	1.3	ND(0.5)	ND(0.5)	ND(0.5)	0.97	0.37 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	140	ND(0.5)
MW-6	04/09/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	10/08/18	ND(500)	270 NJ	320 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	04/01/19	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	10/15/19	ND(500)	190 NJ	720 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	03/31/20	ND(500)	ND(200) UJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	09/29/20	ND(500)	260 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	03/29/21	ND(500)	240 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	10/04/21	ND(500)	ND(200)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.31 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	04/04/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	10/03/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	04/18/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-6	10/02/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	04/09/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	10/08/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	04/01/19	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	10/15/19	ND(500)	ND(200) UJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	04/01/20	ND(1000)	5100 NJ	6400 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	03/29/21	ND(500)	210 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	10/04/21	ND(500)	ND(200)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	04/04/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	10/03/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	04/19/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-7	10/02/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-10	04/01/21	ND(2500)	15000 JB	ND(2500)	4.6	ND(0.5)	ND(0.5)	5.3	3.3	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.17J/ND(0.5)U*	ND(0.5)	ND(0.5)	0.26J/ND(0.5)U*	ND(0.5)	ND(0.5)	ND(0.5)	94	ND(0.5)
MW-11	04/05/22	ND(500)	3500 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.7	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1900	ND(0.5)
MW-12	03/31/21	ND(1000)	5400 JB	ND(1000)	1.3	ND(0.5)	ND(0.5)	1.7	6.8	0.89	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.1 JB	ND(0.5)	0.33J/ND(0.5)U*	7 JB	ND(0.5)	ND(0.5)	ND(0.5)	210	ND(0.5)
WT-1	04/09/18	ND(500)	200	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	10/22/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	04/02/19	ND(1000)	ND(410)	ND(1000)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	10/15/19	ND(500)	ND(200) UJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	36	ND(0.5)
WT-1	04/01/20	ND(500)	360/ND(360)U*	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	09/30/20	ND(500)	260 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	03/30/21	ND(500)	370 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	10/05/21	ND(500)	410 NJ	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	04/04/22	ND(500)	370 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	10/20/22	ND(500)	240 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	04/17/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-1	10/03/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	04/09/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	97	ND(0.5)
WT-2	10/22/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	04/02/19	ND(1000)	ND(420)	ND(1000)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.52	ND(0.5)	ND(0.5)	480	ND(0.5)
WT-2	10/15/19	ND(500)	ND(200) UJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	04/01/20	ND(500)	ND(200) UJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	170 J+	ND(0.5)
WT-2	09/30/20	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	03/30/21	ND(560)	ND(220)	ND(560)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	10/05/21	ND(500)	ND(200)	ND(50)	ND(0.5)	ND(0.5)	0.73	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	04/04/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	10/20/22	ND(500)	540 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	04/17/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-2	10/03/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-3	04/09/18	ND(500)	1800 NJ	1700 NJ	ND(0.5)	0.52	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.73	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	160	ND(0.5)
WT-3	04/01/20	ND(500)	4100 NJ	3700 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	580 J+	ND(0.5)
WT-3	09/30/20	ND(500)	700 NJ	270 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	250	ND(0.5)
WT-3	03/30/21	ND(560)	510 NJ	ND(560)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	200	ND(0.5)
WT-3	10/05/21	ND(500)	550 NJ	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
WT-3	04/04/22	ND(500)	440 NJ	400 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	71	ND(0.5)
WT-3	10/20/22	ND(500)	1100 NJ	360 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	28	ND(0.5)
WT-3	04/17/23	ND(500)	620 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	68	ND(0.5)

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,4-Dioxane (µg/L)	Ethylbenzene (µg/L)	Ethyl-t-Butyl Ether (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	Methylene Chloride (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	n-Propylbenzene (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	Trichloroethene (µg/L)	1,1,2-Trichloro-trifluoroethane (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	Vinyl Chloride (µg/L)	Xylenes, Total (µg/L)
Area 1																				
MW-5	04/10/18	ND(100)	ND(0.5)	ND(0.5)	2.3	ND(0.5)	ND(1)	15	2.8	1.2	ND(0.5) UJ	0.71 J-	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	2.3	ND(0.5)	2.6
MW-5	10/15/19	ND(100)	1.6	ND(0.5)	33	ND(0.5)	ND(1)	8.3	4.2	50	ND(0.5)	1.4	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	1	ND(0.5)	ND(0.5)	2.6
MW-5	09/29/20	ND(100)	0.37 J	ND(0.5)	23	1.7	ND(1)	9	0.72	27	ND(0.5)	0.66	0.12 J	ND(0.5)	ND(0.5)	ND(0.5)	0.23 J	ND(0.5)	ND(0.5)	2.4
MW-5	03/29/21	ND(100)	0.52	ND(0.5)	31	ND(0.5)	ND(1)	9.4	ND(0.5)	55	ND(0.5)	0.94	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.85	ND(0.5)	ND(0.5)	1.4
MW-5	04/20/23	ND(100)	ND(0.5)	ND(0.5)	13	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	11	ND(0.5) UJ	0.83 JB	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(1)
MW-6	04/09/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	10/08/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	04/01/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	03/31/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	09/29/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	03/29/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	10/04/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	0.19 J	ND(0.5)	0.5 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	10/03/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	04/18/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-6	10/02/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	04/09/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.7	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	10/08/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.9	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	04/01/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.12 J	ND(1)	0.72	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.12 J	ND(1)	2.9	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	0.26 J	ND(0.5)	ND(0.5)	ND(1)
MW-7	04/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.29J/ND(0.5)U*	ND(1)	5.2	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	03/29/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	10/04/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	3 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	2.8	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	10/03/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.8	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-7	04/19/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(1)
MW-7	10/02/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.26 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-10	04/01/21	ND(100)	24	ND(0.5)	4.9	2.4 JB	ND(1)	7	110	14	0.55/ND(0.55)U*	3.5	0.95/ND(0.95)U*	ND(0.5)	0.4J/ND(0.5)U*	ND(0.5)	100	31	ND(0.5)	66
MW-11	04/05/22	140	ND(0.5)	ND(0.5)	17	ND(0.5)	ND(1)	14	ND(0.5)	0.17 J	ND(0.5)	0.21 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-12	03/31/21	ND(100)	0.34 J	ND(0.5)	33	ND(0.5)	ND(1)	0.53	ND(0.5)	41	6.3/ND(6.3)U*	0.43 J	11 JB	ND(0.5)	8.8/ND(8.8)U*	ND(0.5)	ND(0.5)	ND(0.5)	2.4 JB	0.84 J
WT-1	04/09/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	10/22/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.47 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.1 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	04/02/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.2 J	ND(1)	0.95	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.44 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	04/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	2.4 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	09/30/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	03/30/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.29 J	ND(1)	2.9	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	10/05/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.1 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	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)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	10/20/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	04/17/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.91	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-1	10/03/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.87	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	04/09/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	3.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	10/22/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.5	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	04/02/19	ND(100)	0.15 J	ND(0.5)	0.17 J	ND(0.5)	ND(1)	5.2	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	04/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	2.2 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	09/30/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.17 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	03/30/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	10/05/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.15 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	10/20/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	04/17/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-2	10/03/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	04/09/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	4.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	04/01/20	ND(100)	ND(0.5)	0.86 J+	ND(0.5)	ND(0.5)	ND(1)	7.2 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	09/30/20	ND(100)	ND(0.5)	0.52	ND(0.5)	ND(0.5)	ND(1)	3.5	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	03/30/21	ND(100)	ND(0.5)	0.55	ND(0.5)	0.26 J	ND(1)	2.9	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	10/05/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	2.5 J+	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	04/04/22	ND(100)	ND(0.5)	0.34 J	ND(0.5)	ND(0.5)	ND(1)	2.6	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	10/20/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	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)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
WT-3	04/17/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	3.4	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	GRO as Gasoline (µg/L)	DRO as Diesel (µg/L)	Motor Oil / Fuel Oil (µg/L)	Benzene (µg/L)	Bromodi-chloromethane (µg/L)	Bromoform (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	tert-Butylbenzene (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	1,3-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloropropene (µg/L)	1,1-Dimethylethanol (µg/L)	1,2-Dichloropropane (µg/L)
WT-3	10/03/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
Area 2																						
MW-9A	04/11/18	ND(500)	330 NJ	780 NJ	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	6.3	ND(5)	ND(5)	ND(5)	4500	13	2700	41000	140 J	ND(5)	ND(100)	ND(5)
MW-9A	10/10/18	ND(500)	300 NJ	ND(500)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	4800	ND(100)	600	9600	91 J	ND(100)	ND(2000)	ND(100)
MW-9A	04/04/19	ND(1000)	ND(400)	ND(1000)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.22 J	ND(0.5)	140	0.71	150	620	5	ND(0.5)	ND(10)	ND(0.5)
MW-9A Dup	04/04/19	ND(1000)	ND(400)	ND(1000)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	120	ND(12)	120	570	ND(12)	ND(12)	ND(250)	ND(12)
MW-9A	10/16/19	ND(500)	320 NJ	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	3900	69 J+	950	6400	ND(250)	ND(5)	ND(100)	ND(5)
MW-9A	04/02/20	ND(500)	ND(200)	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	160	ND(5)	340	450	4.8 J	ND(5)	ND(100)	ND(5)
MW-9A	10/01/20	ND(500)	140 NJ	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	10000	30	280	6200	170 J	ND(5)	ND(100)	ND(5)
MW-9A	04/15/21	ND(500)	320 NJ	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	2600	20 J+	1300	16000	120 J	ND(5)	ND(100)	ND(5)
MW-9A	10/05/21	ND(500)	460 NJ	ND(50)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	6300	14	8.5 J	840	120	ND(12)	ND(250)	ND(12)
MW-9A	04/06/22	ND(500)	ND(200)	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	750	4.5 J	700	3300	ND(50)	ND(5)	ND(100)	ND(5)
MW-9A	10/04/22	ND(500)	ND(200)	ND(500)	0.55	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.7	1000	ND(0.5)	0.38 J	2600	3.7	6	580	51	ND(0.5)	ND(10)	ND(0.5)
MW-9A	04/19/23	ND(500)	ND(200)	ND(500)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	220 J	ND(5)	ND(5)	54 J	3.6 J	ND(5)	ND(100)	ND(5)
MW-9A	10/04/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.1 J	0.6	0.32 J	ND(0.5)	190	0.51	99	1100	9 J	ND(0.5)	ND(10)	ND(0.5)
Area 3																						
MW-4	04/10/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	10/08/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	04/02/19	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4 Dup	04/02/19	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	10/15/19	ND(500)	130 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	04/01/20	ND(500)	140J,/ND(200)U*	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	09/29/20	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	03/30/21	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	10/04/21	ND(500)	ND(200)	ND(50)	ND(0.5)	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	04/04/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	10/03/22	ND(500)	94 NJ	310 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	04/17/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-4	10/03/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
Area 4																						
L-4	04/11/18	NA	NA	NA	ND(250) UJ	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	9600	ND(250)	27000	1700 J	950	ND(250)	ND(5000)	ND(250)
L-4 Dup	04/11/18	NA	NA	NA	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	9100	ND(250)	29000	3400 J	1000	ND(250)	ND(5000)	ND(250)
L-4	10/09/18	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	19000	200 J	39000	8600	3300	ND(500)	ND(10000)	ND(500)
L-4 Dup	10/09/18	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	17000	180 J	34000	8600	2900	ND(500)	ND(10000)	ND(500)
L-4	04/04/19	NA	NA	NA	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	8900	ND(1000)	26000	2000	560 J	ND(1000)	ND(20000)	ND(1000)
L-4 Dup	04/04/19	NA	NA	NA	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	9300 J+	ND(1000)	27000 J+	2400 J+	560 J+	ND(1000)	ND(20000)	ND(1000)
L-4	10/16/19	NA	NA	NA	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100) UJ	ND(100)	ND(100)	7400 J+	75 J	11000 J+	2100 J	1000 J	ND(100)	ND(2000)	ND(100)
L-4 Dup	10/16/19	NA	NA	NA	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	4300	51 J	12000 J	1300 J	450 J	ND(100)	ND(2000)	ND(100)
L-4	04/03/20	NA	NA	NA	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	9700	47 J	29000	5400	830 J	ND(50)	ND(1000)	ND(50)
L-4 Dup	04/03/20	NA	NA	NA	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	7200	33 J	27000	4300	540 J	ND(50)	ND(1000)	ND(50)
L-4	10/01/20	NA	NA	NA	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	16000	130	24000	4200 J	1300 J	ND(50)	ND(1000)	ND(50)
L-4 Dup	10/01/20	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	19000	ND(500)	28000	6500 J	2400 J	ND(500)	ND(10000)	ND(500)
L-4	03/30/21	NA	NA	NA	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	12000	ND(250)	48000	6200	620	ND(250)	ND(5000)	ND(250)
L-4 Dup	03/30/21	NA	NA	NA	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	13000	ND(250)	51000	6600	680	ND(250)	ND(5000)	ND(250)
L-4	10/06/21	NA	NA	NA	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	14000	ND(2500)	28000	11000	2400 J	ND(2500)	ND(50000)	ND(2500)
L-4 Dup	10/06/21	NA	NA	NA	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	15000	ND(2500)	28000	13000	2300 J	ND(2500)	ND(50000)	ND(2500)
L-4	04/07/22	NA	NA	NA	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	13000	ND(250)	62000	9600	980	ND(250)	ND(5000)	ND(250)
L-4 Dup	04/07/22	NA	NA	NA	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	14000	68	50000	10000	950	ND(50)	ND(1000)	ND(50)
L-4	10/05/22	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	14000	170 J	21000	18000	2900	ND(500)	ND(10000)	ND(500)
L-4 Dup	10/05/22	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	14000	ND(500)	20000	17000	2800	ND(500)	ND(10000)	ND(500)
L-4	04/19/23	NA	NA	NA	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	5900	ND(50) UJ	33000	4000	290 J	ND(50)	ND(1000)	ND(50)
L-4 Dup	04/19/23	NA	NA	NA	1.7 J+	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	6.1 J+	ND(5)	6700	48 J+	25000	5100	400 J	ND(5)	ND(100)	ND(5)
L-4	10/04/23	NA	NA	NA	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	ND(120)	7600	55 J	25000	5900	720	ND(120)	ND(2500)	ND(120)
L-4 Dup	10/04/23	NA	NA	NA	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	7300 J-	45 J-	23000 J-	5500 J-	620 J-	ND(120) UJ	ND(2500) UJ	ND(120) UJ
L-9	04/10/18	NA	NA	NA	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	ND(250)	31000	ND(250)	720	49000	300	ND(250)	ND(5000)	ND(250)
L-9	04/03/19	NA	NA	NA	90 J+	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	63000 J+	210 J+	1800 J+	29000 J+	510 J+	ND(500)	ND(10000)	ND(500)
L-9	10/16/19	NA	NA	NA	23 J	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	ND(100)	18000	49 J	440	41000	160 J	ND(100)	ND(2000)	ND(100)
L-9	04/03/20	NA	NA	NA	75	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	59000	77	1300	38000	440 J	ND(50)	ND(1000)	ND(50)
L-9	09/30/20	NA	NA	NA	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	27000	ND(1000)	800 J	62000	320 J	ND(1000)	ND(20000)	ND(1000)
L-9	03/30/21	NA	NA	NA	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	ND(500)	44000	ND(500)	1100	140000	ND(2500)	ND(500)	ND(10000)	ND(500)
L-9	04/06/22	NA	NA	NA	42 J-	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	44000 J-	ND(50) UJ	660 J-	140000 J-	ND(5000) UJ	ND(50) UJ	ND(1000) UJ	ND(50) UJ
L-9	10/04/22	NA	NA	NA	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	33000 J-	ND(50) UJ	1000 J-	170000 J-	ND(2500) R	ND(50) UJ	ND(1000) UJ	ND(50) UJ
L-9	04/19/23	NA	NA	NA	63	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	66000 J-	60	660	78000 J-	420 J-	ND(50)	ND(1000)	ND(50)
L-9	10/04/23	NA	NA	NA	50	ND(0.5)	ND(0.5)	1	1.8	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	49000 J-	39	640 J-	76000 J-	580 J-	2.7	2200 J-	0.93

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,4-Dioxane (µg/L)	Ethylbenzene (µg/L)	Ethyl-t-Butyl Ether (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	Methylene Chloride (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	n-Propylbenzene (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	Trichloroethene (µg/L)	1,1,2-Trichloro-trifluoroethane (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	Vinyl Chloride (µg/L)	Xylenes, Total (µg/L)
WT-3	10/03/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.5	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
Area 2																				
MW-9A	04/11/18	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	790 J-	ND(5) UJ	9300	ND(5) UJ	260	ND(5)	ND(5)	ND(5)	4800	ND(10)
MW-9A	10/10/18	ND(20000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(200)	ND(100)	ND(100)	ND(100)	58J,/ND(100)U*	ND(100)	870	ND(100)	72 J	ND(100)	ND(100)	ND(100)	7900	ND(200)
MW-9A	04/04/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.13 J	1.1	ND(0.5)	ND(0.5)	ND(0.5)	690	ND(0.5)	230 J	ND(0.5)	73	ND(0.5)	ND(0.5)	ND(0.5)	51 J	ND(1)
MW-9A Dup	04/04/19	ND(2500)	ND(12)	ND(12)	ND(12)	ND(12)	47	ND(12)	ND(12)	ND(12)	820	ND(12)	1000 J	ND(12)	65	ND(12)	ND(12)	ND(12)	24 J	ND(25)
MW-9A	10/16/19	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	89	ND(5)	12000	ND(5)	72 J+	ND(5)	ND(5)	ND(5)	3000	ND(10)
MW-9A	04/02/20	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	930	ND(5)	1600	ND(5)	110	ND(5)	ND(5)	ND(5)	8.8	ND(10)
MW-9A	10/01/20	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	22	ND(5)	ND(5)	ND(5)	52	ND(5)	39000	2 J	11	ND(5)	ND(5)	ND(5)	22000	ND(10)
MW-9A	04/15/21	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	270	ND(5)	20000	ND(5)	47 J+	ND(5)	ND(5)	ND(5)	3800	ND(10)
MW-9A	10/05/21	ND(2500)	ND(12)	ND(12)	ND(12)	ND(12)	ND(25)	ND(12)	ND(12)	ND(12)	15	ND(12)	3000	ND(12)	8.2 J	ND(12)	ND(12)	ND(12)	9200	ND(25)
MW-9A	04/06/22	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	810	ND(5)	2500	ND(5)	230	ND(5)	ND(5)	ND(5)	360	ND(10)
MW-9A	10/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	3.5	ND(0.5)	ND(0.5)	ND(0.5)	28	0.12 J	430	ND(0.5)	8.3	ND(0.5)	ND(0.5)	ND(0.5)	4300	ND(1)
MW-9A	04/19/23	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	3 J	ND(5)	3.7 J	ND(5)	6 J	ND(5)	ND(5)	ND(5)	ND(5) UJ	ND(10)
MW-9A	10/04/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	170	ND(0.5)	1300	ND(0.5)	30	ND(0.5)	ND(0.5)	ND(0.5)	310	ND(1)
Area 3																				
MW-4	04/10/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	10/08/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	04/02/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4 Dup	04/02/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	0.2 J	ND(0.5)	ND(0.5)	ND(1)
MW-4	04/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	09/29/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	03/30/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	10/04/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	10/03/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	04/17/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-4	10/03/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
Area 4																				
L-4	04/11/18	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	ND(500) UJ	ND(250)	ND(250)	ND(250)	29000	ND(250)	390000	ND(250)	36000 J	ND(250)	ND(250)	ND(250)	670 J	ND(500)
L-4 Dup	04/11/18	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	7100 J	ND(250)	ND(250)	ND(250)	38000	ND(250)	410000	ND(250)	49000 J	ND(250)	ND(250)	ND(250)	1000 J	ND(500)
L-4	10/09/18	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	ND(1000)	ND(500)	ND(500)	ND(500)	48000	ND(500)	42000	ND(500)	75000 J-	ND(500)	ND(500)	ND(500)	4300	ND(1000)
L-4 Dup	10/09/18	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	ND(1000)	ND(500)	ND(500)	ND(500)	42000	ND(500)	45000	ND(500)	68000 J-	ND(500)	ND(500)	ND(500)	4100	ND(1000)
L-4	04/04/19	ND(200000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(2000)	ND(1000)	ND(1000)	ND(1000)	53000	ND(1000)	290000	ND(1000)	37000	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(2000)
L-4 Dup	04/04/19	ND(200000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	ND(2000)	ND(1000)	ND(1000)	ND(1000)	51000	ND(1000)	300000	ND(1000)	39000 J+	ND(1000)	ND(1000)	ND(1000)	500 J+	ND(2000)
L-4	10/16/19	ND(20000)	22 J	ND(100)	ND(100)	ND(100)	ND(200)	ND(100)	150	ND(100)	20000	ND(100)	94000	ND(100)	27000 J+	ND(100)	130	59 J	1300 J	ND(200)
L-4 Dup	10/16/19	ND(20000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(200)	ND(100)	ND(100)	ND(100)	22000	ND(100)	100000	ND(100)	30000	ND(100)	ND(100)	ND(100)	560 J	ND(200)
L-4	04/03/20	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	730 J	ND(50)	ND(50)	ND(50)	54000	ND(50)	150000	ND(50)	40000	ND(50)	ND(50)	ND(50)	1500 J	ND(100)
L-4 Dup	04/03/20	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	510 J	ND(50)	ND(50)	ND(50)	57000	ND(50)	160000	ND(50)	33000	ND(50)	ND(50)	ND(50)	1100 J	ND(100)
L-4	10/01/20	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	1200	ND(50)	ND(50)	ND(50)	48000	ND(50)	260000	ND(50)	88000	ND(50)	ND(50)	ND(50)	3000 J	ND(100)
L-4 Dup	10/01/20	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	ND(1000)	ND(500)	ND(500)	ND(500)	64000	ND(500)	270000	ND(500)	110000	ND(500)	ND(500)	ND(500)	6700 J	ND(1000)
L-4	03/30/21	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	580	ND(250)	ND(250)	ND(250)	75000	ND(250)	250000	ND(250)	54000	ND(250)	ND(250)	ND(250)	920	ND(500)
L-4 Dup	03/30/21	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	720	ND(250)	ND(250)	ND(250)	77000	ND(250)	260000	ND(250)	61000	ND(250)	ND(250)	ND(250)	910	ND(500)
L-4	10/06/21	ND(500000)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(5000)	ND(2500)	ND(2500)	ND(2500)	61000	ND(2500)	160000	ND(2500)	92000	ND(2500)	ND(2500)	ND(2500)	6400	ND(5000)
L-4 Dup	10/06/21	ND(500000)	ND(2500)	ND(2500)	ND(2500)	ND(2500)	ND(5000)	ND(2500)	ND(2500)	ND(2500)	60000	ND(2500)	170000	ND(2500)	95000	ND(2500)	ND(2500)	ND(2500)	6900	ND(5000)
L-4	04/07/22	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	ND(500) UJ	ND(250)	ND(250)	ND(250)	87000 J	ND(250)	250000 J	ND(250)	84000 J	ND(250)	ND(250)	ND(250)	1700	ND(500)
L-4 Dup	04/07/22	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	690 J	ND(50)	ND(50)	ND(50)	62000 J	ND(50)	170000 J	ND(50)	58000 J	93	ND(50)	ND(50)	1600	ND(100)
L-4	10/05/22	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	ND(1000)	ND(500)	ND(500)	ND(500)	47000	ND(500)	120000	ND(500)	100000	ND(500)	ND(500)	ND(500)	9800	ND(1000)
L-4 Dup	10/05/22	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	ND(1000)	ND(500)	ND(500)	ND(500)	44000	ND(500)	110000	ND(500)	97000	ND(500)	ND(500)	ND(500)	9200	ND(1000)
L-4	04/19/23	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	320 J	ND(50)	ND(50)	ND(50)	67000	ND(50)	180000	ND(50)	42000	ND(50)	ND(50)	ND(50)	460 J	ND(100)
L-4 Dup	04/19/23	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	860 J+	ND(5)	ND(5)	ND(5)	58000	7.7	160000	ND(5)	37000	ND(5)	ND(5)	ND(5)	640 J	ND(10)
L-4	10/04/23	ND(25000)	ND(120)	ND(120)	ND(120)	ND(120)	ND(250)	ND(120)	ND(120)	ND(120)	45000	ND(120)	120000	ND(120)	40000	ND(120)	ND(120)	ND(120)	2500 J	ND(250)
L-4 Dup	10/04/23	ND(25000) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	ND(250) UJ	ND(120) UJ	ND(120) UJ	ND(120) UJ	44000 J-	ND(120) UJ	140000 J-	ND(120) UJ	38000 J-	ND(120) UJ	ND(120) UJ	ND(120) UJ	1800 J-	ND(250) UJ
L-9	04/10/18	ND(50000)	ND(250)	ND(250)	ND(250)	ND(250)	11000	ND(250)	ND(250)	ND(250)	5700	ND(250)	2400	ND(250)	67000	ND(250)	ND(250)	ND(250)	43000	ND(500)
L-9	04/03/19	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	2000 J+	ND(500)	ND(500)	ND(500)	1300	ND(500)	12000 J+	ND(500)	2300 J+	ND(500)	ND(500)	ND(500)	80000 J+	ND(1000)
L-9	10/16/19	ND(20000)	ND(100)	ND(100)	ND(100)	ND(100)	ND(200)	ND(100)	120	ND(100)	710	ND(100)	730	ND(100)	13000	ND(100)	57 J	ND(100)	21000	ND(200)
L-9	04/03/20	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(100)	ND(50)	ND(50)	ND(50)	970	12 J	4200	ND(50)	5700	ND(50)	ND(50)	ND(50)	56000	ND(100)
L-9	09/30/20	ND(200000)	ND(1000)	ND(1000)	ND(1000)	ND(1000)	13000	ND(1000)	ND(1000)	ND(1000)	1800	ND(1000)	2500	ND(1000)	36000	ND(1000)	ND(1000)	ND(1000)	45000	ND(2000)
L-9	03/30/21	ND(100000)	ND(500)	ND(500)	ND(500)	ND(500)	9300	ND(500)	ND(500)	ND(500)	3000	ND(500)	1200	ND(500)	110000	ND(500)	ND(500)	ND(500)	95000	ND(1000)
L-9	04/06/22	ND(10000) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(100) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	2100 J-	ND(50) UJ	820 J-	ND(50) UJ	64000 J-	ND(50) UJ	ND(50) UJ	ND(50) UJ	67000 J-	ND(100) UJ
L-9	10/04/22	ND(10000) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	ND(50) UJ	28000 J-	ND(50) UJ	ND(50) UJ	ND(50) UJ	2900 J-	ND(50) UJ	230 J-	ND(50) UJ	94000 J-	ND(50) UJ	ND(50) UJ	ND(50) UJ	65000 J-	ND(100) UJ
L-9	04/19/23	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(100)	ND(50)	ND(50)	ND(50)	190 J	12J,,A39/ND(50)U*	350	ND(50)	680 J	ND(50)	ND(50)	ND(50)	89000 J-	ND(100)
L-9	10/04/23	2500	9.1	ND(0.5)	8.2	1.3	63	2.3	74	8.9	770 J-	16	95	1.4	8800 J-	ND(0.5)	10	0.95	130000 J-	16

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	GRO as Gasoline (µg/L)	DRO as Diesel (µg/L)	Motor Oil / Fuel Oil (µg/L)	Benzene (µg/L)	Bromodi-chloromethane (µg/L)	Bromoform (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	tert-Butylbenzene (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	1,3-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloropropene (µg/L)	1,1-Dimethylethanol (µg/L)	1,2-Dichloropropane (µg/L)
Area 5 / Area 6																						
MW-3	04/11/18	ND(500)	2200 J	910	200	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	330	ND(10)	31 J	320	110 J	ND(10)	ND(200)	ND(10)
MW-3 Dup	04/11/18	ND(500)	6700 J	980	230	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	400	ND(10)	43 J	420	150 J	ND(10)	780	ND(10)
MW-3	10/10/18	ND(500)	2400	350 NJ	560 J-	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	1200 J-	ND(25) UJ	120 J-	1200 J-	500 J-	ND(25) UJ	5400 J-	ND(25) UJ
MW-3 Dup	10/10/18	ND(500)	3100	360 NJ	550 J-	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	ND(25) UJ	1200 J-	ND(25) UJ	120 J-	1200 J-	500 J-	ND(25) UJ	5400 J-	ND(25) UJ
MW-3	04/03/19	ND(1000)	ND(400)	ND(1000)	13	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	62	ND(5)	ND(5)	41	17	ND(5)	ND(100)	ND(5)
MW-3	10/17/19	ND(2500)	6400 NJ	1600 NJ	620 J-	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	0.85 J-	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	1500 J-	3.4 J-	130 J-	1400 J-	530 J-	ND(2.5) UJ	1800 J-	ND(2.5) UJ
MW-3 Dup	10/17/19	ND(2500)	7700 NJ	ND(2500)	620 J-	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	1 J-	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	ND(2.5) UJ	1500 J-	3.2 J-	130 J-	1400 J-	530 J-	ND(2.5) UJ	1800 J-	ND(2.5) UJ
MW-3	04/01/20	ND(1100)	6800 NJ	690 NJ	360	ND(2.5)	ND(2.5)	0.62 J	1.2 J	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	1000	3	120	900	350	ND(2.5)	1200	ND(2.5)
MW-3 Dup	04/01/20	ND(1000)	5600 NJ	610 NJ	340	ND(2.5)	ND(2.5)	ND(2.5)	1.1 J	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	950	2.8	130	910	340	ND(2.5)	1400	ND(2.5)
MW-3	10/01/20	610 NJ	7400 NJ	950 NJ	540 J-	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	1400 J-	ND(10) UJ	120 J-	1300 J-	510 J-	ND(10) UJ	ND(200) UJ	ND(10) UJ
MW-3 Dup	10/01/20	580 NJ	7500 NJ	1100 NJ	580 J-	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	ND(10) UJ	1500 J-	ND(10) UJ	130 J-	1400 J-	560 J-	ND(10) UJ	ND(200) UJ	ND(10) UJ
MW-3	03/31/21	ND(500)	5500 NJ	290 NJ	470	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	1200	ND(12)	110	1100	450	ND(12)	1600	ND(12)
MW-3 Dup	03/31/21	ND(1000)	5200 NJ	ND(1000)	450	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	1100	ND(12)	110	1100	430	ND(12)	1300	ND(12)
MW-3	10/05/21	3900 NJ	4800 NJ	ND(50)	370	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	960	ND(12)	94	1000	360	ND(12)	1300	ND(12)
MW-3 Dup	10/05/21	660 NJ	4200 NJ	ND(50)	340	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	ND(12)	870	ND(12)	86	860	330	ND(12)	1200	ND(12)
MW-3	04/07/22	ND(500)	3900 NJ	ND(500)	370 J	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	1100 J	ND(5)	84 J	970 J	360 J	ND(5)	1400 J	ND(5)
MW-3 Dup	04/07/22	ND(500)	4600 NJ	ND(500)	260 J	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	690 J	ND(50)	59 J	540 J	200 J	ND(50)	ND(1000) UJ	ND(50)
MW-3	10/04/22	ND(500)	3500 NJ	960 NJ	440	ND(0.5)	ND(0.5)	0.36 J	0.73	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1100	ND(0.5)	96	980	370	ND(0.5)	1900	ND(0.5)
MW-3 Dup	10/04/22	ND(1000)	4700 NJ	900 NJ	450	ND(0.5)	ND(0.5)	0.23 J	0.55	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1100	ND(0.5)	94	990	370	ND(0.5)	1800	ND(0.5)
MW-3	04/18/23	ND(500)	2800 NJ	ND(500)	280	ND(5)	ND(5)	1.4 J	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	770	ND(5)	72 J	700	260 J	ND(5)	910 J	ND(5)
MW-3 Dup	04/18/23	ND(500)	1900 NJ	ND(500)	230	ND(5)	ND(5)	1.4 J	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	620	ND(5)	51 J	580	190 J	ND(5)	ND(100) UJ	ND(5)
MW-3	10/04/23	ND(1000)	9000 NJ	ND(1000)	360 J-	ND(0.5)	ND(0.5)	1.6	2.3	0.27 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1400 J-	2.7	160 J-	1700 J-	440 J-	ND(0.5)	2100	ND(0.5)
MW-3 Dup	10/04/23	ND(1000)	9600 NJ	ND(1000)	340 J-	ND(0.5)	ND(0.5)	1.5	2.3	0.29 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1400 J-	2.8	150 J-	1600 J-	420 J-	ND(0.5)	2100	ND(0.5)
MW-15	04/11/18	ND(500)	240 NJ	930 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/10/18	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	04/03/19	ND(1000)	ND(400)	ND(1000)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/17/19	ND(500)	ND(200)	1300 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	04/01/20	ND(500)	170J,/ND(200)U*	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.33J/ND(0.5)U*	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/01/20	ND(500)	130 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	03/29/21	ND(500)	220 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/04/21	ND(500)	490 NJ	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	04/07/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/06/22	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	04/18/23	ND(500)	ND(200)	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-15	10/02/23	ND(500)	160 NJ	490 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
Area 7																						
MW-1	04/11/18	ND(590)	1700 NJ	930 NJ	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	15	ND(1)	8.5	280	16	ND(1)	ND(20)	ND(1)
MW-1	10/10/18	ND(500)	440 NJ	470 NJ	2 J	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	520	ND(2.5)	480	14000	480	ND(2.5)	ND(50)	ND(2.5)
MW-1	04/03/19	ND(1000)	ND(400)	ND(1000)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	2.9	ND(0.5)	0.77	66	3	ND(0.5)	ND(10)	ND(0.5)
MW-1	10/16/19	ND(500)	390 NJ	740 NJ	0.14 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	75 J+	ND(0.5)	65 J+	2700	81 J	ND(0.5)	ND(10)	ND(0.5)
MW-1	04/01/20	ND(500)	1100 JB	680 NJ	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	26	ND(1)	10	460	ND(100)	ND(1)	ND(20)	ND(1)
MW-1	09/30/20	ND(500)	480 NJ	ND(500) NJ	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	120	ND(5)	89	3600	130	ND(5)	ND(100)	ND(5)
MW-1	03/29/21	ND(500)	270 NJ	340 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	16	ND(0.5)	14	470	12	ND(0.5)	ND(10)	ND(0.5)
MW-1	10/05/21	ND(500)	650 NJ	410 NJ	0.62 J	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	410	ND(2.5)	360	27000	470	ND(2.5)	ND(50)	ND(2.5)
MW-1	04/07/22	ND(500)	890 NJ	560 NJ	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	15	ND(5)	9.8	470	28	ND(5)	ND(100)	ND(5)
MW-1	10/05/22	ND(500)	ND(200)	660 NJ	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	ND(50)	170	ND(50)	110	6400	160	ND(50)	ND(1000)	ND(50)
MW-1	04/19/23	ND(500)	1200 NJ	1300 NJ	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	6.7	ND(5)	ND(5)	180	8.4	ND(5)	ND(100)	ND(5)
MW-1	10/02/23	ND(500)	570 NJ	830 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	46	ND(0.5)	24	1300	60	ND(0.5)	ND(10)	ND(0.5)
MW-16	03/31/21	ND(500)	1600/ND(1600)U*	800/ND(800)U*	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.83/ND(0.83)U*	ND(0.5)	ND(0.5)	5.6/ND(5.6)U*	0.23 J	ND(0.5)	ND(10)	ND(0.5)
MW-21	04/10/18	ND(500)	600 NJ	1100 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	10/08/18	ND(500)	400 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	04/01/19	ND(1000)	540/ND(540)U*	560J,/ND(1000)U	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	10/15/19	ND(500)	550 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	04/02/20	ND(500)	360/ND(360)U*	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.21J/ND(0.5)U*	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	09/29/20	ND(500)	790 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	03/29/21	ND(500)	420 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	10/05/21	4000 NJ	ND(200)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	04/04/22	ND(500)	880 NJ	ND(500)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,4-Dioxane (µg/L)	Ethylbenzene (µg/L)	Ethyl-t-Butyl Ether (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	Methylene Chloride (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	n-Propylbenzene (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	Trichloroethene (µg/L)	1,1,2-Trichloro-trifluoroethane (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	Vinyl Chloride (µg/L)	Xylenes, Total (µg/L)
Area 5 / Area 6																				
MW-3	04/11/18	ND(2000)	10	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	ND(10)	ND(10)	72	13	110	ND(10)	1900 J	ND(10)	5.7 J	ND(10)	1200	21
MW-3 Dup	04/11/18	ND(2000)	15	ND(10)	ND(10)	ND(10)	ND(20)	ND(10)	40	ND(10)	78	13	100	ND(10)	3800 J	ND(10)	8 J	ND(10)	1600	27
MW-3	10/10/18	ND(5000) UJ	35 J-	ND(25) UJ	7.5 J-	ND(25) UJ	ND(50) UJ	ND(25) UJ	160 J-	8.5 J-	18J,,A39/ND(25)U*	31 J-	ND(25) UJ	ND(25) UJ	4800 J-	ND(25) UJ	20 J-	ND(25) UJ	3700 J-	54 J-
MW-3 Dup	10/10/18	ND(5000) UJ	33 J-	ND(25) UJ	7 J-	ND(25) UJ	ND(50) UJ	ND(25) UJ	74 J-	8.5 J-	19J,,A39/ND(25)U*	34 J-	ND(25) UJ	ND(25) UJ	4900 J-	ND(25) UJ	16 J-	ND(25) UJ	3600 J-	56 J-
MW-3	04/03/19	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	14	ND(5)	ND(5) UJ	ND(5)	250	ND(5)	ND(5)	ND(5)	76	ND(10)
MW-3	10/17/19	750 J-	20 J-	ND(2.5) UJ	6.2 J-	0.75 J-	ND(5) UJ	ND(2.5) UJ	61 J-	4 J-	19 J-	28 J-	ND(2.5) UJ	ND(2.5) UJ	5300 J-	ND(2.5) UJ	12 J-	1.8 J-	5900 J-	50 J-
MW-3 Dup	10/17/19	990 J-	21 J-	ND(2.5) UJ	6.6 J-	0.7 J-	ND(5) UJ	ND(2.5) UJ	53 J-	3.9 J-	19 J-	29 J-	ND(2.5) UJ	ND(2.5) UJ	5400 J-	ND(2.5) UJ	13 J-	1.9 J-	5800 J-	52 J-
MW-3	04/01/20	970	27	ND(2.5)	6.1	0.98J,/ND(2.5)U*	ND(5)	ND(2.5)	68	6.5	20	25	ND(2.5)	ND(2.5)	3800	ND(2.5)	14	2.2 J	3500	49
MW-3 Dup	04/01/20	1200	28	ND(2.5)	6.5	1J,/ND(2.5)U*	ND(5)	ND(2.5)	72	6.5	19	26	ND(2.5)	ND(2.5)	3800	ND(2.5)	14	2 J	2900	50
MW-3	10/01/20	ND(2000) UJ	19 J-	ND(10) UJ	14 J-	ND(10) UJ	ND(20) UJ	ND(10) UJ	ND(10) UJ	11 J-	39 J-	26 J-	ND(10) UJ	ND(10) UJ	5900 J-	ND(10) UJ	ND(10) UJ	ND(10) UJ	4700 J-	33 J-
MW-3 Dup	10/01/20	ND(2000) UJ	21 J-	ND(10) UJ	15 J-	ND(10) UJ	ND(20) UJ	ND(10) UJ	ND(10) UJ	11 J-	40 J-	29 J-	ND(10) UJ	ND(10) UJ	6600 J-	ND(10) UJ	ND(10) UJ	ND(10) UJ	5400 J-	36 J-
MW-3	03/31/21	ND(2500)	24	ND(12)	4.8 J	ND(12)	ND(25)	ND(12)	65 J	4.2 J	16	26	ND(12)	ND(12)	4800	ND(12)	9.2 J	ND(12)	5100	45
MW-3 Dup	03/31/21	ND(2500)	26	ND(12)	5 J	ND(12)	ND(25)	ND(12)	95 J	5 J	18	27	ND(12)	ND(12)	4900	ND(12)	13	ND(12)	5300	42
MW-3	10/05/21	ND(2500)	21	ND(12)	4.4 J	ND(12)	ND(25)	ND(12)	65	4.6 J	16	20	ND(12)	ND(12)	5300	ND(12)	9 J	ND(12)	5100	36
MW-3 Dup	10/05/21	ND(2500)	19	ND(12)	3.9 J	ND(12)	ND(25)	ND(12)	64	3.9 J	14	19	ND(12)	ND(12)	5600	ND(12)	7.7 J	ND(12)	5400	33
MW-3	04/07/22	ND(1000)	24 J	ND(5)	5.2	ND(5)	8 J	ND(5)	68 J	5.8	19 J	21 J	ND(5)	ND(5)	4200 J	ND(5)	13 J	1.6 J	3000 J	44 J
MW-3 Dup	04/07/22	ND(10000)	ND(50) UJ	ND(50)	ND(50)	ND(50)	ND(100)	ND(50)	ND(50) UJ	ND(50)	ND(50) UJ	12 J	ND(50)	ND(50)	2400 J	ND(50)	ND(50) UJ	ND(50)	1900 J	ND(100) UJ
MW-3	10/04/22	ND(100)	25	ND(0.5)	5.3	0.58	ND(1)	ND(0.5)	72	5.5	18	25	ND(0.5)	ND(0.5)	4500	ND(0.5)	12	1.9	3300	46
MW-3 Dup	10/04/22	ND(100)	23	ND(0.5)	4.8	0.5	ND(1)	ND(0.5)	69	4.9	15	23	ND(0.5)	ND(0.5)	4000	ND(0.5)	10	1.5	3400	44
MW-3	04/18/23	ND(1000)	19	ND(5)	5.2	ND(5)	ND(10)	ND(5)	46 J	5.4	15	16	ND(5)	ND(5)	2500	ND(5)	11	2 J	1900 J	38
MW-3 Dup	04/18/23	ND(1000)	16	ND(5)	3.7 J	ND(5)	ND(10)	ND(5)	28 J	4.1 J	11 JB	14	ND(5)	ND(5)	3200	ND(5)	8.1	1.5 J	2600 J	30
MW-3	10/04/23	1400	28	ND(0.5)	11	1.6	0.53 J	0.34 J	87 J-	12	26	21	ND(0.5)	ND(0.5)	5600 J-	ND(0.5)	20	3.5	3300 J-	51
MW-3 Dup	10/04/23	1400	28	ND(0.5)	11	1.6	0.53 J	ND(0.5)	82 J-	12	27	22	ND(0.5)	ND(0.5)	5400 J-	ND(0.5)	21	3.7	3200 J-	52
MW-15	04/11/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5) UJ	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	10/10/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	04/03/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	10/17/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	04/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.17J/ND(0.5)U*	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.1 JB	ND(0.5)	ND(0.5)	ND(0.5)	0.52	ND(1)
MW-15	10/01/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	03/29/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	10/04/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	04/07/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	10/06/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	04/18/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-15	10/02/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
Area 7																				
MW-1	04/11/18	ND(200)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	0.73 J-	ND(1) UJ	ND(1)	ND(1) UJ	82	ND(1)	ND(1)	ND(1)	5.8	ND(2)
MW-1	10/10/18	750	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	1.2 J	ND(2.5)	ND(2.5)	43	ND(2.5)	ND(2.5)	ND(2.5)	2400	ND(5)
MW-1	04/03/19	ND(100)	0.13 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	0.31 J	ND(0.5)	ND(0.5) UJ	ND(0.5)	7.5	ND(0.5)	ND(0.5)	ND(0.5)	12	ND(1)
MW-1	10/16/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	1.1	ND(0.5)	ND(0.5)	ND(0.5)	130 J	ND(0.5)	ND(0.5)	ND(0.5)	260	ND(1)
MW-1	04/01/20	ND(200)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	0.35J,/ND(1)U*	ND(1)	ND(1)	ND(1)	71	ND(1)	ND(1)	ND(1)	86	ND(2)
MW-1	09/30/20	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	3.6 J	ND(5)	ND(5)	ND(5)	120	ND(5)	ND(5)	ND(5)	540	ND(10)
MW-1	03/29/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.13 J	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	0.68	ND(0.5)	ND(0.5)	ND(0.5)	27	ND(0.5)	ND(0.5)	ND(0.5)	2.2	ND(1)
MW-1	10/05/21	940	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	0.78 J	ND(2.5)	ND(2.5)	11	ND(2.5)	ND(2.5)	ND(2.5)	1100	ND(5)
MW-1	04/07/22	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	30	ND(5)	ND(5)	ND(5)	38	ND(10)
MW-1	10/05/22	ND(10000)	ND(50)	ND(50)	ND(50)	ND(50)	ND(100)	ND(50)	ND(50)	ND(50)	74	ND(50)	ND(50)	ND(50)	340	ND(50)	ND(50)	ND(50)	400	ND(100)
MW-1	04/19/23	ND(1000)	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	27	ND(5)	ND(5)	ND(5)	23	ND(10)
MW-1	10/02/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	2.3	ND(0.5)	ND(0.5)	ND(0.5)	260	ND(0.5)	ND(0.5)	ND(0.5)	53	ND(1)
MW-16	03/31/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)	5.1/ND(5.1)U*	ND(0.5)	7.7/ND(7.7)U*	ND(0.5)	6.1/ND(6.1)U*	ND(0.5)	ND(0.5)	ND(0.5)	1.6 JB	ND(1)
MW-21	04/10/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.94	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	10/08/18	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.5	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	04/01/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1.3	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	10/15/19	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5) UJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	04/02/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.39 J	ND(0.5)	ND(0.5)	1.4 JB	ND(0.5)	0.76/ND(0.76)U*	ND(0.5)	0.4J/ND(0.5)U*	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	09/29/20	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.12 J	ND(1)	1.1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	03/29/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	0.13 J	ND(1)	0.22 J	ND(0.5)	ND(0.5)	0.14 J	ND(0.5)	0.13 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	10/05/21	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	0.19 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	04/04/22	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	2.2	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	GRO as Gasoline (µg/L)	DRO as Diesel (µg/L)	Motor Oil / Fuel Oil (µg/L)	Benzene (µg/L)	Bromodi-chloromethane (µg/L)	Bromoform (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	tert-Butylbenzene (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloroform (µg/L)	1,3-Dichlorobenzene (µg/L)	1,1-Dichloroethane (µg/L)	1,2-Dichloroethane (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloropropene (µg/L)	1,1-Dimethylethanol (µg/L)	1,2-Dichloropropane (µg/L)
MW-21	10/05/22	ND(500)	1200 NJ	660 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	0.98	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	04/18/23	ND(500)	640 NJ	490 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)
MW-21	10/02/23	ND(500)	1000 NJ	560 NJ	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(10)	ND(0.5)

Highlighted values are detected concentrations.

Abbreviations:

-- = not analyzed

µg/L = micrograms per liter

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

ND(#) = not detected above the reporting limit provided

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

TABLE 3. GROUNDWATER ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,4-Dioxane (µg/L)	Ethylbenzene (µg/L)	Ethyl-t-Butyl Ether (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	Methylene Chloride (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	n-Propylbenzene (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	Trichloroethene (µg/L)	1,1,2-Trichloro-trifluoroethane (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	Vinyl Chloride (µg/L)	Xylenes, Total (µg/L)
MW-21	10/05/22	ND(100)	ND(0.5)	ND(0.5)	0.17 J	ND(0.5)	ND(1)	1.3	ND(0.5)	ND(0.5)	0.29 J	ND(0.5)	ND(0.5)	ND(0.5)	0.65	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	04/18/23	ND(100)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)
MW-21	10/02/23	ND(100)	ND(0.5)	ND(0.5)	0.29 J	ND(0.5)	ND(1)	1.2	ND(0.5)	0.15 J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)

Highlighted values are detected concentrations.

Abbreviations:

-- = not analyzed

µg/L = micrograms per liter

J = estimated value

J- = The result is an estimated concentration, but may be biased low

J+ = The result is an estimated concentration, but may be biased high

JB = Estimated concentration due to blank contamination

ND(#) = not detected above the reporting limit provided

U* = Evaluated to be undetected at the reporting limit

UJ = Evaluated to be undetected with an estimated reporting limit

TABLE 4. SOIL GAS ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	C5-C8, Aliphatic, Adjusted	C9-C10, Aromatic, Adjusted	C9-C12, Aliphatic, Adjusted	Acetone	Benzene	Bromodi-chloromethane	2-Butanone	Chloroethane	Chloroform	Dichlorodi-fluoromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethanol	Ethyl acetate
		µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Area 3																	
GS-SS	10/18/23	160	9.9	69	240 J	2.9 J	0.24	3.1 J	ND(0.32)	0.61 J	1.8	ND(0.17)	0.29	0.77 J	ND(0.17)	--	27 J
GS-SS Dup	10/18/23	110	16	110	61 J	4.6 J	ND(0.33)	8.1 J	ND(0.64)	0.99 J	1.9	ND(0.33)	0.37	1.2 J	ND(0.33)	--	ND(6.4) UJ
Area 4																	
SG-01	09/12/23	--	--	--	ND(420)	110	ND(600)	ND(260)	130	ND(430)	ND(440)	ND(360)	ND(350)	ND(350)	ND(350)	310	ND(320)
SG-02	09/12/23	--	--	--	15	ND(58)	ND(120)	ND(53)	ND(48)	ND(88)	ND(90)	510	270	130	ND(72)	ND(68)	ND(65)
SG-03	09/12/23	--	--	--	ND(410)	ND(270)	ND(570)	ND(250)	240	92	ND(420)	2600	ND(340)	400	ND(340)	190	ND(310)
SG-04	09/12/23	--	--	--	ND(3800)	ND(2600)	ND(5400)	ND(2400)	ND(2100)	ND(3900)	ND(4000)	710	ND(3200)	1400	ND(3200)	ND(3000)	ND(2900)
SG-04 Dup	09/12/23	--	--	--	ND(8100)	ND(5500)	ND(11000)	ND(5000)	ND(4500)	ND(8300)	ND(8500)	ND(6900)	ND(6800)	2000	ND(6800)	ND(6400)	ND(6200)
SG-05	09/12/23	--	--	--	ND(42000)	10000	ND(59000)	ND(26000)	ND(23000)	ND(43000)	ND(44000)	880000	100000	11000000	100000	31000	ND(32000)
SG-06	09/13/23	--	--	--	ND(37000)	ND(25000)	ND(52000)	ND(23000)	21000	ND(38000)	ND(39000)	5500000	350000	1300000	17000	26000	ND(28000)
SG-07	09/13/23	--	--	--	ND(37000)	ND(25000)	ND(53000)	ND(23000)	ND(21000)	ND(38000)	ND(39000)	990000	260000	95000	ND(31000)	ND(30000)	ND(28000)
SG-08	09/13/23	--	--	--	ND(38000)	ND(25000)	ND(53000)	ND(23000)	ND(21000)	ND(39000)	ND(39000)	1400000	780000	210000	ND(31000)	ND(30000)	ND(28000)
SG-09	09/13/23	--	--	--	ND(40000)	ND(27000)	ND(56000)	ND(25000)	ND(22000)	ND(41000)	ND(42000)	130000	1800000	140000	ND(33000)	ND(32000)	ND(30000)
SG-09 Dup	09/13/23	--	--	--	ND(38000)	ND(26000)	ND(54000)	ND(24000)	ND(21000)	ND(39000)	ND(40000)	110000	1500000	120000	ND(32000)	ND(30000)	ND(29000)
SG-10	09/13/23	--	--	--	ND(42000)	ND(28000)	ND(59000)	ND(26000)	ND(23000)	ND(43000)	ND(44000)	66000	1600000	12000	ND(35000)	ND(33000)	ND(32000)
SG-11	09/13/23	--	--	--	ND(41000)	ND(28000)	ND(58000)	ND(26000)	ND(23000)	ND(42000)	ND(43000)	210000	4200000	96000	ND(34000)	ND(33000)	ND(31000)
SG-12	09/13/23	--	--	--	ND(39000)	ND(26000)	ND(55000)	5800	ND(22000)	ND(40000)	ND(41000)	23000	1000000	ND(33000)	ND(33000)	ND(31000)	ND(30000)
SG-13	09/27/23	--	--	--	ND(3900)	ND(2600)	ND(5500)	ND(2400)	ND(2200)	ND(4000)	ND(4100)	2300	100000	1500	ND(3300)	ND(3100)	ND(3000)
SG-14	09/27/23	--	--	--	ND(7600)	ND(5100)	ND(11000)	ND(4700)	ND(4200)	ND(7900)	ND(8000)	ND(6500)	5600	1700	ND(6400)	ND(6100)	ND(5800)
SG-15	09/27/23	--	--	--	ND(390)	ND(260)	ND(550)	150	ND(220)	100	ND(410)	300	960	8600	210	ND(310)	ND(300)

Highlighted values are detected concentrations.

Abbreviations:

-- = not analyzed

µg/m^3 = micrograms per meters cubed

Dup = duplicate sample

J = estimated value

ND(#) = not detected above the reporting limit provided

UJ = Evaluated to be undetected with an estimated reporting limit

TABLE 4. SOIL GAS ANALYTICAL RESULTS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Ethylbenzene	Hexane	Isopropanol	Methylene Chloride	Propene	Styrene	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethylbenzene	Vinyl Chloride	m,p-Xylene	o-Xylene
		µg/m3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Area 3																	
GS-SS	10/18/23	1.7	0.84	150 J	ND(0.82)	24 J	0.92	140 J	7.9 J	4.5 J	1.7 J	0.89	ND(0.83)	1.2	ND(0.17)	5.6	2.9
GS-SS Dup	10/18/23	1.9	ND(1.6)	7.5 J	ND(1.6)	2.2 J	ND(1.6)	280 J	5.3 J	8.8 J	3.4 J	ND(1.6)	ND(1.6)	1.7	ND(0.33)	6.9	4.1
Area 4																	
SG-01	09/12/23	ND(390)	ND(630)	250	ND(310)	650	ND(380)	6800	130	170	210	ND(500)	ND(680)	ND(440)	510	ND(390)	ND(390)
SG-02	09/12/23	ND(79)	ND(130)	ND(44)	ND(63)	ND(31)	ND(77)	11000	ND(68)	3700	960	ND(100)	ND(140)	ND(89)	ND(46)	ND(79)	ND(79)
SG-03	09/12/23	ND(370)	ND(600)	ND(210)	ND(300)	ND(150)	ND(360)	27000	120	2800	1300	ND(480)	2700	ND(420)	ND(220)	110	ND(370)
SG-04	09/12/23	ND(3500)	ND(5600)	ND(2000)	ND(2800)	ND(1400)	ND(3400)	770000	ND(3000)	23000	6400	ND(4500)	ND(6100)	ND(3900)	ND(2000)	ND(3500)	ND(3500)
SG-04 Dup	09/12/23	ND(7400)	ND(12000)	ND(4200)	ND(5900)	ND(2900)	ND(7300)	1200000	ND(6400)	30000	8500	ND(9600)	ND(13000)	ND(8400)	ND(4400)	ND(7400)	ND(7400)
SG-05	09/12/23	ND(38000)	ND(62000)	25000	ND(31000)	ND(15000)	ND(37000)	27000000	13000	120000	12000000	ND(49000)	ND(67000)	ND(43000)	240000	ND(38000)	ND(38000)
SG-06	09/13/23	ND(34000)	ND(55000)	ND(19000)	ND(27000)	ND(13000)	ND(33000)	5100000	13000	27000000	7200000	ND(44000)	29000	ND(38000)	ND(20000)	ND(34000)	ND(34000)
SG-07	09/13/23	ND(34000)	ND(55000)	ND(19000)	ND(27000)	ND(14000)	ND(33000)	12000000	17000	19000000	16000000	ND(44000)	22000	ND(39000)	ND(20000)	ND(34000)	ND(34000)
SG-08	09/13/23	ND(34000)	ND(56000)	ND(19000)	ND(27000)	ND(14000)	ND(34000)	2600000	15000	8600000	780000	ND(44000)	ND(61000)	ND(39000)	110000	ND(34000)	ND(34000)
SG-09	09/13/23	ND(36000)	ND(59000)	ND(21000)	ND(29000)	ND(14000)	ND(36000)	89000000	21000	4700000	2700000	ND(47000)	ND(64000)	ND(41000)	ND(21000)	ND(36000)	ND(36000)
SG-09 Dup	09/13/23	ND(35000)	ND(56000)	ND(20000)	ND(28000)	ND(14000)	ND(34000)	80000000	22000	4600000	2600000	ND(45000)	ND(61000)	ND(39000)	ND(20000)	ND(35000)	ND(35000)
SG-10	09/13/23	ND(38000)	ND(62000)	ND(22000)	ND(31000)	ND(15000)	8300	7200000	22000	9500000	920000	ND(50000)	ND(68000)	ND(44000)	ND(23000)	ND(38000)	ND(38000)
SG-11	09/13/23	ND(38000)	ND(61000)	ND(21000)	ND(30000)	ND(15000)	ND(37000)	53000000	ND(33000)	5600000	2800000	ND(49000)	ND(67000)	ND(43000)	ND(22000)	ND(38000)	ND(38000)
SG-12	09/13/23	ND(36000)	ND(58000)	ND(20000)	ND(29000)	ND(14000)	ND(35000)	15000000	7500	4100000	930000	ND(46000)	ND(63000)	ND(41000)	ND(21000)	ND(36000)	ND(36000)
SG-13	09/27/23	ND(3600)	ND(5800)	ND(2000)	ND(2800)	ND(1400)	ND(3500)	1500000	ND(3100)	290000	49000	ND(4600)	ND(6300)	ND(4000)	ND(2100)	ND(3600)	ND(3600)
SG-14	09/27/23	ND(7000)	ND(11000)	ND(4000)	ND(5600)	ND(2800)	ND(6900)	2400000	ND(6100)	79000	25000	ND(9000)	ND(12000)	ND(7900)	ND(4100)	ND(7000)	ND(7000)
SG-15	09/27/23	ND(360)	910	ND(200)	ND(280)	ND(140)	ND(350)	46000	270	5600	22000	ND(460)	ND(630)	ND(400)	ND(210)	ND(360)	ND(360)

Highlighted values are detected concentrations.

Abbreviations:

-- = not analyzed

µg/m^3 = micrograms per meters cubed

Dup = duplicate sample

J = estimated value

ND(#) = not detected above the reporting limit provided

UJ = Evaluated to be undetected with an estimated reporting limit

TABLE 5. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 1
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range in Soil (mg/kg)		Location of Maximum Detected Soil Concentration	Soil Detection(s) Exceed Published Screening Level	Detected in Groundwater in Area 1	Detected in Soil Vapor in Area 1
	Minimum	Maximum				
GRO as Gasoline	ND	ND	--	--	Yes	NA
DRO as Diesel	**8.4**	**22000**	**Tank 384-HA-1 (0.5-0 ft)**	**Yes**	**Yes**	**NA**
Motor Oil (C23-C43)	30.5	1335	SS-9 (2.5-3 ft)	No	Yes	NA
Benzene	0.0012	0.066	SS-1 (2.5-3 ft)	No	Yes	NA
Bromodichloromethane	ND	ND	--	--	Yes	NA
Bromoform	ND	ND	--	--	Yes	NA
n-Butylbenzene	0.01	1.8	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
sec-Butylbenzene	0.0017	1.1	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
tert-Butylbenzene	ND	ND	--	--	Yes	NA
Chloroform	ND	ND	--	--	Yes	NA
1,1-Dichloroethane	ND	ND	--	--	Yes	NA
cis-1,2-Dichloroethene	0.022	0.022	TEI-03 AboveGW (4-5 ft)	No	Yes	NA
1,1-Dimethylethanol	0.13	0.13	TEI-03 AboveGW (4-5 ft)	No	Yes	NA
1,4-Dioxane	ND	ND	--	--	Yes	NA
Ethylbenzene	0.0016	1.8	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
Ethyl-t-Butyl Ether	ND	ND	--	--	Yes	NA
Isopropylbenzene	0.0014	1.5	TEI-08 AboveGW (4-5 ft)	No SL	Yes	NA
p-Isopropyltoluene	0.0038	0.13	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
MTBE	ND	ND	--	--	Yes	NA
Naphthalene	0.017	1.6	SS-9 (2.5-3 ft)	No	Yes	NA
n-Propylbenzene	0.012	3.9	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
Tetrachloroethene	0.12	0.12	TEI-08 AboveGW (4-5 ft)	No	Yes	NA
Toluene	0.00068	0.012	SS-1 (2.5-3 ft)	No	Yes	NA
1,1,1-Trichloroethane	ND	ND	--	--	Yes	NA
Trichloroethene	ND	ND	--	--	Yes	NA
1,2,4-Trimethylbenzene	0.034	4.3	Tank 384-HA-1 (0.5-0 ft)	No	Yes	NA
1,3,5-Trimethylbenzene	0.0014	0.2	Tank 384-HA-1 (0.5-0 ft)	No	Yes	NA
Vinyl chloride	ND	ND	--	--	Yes	NA
Xylenes, Total	0.072	9.2	SS-9 (2.5-3 ft)	No	Yes	NA
Benzo(a)anthracene	0.032	0.032	SS-4 (2.5-3 ft)	No	No	NA
Benzo(a)pyrene	0.045	0.045	SS-4 (2.5-3 ft)	No	No	NA
Benzo(b)fluoranthene	0.058	0.058	SS-4 (2.5-3 ft)	No	No	NA
Benzo(ghi)perylene	0.031	0.031	SS-4 (2.5-3 ft)	No	No	NA
Chrysene	0.038	0.038	SS-4 (2.5-3 ft)	No	No	NA
Fluoranthene	0.052	0.066	SS-4 (2.5-3 ft)	No	No	NA
Indeno(1,2,3-cd)pyrene	0.026	0.026	SS-4 (2.5-3 ft)	No	No	NA
Phenanthrene	0.028	0.079	SS-9 (0.3-0.9 ft)	No SL	No	NA
Pyrene	0.045	0.066	SS-4 (2.5-3 ft)	No	No	NA

Note: Bold and highlight compounds indicate an exceedance of the soil screening levels.

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed

ND = not detected

SL = screening level

TABLE 6. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 2
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range in Soil (mg/kg)		Location of Maximum Detected Soil Concentration	Soil Detection(s) Exceed Published Screening Level	Detected in Groundwater in Area 2	Detected in Soil Vapor in Area 2
	Minimum	Maximum				
DRO as Diesel	110	110	SS-23 (0.3-0.9 ft)	No	Yes	NA
Motor Oil (C23-C43)	12.4	456	SS-23 (0.3-0.9 ft)	No	Yes	NA
Benzene	0.00083	0.00083	SS-23 (2.5-3 ft)	No	Yes	NA
sec-Butylbenzene	0.069	0.069	TEI-10 AboveGW (4-5 ft)	No	No	NA
Chlorobenzene	ND	ND	--	--	Yes	NA
Chloroethane	ND	ND	--	--	Yes	NA
Chloroform	ND	ND	--	--	Yes	NA
1,3-Dichlorobenzene	ND	ND	--	--	Yes	NA
1,1-Dichloroethane	0.002	0.002	IW-1 (3 ft)	No	Yes	NA
1,2-Dichloroethane	ND	ND	--	--	Yes	NA
1,1-Dichloroethene	0.0018	0.58	TEI-10 AboveGW (4-5 ft)	No	Yes	NA
cis-1,2-Dichloroethene	29	29	TEI-10 AboveGW (4-5 ft)	No	Yes	NA
trans-1,2-Dichloroethene	ND	ND	--	--	Yes	NA
Ethylbenzene	0.079	0.079	TEI-10 AboveGW (4-5 ft)	No	No	NA
p-Isopropyltoluene	ND	ND	--	--	Yes	NA
Methylene Chloride	ND	ND	--	--	Yes	NA
Naphthalene	0.27	0.27	TEI-10 AboveGW (4-5 ft)	No	No	NA
n-Propylbenzene	0.092	0.092	TEI-10 AboveGW (4-5 ft)	No	No	NA
Tetrachloroethene	0.0068	2.2	TEI-10 AboveGW (4-5 ft)	No	Yes	NA
Toluene	0.048	0.13	TEI-10 AboveGW (4-5 ft)	No	Yes	NA
1,1,1-Trichloroethane	0.0028	56	TEI-10 AboveGW (4-5 ft)	No	Yes	NA
1,1,2-Trichloroethane	ND	ND	--	--	Yes	NA
Trichloroethene	0.0013	0.028	SS-23 (0.3-0.9 ft)	No	Yes	NA
1,2,4-Trimethylbenzene	0.25	0.25	TEI-10 AboveGW (4-5 ft)	No	No	NA
1,3,5-Trimethylbenzene	0.079	0.079	TEI-10 AboveGW (4-5 ft)	No	No	NA
Vinyl chloride	ND	ND	--	--	Yes	NA
Xylenes, Total	0.23	0.23	TEI-10 AboveGW (4-5 ft)	No	No	NA

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed

ND = not detected

TABLE 7. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 3
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range (mg/kg)		Location of Maximum	Exceed Published Screening Level	Detected in Groundwater in Area 3	Detected in Soil Vapor in Area 3
	Minimum	Maximum				
C5-C8, Aliphatic, Adjusted	NE	NE	--	--	No	Yes
C9-C10, Aromatic, Adjusted	NE	NE	--	--	No	Yes
C9-C12, Aliphatic, Adjusted	NE	NE	--	--	No	Yes
DRO as Diesel	17	350	SS-18 (0.3-0.9 ft)	No	Yes	NA
Motor Oil (C23-C43)	65	2076	SS-18 (0.3-0.9 ft)	No	Yes	NA
Acetone	NA	NA	--	--	NA	Yes
Benzene	0.0015	0.0024	PR-38 (3-5 ft) Dup	No	No	Yes
Bromodichloromethane	ND	ND	--	--	No	Yes
Bromoform	ND	ND	--	--	Yes	No
2-Butanone	NA	NA	--	--	No	Yes
Chloroform	ND	ND	--	--	No	Yes
1,1-Dichloroethene	ND	ND	--	--	No	Yes
cis-1,2-Dichloroethene	ND	ND	--	--	No	Yes
Dichlorodiflouromethane	ND	ND	--	--	No	Yes
Ethyl Acetate	NA	NA	--	--	NA	Yes
Ethylbenzene	ND	ND	--	--	No	Yes
Hexane	NA	NA	--	--	No	Yes
Isopropanol	NA	NA	--	--	NA	Yes
Methylene chloride	ND	ND	--	--	No	Yes
Propene	NA	NA	--	--	No	Yes
Styrene	ND	ND	--	--	No	Yes
Tetrachloroethene	0.031	0.37	SS-18 (2.5-3 ft)	No	No	Yes
Toluene	ND	ND	--	--	No	Yes
1,1,1-Trichloroethane	ND	ND	--	--	No	Yes
Trichloroethene	0.001	0.23	SS-18 (2.5-3 ft) / SS-24 (0.3-0.9 ft)	No	No	Yes
Trichlorofluoromethane	ND	ND	--	--	No	Yes
1,2,4-Trimethylbenzene	ND	ND	--	--	Yes	Yes
m,p-Xylene	ND	ND	--	--	No	Yes
o-Xylene	ND	ND	--	--	No	Yes

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed

ND = not detected

NE = not evaluated as individual carbon chains but as gasoline, diesel, and motor oil range organics

TABLE 8. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 4
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range (mg/kg)		Location of Maximum	Exceed Published Screening Level	Detected in Groundwater in Area 4	Detected in Soil Vapor in Area 4
	Minimum	Maximum				
DRO as Diesel	**9**	**150000**	**IW-15 (6 ft)**	**Yes**	**NA**	**NA**
Motor Oil (C23-C43)	21.8	41760	IW-8 (5.5 ft)	No	NA	NA
Acetone	NA	NA	--	--	NA	Yes
Benzene	0.001	0.0051	MW-22 (3 ft)	No	Yes	Yes
2-Butanone	NA	NA	--	--	NA	Yes
n-Butylbenzene	0.31	4.2	IW-8 (5.5 ft)	No	Yes	NA
sec-Butylbenzene	0.00097	4.6	IW-8 (5.5 ft)	No	Yes	NA
Carbon tetrachloride	0.56	0.56	IW-16 (5 ft)	No	No	No
Chlorobenzene	0.048	0.048	MW-22 (3 ft)	No	No	No
Chloroethane	ND	ND	--	--	No	Yes
Chloroform	0.0015	0.14	IW-7 (3 ft)	No	Yes	Yes
1,4-Dichlorobenzene	0.035	0.035	MW-22 (3 ft)	No	No	No
1,1-Dichloroethane	0.0033	46	IW-14 (6 ft)	No	Yes	Yes
1,2-Dichloroethane	0.0013	0.0013	IW-10 (3 ft)	No	Yes	No
1,1-Dichloroethene	0.0016	22	IW-6 (4.5 ft)	No	Yes	Yes
cis-1,2-Dichloroethene	0.0029	22	IW-12 (6 ft)	No	Yes	Yes
trans-1,2-Dichloroethene	0.3	5.7	IW-8 (5.5 ft)	No	Yes	Yes
1,1-Dichloropropene	0.56	0.56	IW-16 (5 ft)	No SL	Yes	NA
1,1-Dimethylethanol	0.035	4.8	IW-6 (4.5 ft)	No	Yes	NA
1,2-Dichloropropane	ND	ND	--	--	Yes	No
1,4-Dioxane	ND	ND	--	--	Yes	No
Ethanol	NA	NA	--	--	NA	Yes
Ethylbenzene	0.0027	1	IW-12 (6 ft)	No	Yes	No
Hexane	NA	NA	--	--	NA	Yes
Isopropanol	NA	NA	--	--	NA	Yes
Isopropylbenzene	0.003	5.7	IW-8 (5.5 ft)	No	Yes	NA
p-Isopropyltoluene	0.0092	3.5	IW-8 (5.5 ft)	No SL	Yes	NA
Methylene Chloride	0.0039	390	IW-8 (5.5 ft)	No	Yes	No
MTBE	0.16	0.21	HA-3 (1 ft)	No	Yes	No
Naphthalene	0.017	27	HA-3 (1 ft)	No	Yes	NA
Propene	NA	NA	--	--	NA	Yes
n-Propylbenzene	0.0018	8.5	IW-8 (5.5 ft)	No	Yes	NA
Styrene	ND	ND	--	--	No	Yes
1,1,2,2-Tetrachloroethane	0.0011	0.0011	IW-10 (3 ft)	No	No	No
Tetrachloroethene	**0.011**	**1400**	**TEI-05 AboveGW (5-6 ft)**	**Yes**	**Yes**	**Yes**
Toluene	0.0012	0.27	IW-6 (4.5 ft)	No	Yes	Yes
1,1,1-Trichloroethane	**0.0013**	**910**	**IW-14 (6 ft)**	**Yes**	**Yes**	**Yes**
1,1,2-Trichloroethane	0.26	0.26	IW-16 (5 ft)	No	Yes	No
Trichloroethene	**0.0032**	**1200**	**IW-14 (6 ft)**	**Yes**	**Yes**	**Yes**
1,1,2-Trichlorotrifluoroethane	0.0068	0.061	IW-13 (3 ft)	No	Yes	Yes
1,2,4-Trimethylbenzene	0.0025	2.2	IW-15 (6 ft)	No	Yes	No
1,3,5-Trimethylbenzene	0.13	5.7	IW-8 (5.5 ft)	No	Yes	No
Vinyl Chloride	**0.86**	**26**	**IW-15 (6 ft)**	**Yes**	**Yes**	**Yes**
Xylenes, Total	0.0028	4.9	IW-8 (5.5 ft)	No	Yes [a]	Yes

Note: Bold and highlight compounds indicate an exceedance of the soil screening levels.

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed
ND = not detected
SL = screening level

Footnotes:
a The groundwater detection for total xylenes is associated with m,p-xylene.

TABLE 9. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 5 / AREA 6
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range (mg/kg)		Location of Maximum	Exceed Published Screening Level	Detected in Groundwater in Area 5 / Area 6	Detected in Soil Vapor in Area 5 / Area 6
	Minimum	Maximum				
GRO as Gasoline	ND	ND	--	--	Yes	NA
DRO as Diesel	**220**	**83000**	**SS-12 (2.5-3 ft)**	**Yes**	**Yes**	**NA**
Motor Oil (C23-C43)	410	17450	SS-11 (2.5-3 ft)	No	Yes	NA
Benzene	0.0051	0.0051	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
n-Butylbenzene	0.66	5.3	SS-13 (2.5-3 ft)	No	Yes	NA
sec-Butylbenzene	1.3	3.5	SS-13 (2.5-3 ft)	No	Yes	NA
tert-Butylbenzene	ND	ND	--	--	Yes	NA
1,1-Dichloroethane	0.031	0.031	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
1,2-Dichloroethane	ND	ND	--	--	Yes	NA
1,1-Dichloroethene	0.0039	0.0039	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
cis-1,2-Dichloroethene	0.025	0.025	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
trans-1,2-Dichloroethene	0.007	0.007	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
1,1-Dimethylethanol	ND	ND	--	--	Yes	NA
1,4-Dioxane	ND	ND	--	--	Yes	NA
Ethylbenzene	0.072	0.56	SS-13 (2.5-3 ft)	No	Yes	NA
Isopropylbenzene	2.3	4.3	SS-13 (2.5-3 ft)	No	Yes	NA
p-Isopropyltoluene	1.6	4.3	SS-13 (2.5-3 ft)	No SL	Yes	NA
Methylene Chloride	ND	ND	--	--	Yes	NA
MTBE	ND	ND	--	--	Yes	NA
Naphthalene	2.7	34	SS-13 (2.5-3 ft)	No	Yes	NA
n-Propylbenzene	3.6	8	SS-13 (2.5-3 ft)	No	Yes	NA
Tetrachloroethene	0.003	0.003	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
Toluene	ND	ND	--	--	Yes	NA
1,1,1-Trichloroethane	ND	ND	--	--	Yes	NA
Trichloroethene	0.092	0.092	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
1,2,4-Trimethylbenzene	0.1	4.8	SS-13 (2.5-3 ft)	No	Yes	NA
1,3,5-Trimethylbenzene	1	5.3	SS-13 (2.5-3 ft)	No	Yes	NA
Vinyl Chloride	0.049	0.049	TEI-14 AboveGW (4-5 ft)	No	Yes	NA
Xylenes, Total	0.64	6.6	SS-13 (2.5-3 ft)	No	Yes	NA
Acenaphthene	0.91	0.91	SS-14 (2.5-3 ft)	No	No	NA
Acenaphthylene	0.73	0.73	SS-14 (2.5-3 ft)	No SL	No	NA
Fluorene	0.82	15	SS-12 (2.5-3 ft)	No	No	NA
Phenanthrene	1.2	31	SS-12 (2.5-3 ft)	No SL	No	NA

Note: Bold and highlight compounds indicate an exceedance of the soil screening levels.

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed

ND = not detected

SL = screening level

TABLE 10. SOIL, GROUNDWATER, AND SOIL VAPOR SUMMARY - AREA 7
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Compound	Detection Range (mg/kg)		Location of Maximum	Exceed Published Screening Level	Detected in Groundwater in Area 7	Detected in Soil Vapor in Area 7
	Minimum	Maximum				
DRO as Diesel	**9.7**	**2800**	**SS-17 (0.3-0.9 ft)**	**Yes**	**Yes**	**NA**
Motor Oil (C23-C43)	27.5	8150	SS-17 (0.3-0.9 ft)	No	Yes	NA
Benzene	0.001	0.0092	SS-19 (0.3-0.9 ft)	No	Yes	NA
n-Butylbenzene	0.17	0.17	SS-17 (0.3-0.9 ft)	No	No	NA
sec-Butylbenzene	0.2	0.2	SS-17 (0.3-0.9 ft)	No	No	NA
1,1-Dichloroethane	ND	ND	--	--	Yes	NA
1,1-Dichloroethene	ND	ND	--	--	Yes	NA
cis-1,2-Dichloroethene	ND	ND	--	--	Yes	NA
trans-1,2-Dichloroethene	ND	ND	--	--	Yes	NA
1,4-Dioxane	ND	ND	--	--	Yes	NA
Ethylbenzene	ND	ND	--	--	Yes	NA
Isopropylbenzene	0.38	0.38	SS-17 (0.3-0.9 ft)	No	Yes	NA
p-Isopropyltoluene	ND	ND	--	--	Yes	NA
MTBE	0.0015	0.024	SS-20 (0.3-0.9 ft) / SS-20 (2.5-3 ft)	No	Yes	NA
Naphthalene	0.25	0.25	SS-17 (0.3-0.9 ft)	No	No	NA
n-Propylbenzene	0.53	0.53	SS-17 (0.3-0.9 ft)	No	Yes	NA
Tetrachloroethene	0.0023	0.0023	SS-19 (0.3-0.9 ft)	No	Yes	NA
Toluene	0.001	0.002	SS-19 (0.3-0.9 ft)	No	Yes	NA
1,1,1-Trichloroethane	ND	ND	--	--	Yes	NA
Trichloroethene	0.0068	0.0068	SS-16 (2.5-3 ft)	No	Yes	NA
Vinyl chloride	ND	ND	--	--	Yes	NA

Note: Bold and highlight compounds indicate an exceedance of the soil screening levels.

Abbreviations:

-- = not applicable

mg/kg = milligrams per kilograms

NA = not analyzed

ND = not detected

FIGURES



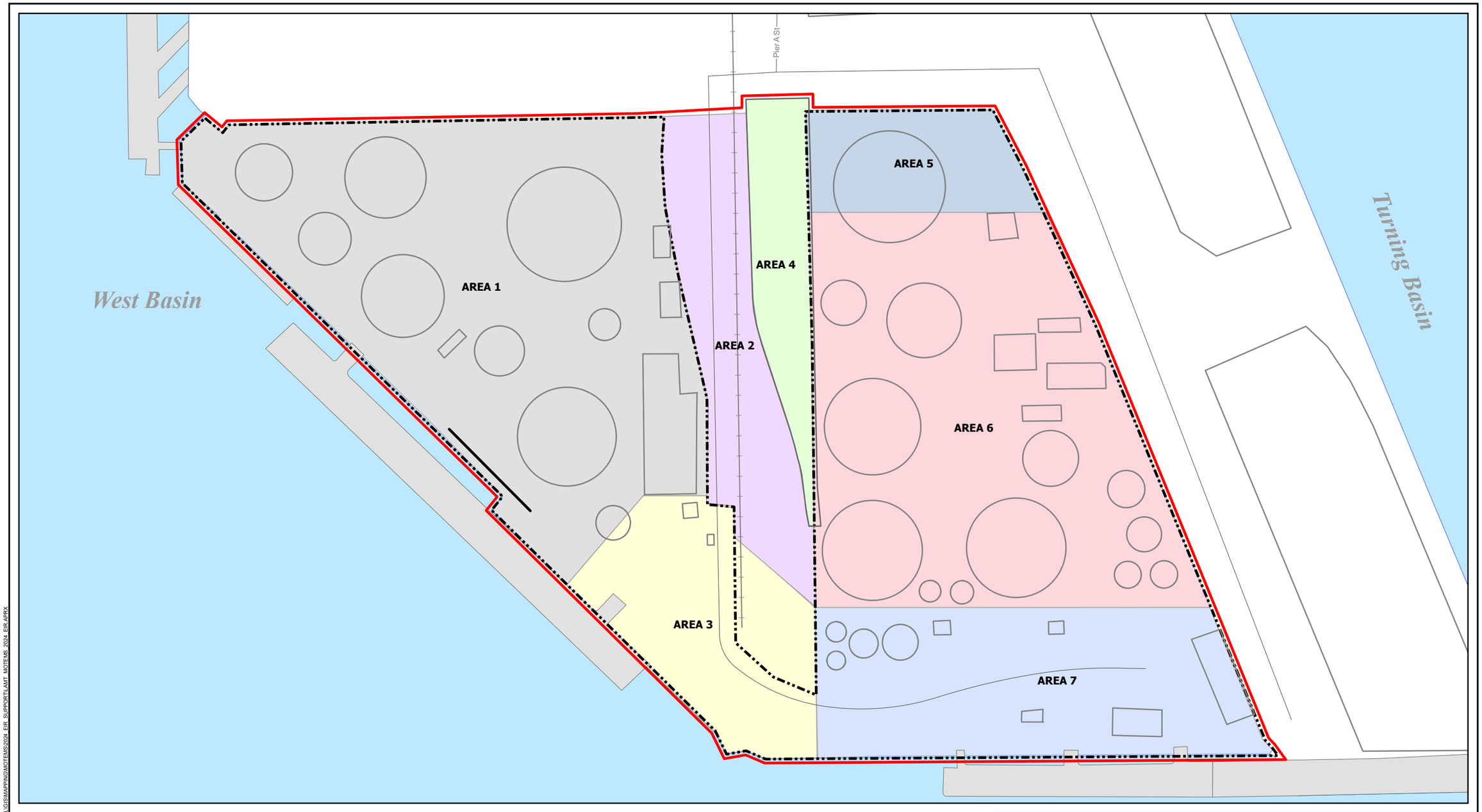
FIGURE 1

LOCATION MAP

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

Drawn By: DH	Checked By: KS	Scale: 1 " = 2,000 '	Date: 6/26/22	File: Fig1_Location_Map.mxd



EXPLANATION

ONSITE RISK ASSESSMENT AREA

N

0 120'

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Laramie, WY 82070
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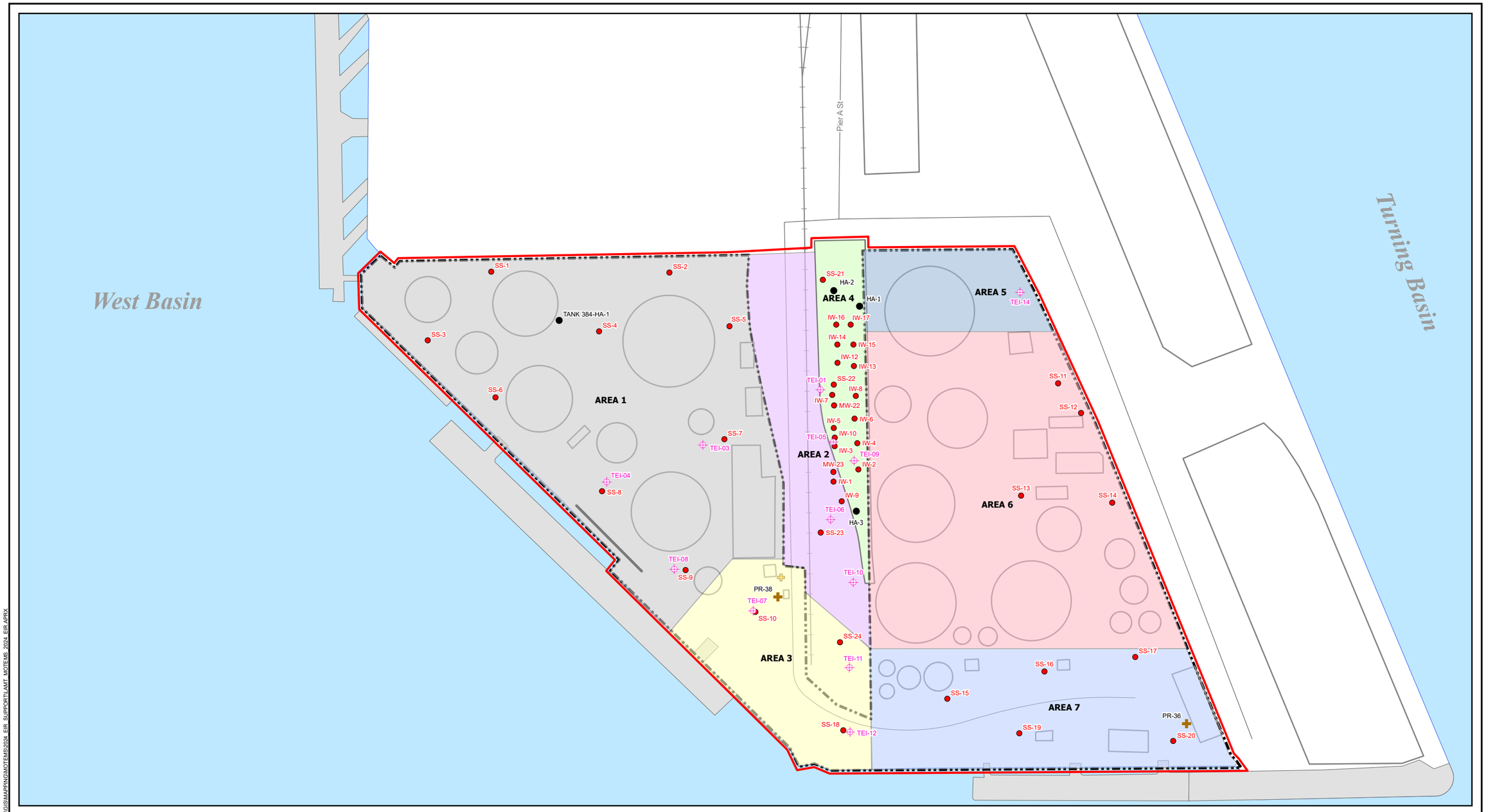
FIGURE 2

RISK EVALUATION AREAS

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: CD	Scale: 1" = 120'	Date: 4/16/24	File: Fig2_Areas_SMP

M:\TOR\PHILLIPS66\PROJECTS\LA\MARINETERMINAL\GIS\MAPPING\MOTEMS2024_EIR_SUPPORT\LAMT_MOTEMS_2024_EIR.APRX



M:\MOTOR\PHILLIPS66\PROJECTS\LA\MARINETERMINAL\GIS\MAPPING\MOTEMIS\2024_EIR_SUPPORT\LA\MT_MOTEMIS_2024_EIR.APRX

EXPLANATION

- SHALLOW SOIL SAMPLE
- HAND AUGER SOIL SAMPLE
- DP WITH DEPTH DISCRETE GROUNDWATER PLUS SOIL SAMPLING
- DP WITH DEPTH DISCRETE GROUNDWATER PLUS SOIL SAMPLING AND CPT/MIP (TRIHYDRO 2023)
- ONSITE RISK ASSESSMENT AREA

N

0 150'

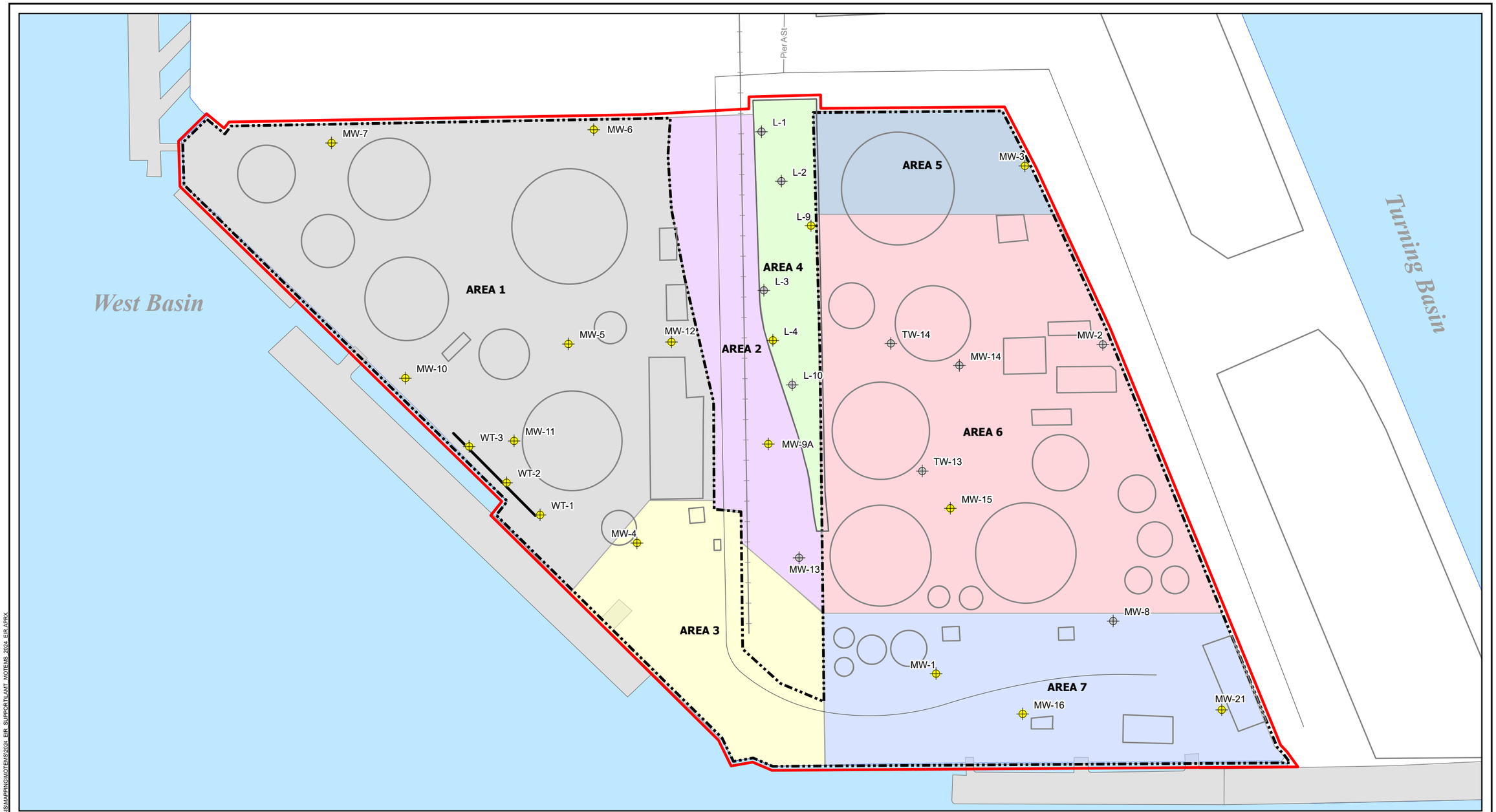
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FIGURE 3

SOIL SAMPLE LOCATIONS WITHIN RISK EVALUATION AREAS

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: SO	Scale: 1" = 150'	Date: 4/17/24	File: Fig3_SoilSamples



EXPLANATION

- SHALLOW WATER TABLE MONITORING WELL USED FOR HHRA EVALUATION
- SHALLOW WATER TABLE MONITORING WELL NOT USED FOR EVALUATION, NOT SAMPLED IN PREVIOUS FIVE YEARS FOR HHRA EVALUATION
- ONSITE RISK ASSESSMENT AREA
- FACILITY LEASE BOUNDARY

N

0 120'

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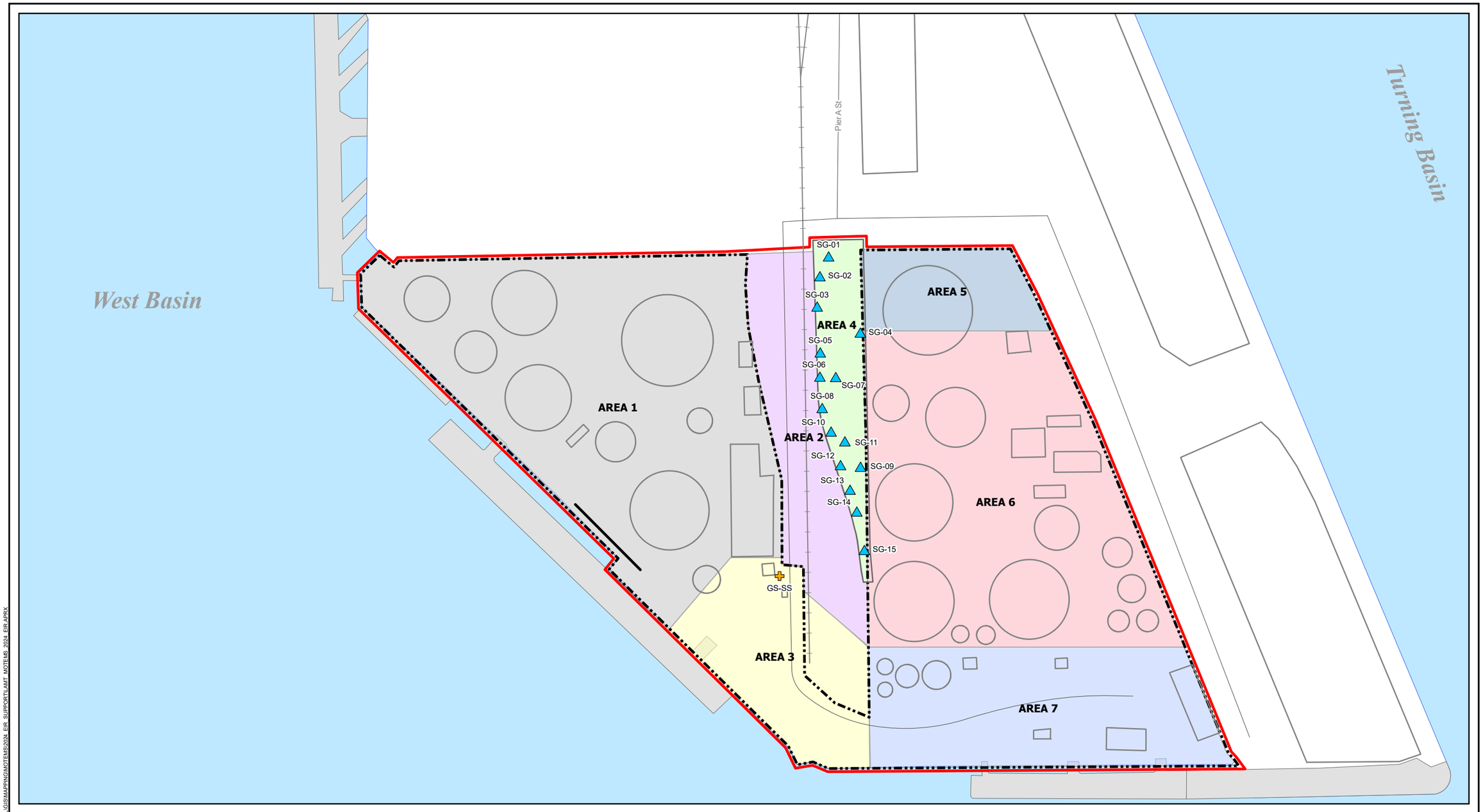
FIGURE 4

GROUNDWATER SAMPLE LOCATIONS WITHIN RISK EVALUATION AREAS

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: KS	Scale: 1" = 120'	Date: 4/17/24	File: Fig4_Shallow_GW

M:\OTO\PHILLIPS66\PROJECTS\LAMARINETERMINAL\GIS\MAPPING\MOTEMS2024_EIR_SUPPORT\LAMT_MOTEMS_2024_EIR.APRX



EXPLANATION

- SOIL VAPOR PROBE SAMPLE (PHILLIPS 66)
- SOIL VAPOR SAMPLE LOCATION (OXY)
- ONSITE RISK ASSESSMENT AREA
- FACILITY LEASE BOUNDARY

N

0 150'

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FIGURE 5

SOIL VAPOR SAMPLE LOCATIONS WITHIN RISK EVALUATION AREAS

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: KS	Scale: 1" = 150'	Date: 4/17/24	File: Fig5_SoilVaporSamples

M:\OTO\PHILLIPS66\PROJECTS\LA\MARINETERMINAL\GIS\MAPPING\MOTEMS\2024 EIR SUPPORT\LA MT MOTEMS 2024 EIR.APRX

ATTACHMENT A

HUMAN HEALTH EVALUATION CALCULATIONS

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-1 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	1.5E-03	NC	NC	NC	NC	NC	NC
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.0E-01	1.1E-02	2.7E-05	NC	NC	NC	NC	NC	NC
SS-2 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	4.0E-05	NC	NC	NC	NC	NC	NC
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.5E-01	7.7E-03	NC	NC	NC	NC	NC	NC	NC
SS-3 (2.5-3 ft)	05/30/23	2.5-3	1.1E-02	8.4E-04	NC	NC	NC	NC	NC	NC	NC
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	8.1E-03	5.6E-04	2.9E-05	NC	NC	NC	NC	NC	NC
SS-4 (2.5-3 ft)	05/30/23	2.5-3	1.5E-02	6.5E-04	5.6E-05	NC	NC	NC	NC	NC	NC
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	2.7E-05	NC	NC	NC	NC	NC	NC
SS-5 (2.5-3 ft)	05/30/23	2.5-3	1.8E-01	8.1E-03	8.4E-05	NC	NC	NC	NC	NC	NC
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	1.5E-02	9.6E-04	NC	NC	NC	NC	NC	NC	NC
SS-6 (2.5-3 ft)	05/30/23	2.5-3	7.6E-03	5.8E-04	NC	NC	NC	NC	NC	NC	NC
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	7.1E-02	7.1E-03	4.0E-05	NC	NC	NC	NC	NC	NC
SS-7 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	4.4E-05	NC	NC	NC	NC	NC	NC
SS-8 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	1.4E-04	NC	NC	NC	NC	NC	NC
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	2.8E-02	1.9E-03	NC	NC	NC	NC	NC	NC	NC
SS-9 (2.5-3 ft)	05/30/23	2.5-3	5.6E-01	2.5E-02	NC	1.9E-05	6.5E-06	NC	NC	NC	NC
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	**2.0E+01**	--	4.4E-05	1.7E-06	2.8E-07	NC	NC	NC	NC
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	NC	--	NC	1.7E-07	1.4E-08	NC	NC	NC	NC
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	2.9E-05	2.9E-06	7.1E-07	NC	NC	NC	NC
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	NC	3.1E-05	9.2E-06	NC	NC	NC	NC
Area 2											
IW-1 (3 ft)	01/15/14	3	NC	3.4E-04	NC	NC	NC	NC	NC	NC	NC
IW-9 (3 ft)	01/15/14	3	NC	NC	NC	NC	NC	NC	NC	NC	NC
MW-23 (3 ft)	01/15/14	3	NC	2.3E-04	NC	NC	NC	NC	NC	NC	NC
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	1.0E-01	8.4E-03	NC	NC	NC	NC	NC	NC	NC
SS-23 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	1.8E-05	NC	NC	NC	NC	NC	NC
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	NC	NC	5.8E-07	NC	NC	NC	NC
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	NC	--	3.3E-05	NC	NC	NC	NC	NC	NC
PR-38 (3-5 ft) Dup	12/06/10	3-5	NC	--	5.3E-05	NC	NC	NC	NC	NC	NC
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	3.0E-01	2.7E-02	NC	NC	NC	NC	NC	NC	NC
SS-10 (2.5-3 ft)	05/31/23	2.5-3	4.2E-02	4.4E-03	NC	NC	NC	NC	NC	NC	NC
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	3.2E-01	3.8E-02	NC	NC	NC	NC	NC	NC	NC
SS-18 (2.5-3 ft)	05/31/23	2.5-3	2.2E-01	1.6E-02	NC	NC	NC	NC	NC	NC	NC
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-24 (2.5-3 ft)	05/31/23	2.5-3	1.5E-02	1.2E-03	NC	NC	NC	NC	NC	NC	NC
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	NC	NC	NC	NC	NC	NC	NC

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene	p-Isopropyl-toluene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-1 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	1.1E-07	NC	--
SS-2 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-2 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-3 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-3 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-4 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-4 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-5 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-5 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-6 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-6 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-7 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-7 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-8 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-8 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-9 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-9 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	--	NC	9.3E-05	1.0E-04	--
Tank 384-HA-1 (0.5-0 ft)	07/03/14	NC	NC	NC	NC	NC	--	NC	4.7E-05	4.9E-06	--
Tank 384-HA-1 (5-0 ft)	07/03/14	NC	NC	NC	NC	NC	--	NC	3.8E-07	1.4E-07	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	NC	NC	NC	2.8E-04	NC	--	4.8E-07	NC	1.1E-05	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	NC	NC	NC	NC	NC	--	NC	1.2E-04	1.5E-04	--
Area 2											
IW-1 (3 ft)	01/15/14	2.8E-08	NC	5.1E-06	NC	NC	--	NC	NC	NC	--
IW-9 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	NC	NC	NC	--
MW-23 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-23 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-23 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-06 AboveGW (4-5 ft)	08/30/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-10 AboveGW (4-5 ft)	08/21/23	NC	NC	1.7E-03	3.7E-01	NC	--	NC	5.3E-06	NC	--
Area 3											
PR-38 (3-5 ft)	12/06/10	NC	NC	NC	NC	NC	--	--	NC	NC	--
PR-38 (3-5 ft) Dup	12/06/10	NC	NC	NC	NC	NC	--	--	NC	NC	--
SS-10 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-10 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-18 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-18 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-24 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-24 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-07 AboveGW (4-5 ft)	8/29/2023	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	NC	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	NC	NC	NC	NC	NC	--	NC	NC	NC	--

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-1 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	2.6E-06	NC	NC	NC
SS-2 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-2 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-3 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-3 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	8.7E-07	NC	NC	NC
SS-4 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-4 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-5 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	1.6E-07	NC	NC	NC
SS-5 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	1.4E-07	NC	NC	NC
SS-6 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	2.6E-07	NC	NC	NC
SS-6 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	2.8E-07	NC	NC	NC
SS-7 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-7 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-8 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-8 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	4.0E-07	NC	NC	NC
SS-9 (0.3-0.9 ft)	05/30/23	NC	NC	NC	1.8E-06	NC	NC	NC	NC	NC	NC
SS-9 (2.5-3 ft)	05/30/23	NC	NC	3.2E-03	9.6E-05	NC	NC	NC	NC	NC	NC
Tank 384-HA-1 (0.5-0 ft)	07/03/14	NC	NC	1.1E-04	7.9E-05	NC	NC	4.7E-07	NC	NC	NC
Tank 384-HA-1 (5-0 ft)	07/03/14	NC	NC	3.4E-05	5.0E-07	NC	NC	2.1E-07	NC	NC	NC
TEI-03 AboveGW (4-5 ft)	8/16/2023	NC	NC	5.2E-04	1.1E-05	NC	NC	3.0E-07	NC	NC	NC
TEI-04 AboveGW (4-5 ft)	8/15/2023	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TEI-08 AboveGW (4-5 ft)	8/22/2023	NC	NC	3.2E-04	1.6E-04	NC	3.4E-04	NC	NC	NC	NC
Area 2											
IW-1 (3 ft)	01/15/14	NC	NC	NC	NC	NC	3.7E-04	NC	1.5E-04	NC	1.1E-03
IW-9 (3 ft)	01/15/14	NC	NC	NC	NC	NC	6.0E-05	NC	3.9E-06	NC	2.1E-04
MW-23 (3 ft)	01/15/14	NC	NC	NC	NC	NC	3.1E-04	NC	5.0E-05	NC	9.4E-04
SS-23 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	1.0E-03	1.0E-05	NC	NC	1.6E-03
SS-23 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	1.9E-05	NC	NC	NC	7.2E-05
TEI-06 AboveGW (4-5 ft)	08/30/23	NC	NC	NC	NC	NC	4.3E-05	NC	NC	NC	7.2E-05
TEI-10 AboveGW (4-5 ft)	08/21/23	NC	NC	5.4E-04	3.8E-06	NC	6.3E-03	2.8E-05	7.8E-02	NC	NC
Area 3											
PR-38 (3-5 ft)	12/06/10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
PR-38 (3-5 ft) Dup	12/06/10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-10 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-10 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-18 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	5.6E-05
SS-18 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	1.1E-03	NC	NC	NC	1.3E-02
SS-24 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	8.9E-05	NC	NC	NC	1.3E-02
SS-24 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TEI-07 AboveGW (4-5 ft)	8/29/2023	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TEI-11 AboveGW (4-5 ft)	8/24/2023	NC	NC	NC	NC	NC	4.3E-04	NC	NC	NC	2.4E-03
TEI-12 AboveGW (4-5 ft)	8/28/2023	NC	NC	NC	NC	NC	NC	NC	NC	NC	1.0E-04

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-1 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-2 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-2 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-3 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-3 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-4 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-4 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	4.5E-03	--
SS-5 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-5 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-6 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-6 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-7 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-7 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-8 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-8 (2.5-3 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-9 (0.3-0.9 ft)	05/30/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-9 (2.5-3 ft)	05/30/23	NC	2.8E-04	1.3E-04	NC	NC	NC	--	--	NC	--
Tank 384-HA-1 (0.5-0 ft)	07/03/14	NC	2.4E-03	3.3E-05	NC	3.8E-03	--	--	--	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	NC	1.9E-05	9.3E-07	NC	3.0E-05	--	--	--	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	NC	3.8E-05	7.3E-05	NC	3.4E-05	--	--	--	--	--
Area 2											
IW-1 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-9 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
MW-23 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
SS-23 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-23 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
TEI-06 AboveGW (4-5 ft)	08/30/23	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	NC	1.4E-04	5.3E-05	NC	9.6E-05	--	--	--	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	NC	NC	NC	NC	NC	--	--	--	--	--
PR-38 (3-5 ft) Dup	12/06/10	NC	NC	NC	NC	NC	--	--	--	--	--
SS-10 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-10 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-18 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-18 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-24 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-24 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
TEI-07 AboveGW (4-5 ft)	8/29/2023	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	NC	NC	NC	NC	NC	--	--	--	--	--

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
Area 1										
SS-1 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	ND
SS-1 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.5E-03
SS-2 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.1E-01
SS-2 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	4.0E-05
SS-3 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.5E-01
SS-3 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.2E-02
SS-4 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	8.7E-03
SS-4 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	2.1E-02
SS-5 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	2.7E-05
SS-5 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.9E-01
SS-6 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.6E-02
SS-6 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	8.2E-03
SS-7 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	7.8E-02
SS-7 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	ND
SS-8 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	4.4E-05
SS-8 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	1.4E-04
SS-9 (0.3-0.9 ft)	05/30/23	--	--	--	--	--	NC	--	--	3.0E-02
SS-9 (2.5-3 ft)	05/30/23	--	--	--	--	--	NC	--	--	5.9E-01
Tank 384-HA-1 (0.5-0 ft)	07/03/14	--	--	--	--	--	--	--	--	**2.0E+01**
Tank 384-HA-1 (5-0 ft)	07/03/14	--	--	--	--	--	--	--	--	8.5E-05
TEI-03 AboveGW (4-5 ft)	8/16/2023	--	--	--	--	--	--	--	--	8.6E-04
TEI-04 AboveGW (4-5 ft)	8/15/2023	--	--	--	--	--	--	--	--	ND
TEI-08 AboveGW (4-5 ft)	8/22/2023	--	--	--	--	--	--	--	--	1.3E-03
Area 2										
IW-1 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	1.9E-03
IW-9 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	2.8E-04
MW-23 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	1.5E-03
SS-23 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.1E-01
SS-23 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.1E-04
TEI-06 AboveGW (4-5 ft)	08/30/23	--	--	--	--	--	--	--	--	1.2E-04
TEI-10 AboveGW (4-5 ft)	08/21/23	--	--	--	--	--	--	--	--	4.6E-01
Area 3										
PR-38 (3-5 ft)	12/06/10	--	--	--	--	--	--	--	--	3.3E-05
PR-38 (3-5 ft) Dup	12/06/10	--	--	--	--	--	--	--	--	5.3E-05
SS-10 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	3.3E-01
SS-10 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	4.6E-02
SS-18 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	3.6E-01
SS-18 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	2.5E-01
SS-24 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.3E-02
SS-24 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.7E-02
TEI-07 AboveGW (4-5 ft)	8/29/2023	--	--	--	--	--	--	--	--	ND
TEI-11 AboveGW (4-5 ft)	8/24/2023	--	--	--	--	--	--	--	--	2.8E-03
TEI-12 AboveGW (4-5 ft)	8/28/2023	--	--	--	--	--	--	--	--	1.0E-04

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
Area 4											
HA-1 (3 ft)	08/05/14	3	1.4E-01	2.3E-02	NC	NC	NC	NC	NC	NC	NC
HA-2 (3 ft)	01/16/14	3	1.1E-02	1.5E-03	8.9E-05	NC	NC	NC	NC	NC	NC
HA-3 (1 ft)	08/05/14	1	3.3E-02	2.5E-03	NC	NC	NC	NC	NC	NC	NC
IW-10 (3 ft)	01/15/14	3	1.5E-01	8.4E-03	NC	NC	NC	NC	NC	1.7E-06	NC
IW-12 (6 ft)	08/05/14	6	4.5E-01	4.4E-03	NC	1.7E-05	7.1E-06	NC	NC	NC	NC
IW-13 (3 ft)	01/15/14	3	4.4E-02	3.1E-03	4.0E-05	NC	NC	NC	NC	NC	NC
IW-14 (6 ft)	08/05/14	6	**5.6E+00**	3.9E-02	NC	2.4E-05	1.1E-05	NC	NC	NC	NC
IW-15 (6 ft)	08/05/14	6	**1.4E+02**	7.6E-01	NC	4.8E-05	2.3E-05	NC	NC	NC	NC
IW-16 (5 ft)	08/05/14	5	1.5E-02	4.1E-04	NC	NC	NC	2.5E-03	NC	NC	NC
IW-17 (5 ft)	08/05/14	5	**1.0E+01**	1.8E-01	NC	5.3E-06	3.3E-06	NC	NC	NC	NC
IW-2 (3 ft)	08/05/14	3	8.2E-03	4.0E-04	NC	NC	NC	NC	NC	NC	NC
IW-3 (3 ft)	01/17/14	3	1.9E-02	1.7E-03	NC	NC	NC	NC	NC	NC	NC
IW-4 (4.5 ft)	08/05/14	4.5	8.7E-02	1.6E-03	NC	NC	8.1E-09	NC	NC	NC	NC
IW-5 (3 ft)	01/15/14	3	9.1E-03	7.1E-04	NC	NC	NC	NC	NC	NC	NC
IW-6 (4.5 ft)	08/05/14	4.5	3.5E-02	5.2E-04	NC	1.0E-05	4.8E-06	NC	NC	NC	NC
IW-7 (3 ft)	01/15/14	3	**6.5E+00**	1.1E-01	NC	7.9E-06	3.8E-06	NC	NC	1.6E-04	NC
IW-8 (5.5 ft)	08/05/14	5.5	**8.5E+01**	7.7E-01	NC	7.2E-05	3.8E-05	NC	NC	NC	NC
MW-22 (3 ft)	01/15/14	3	**1.9E+00**	1.1E-01	1.1E-04	NC	NC	NC	4.0E-05	1.4E-05	2.3E-06
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	4.1E-01	2.6E-02	2.2E-05	NC	NC	NC	NC	NC	NC
SS-21 (2.5-3 ft)	06/01/23	3-2.5	3.5E-02	2.5E-03	NC	NC	NC	NC	NC	NC	NC
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	2.1E-01	1.5E-02	2.7E-05	NC	NC	NC	NC	NC	NC
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	NC	NC	NC	NC	NC	NC	NC
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	NC	NC	4.8E-07	NC	NC	NC	NC
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	NC	NC	NC	NC	NC	NC	NC
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	6.5E-01	5.4E-02	NC	NC	NC	NC	NC	NC	NC
SS-11 (2.5-3 ft)	06/01/23	3-2.5	**5.6E+01**	3.2E-01	NC	4.5E-05	1.7E-05	NC	NC	NC	NC
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	8.1E-01	5.5E-02	NC	NC	NC	NC	NC	NC	NC
SS-12 (2.5-3 ft)	06/01/23	3-2.5	**7.5E+01**	2.5E-01	NC	NC	NC	NC	NC	NC	NC
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	2.0E-01	7.6E-03	NC	NC	NC	NC	NC	NC	NC
SS-13 (2.5-3 ft)	06/01/23	3-2.5	**2.1E+01**	2.0E-01	NC	9.1E-05	2.9E-05	NC	NC	NC	NC
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	**8.5E+00**	2.9E-01	NC	1.1E-05	1.1E-05	NC	NC	NC	NC
SS-14 (2.5-3 ft)	06/01/23	3-2.5	**1.1E+01**	8.7E-02	NC	2.4E-05	1.7E-05	NC	NC	NC	NC
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	1.1E-04	NC	NC	NC	NC	NC	NC
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	NC	--	NC	NC	NC	NC	NC	NC	NC
PR-36 (3-5 ft) Dup	11/09/10	3-5	NC	--	NC	NC	NC	NC	NC	NC	NC
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	8.8E-03	8.4E-04	NC	NC	NC	NC	NC	NC	NC
SS-15 (2.5-3 ft)	05/31/23	3-2.5	9.1E-03	1.0E-03	NC	NC	NC	NC	NC	NC	NC
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-16 (2.5-3 ft)	05/31/23	3-2.5	7.1E-02	6.9E-03	2.2E-05	NC	NC	NC	NC	NC	NC
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	**2.5E+00**	1.5E-01	NC	2.9E-06	1.7E-06	NC	NC	NC	NC
SS-17 (2.5-3 ft)	05/31/23	3-2.5	1.2E-02	5.1E-04	NC	NC	NC	NC	NC	NC	NC

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene	p-Isopropyl-toluene
Area 4											
HA-1 (3 ft)	08/05/14	3.1E-07	NC	4.6E-06	NC	NC	--	3.6E-07	NC	NC	--
HA-2 (3 ft)	01/16/14	NC	NC	NC	NC	NC	--	NC	NC	NC	--
HA-3 (1 ft)	08/05/14	NC	NC	NC	NC	NC	--	NC	NC	NC	--
IW-10 (3 ft)	01/15/14	1.7E-06	1.0E-05	1.3E-03	7.7E-04	NC	--	NC	NC	NC	--
IW-12 (6 ft)	08/05/14	2.5E-04	NC	4.0E-02	2.8E-01	5.3E-04	--	NC	6.7E-05	1.2E-04	--
IW-13 (3 ft)	01/15/14	4.1E-06	NC	2.1E-04	1.0E-04	NC	--	NC	NC	NC	--
IW-14 (6 ft)	08/05/14	6.5E-04	NC	1.4E-02	7.1E-02	NC	--	NC	NC	1.8E-04	--
IW-15 (6 ft)	08/05/14	5.6E-04	NC	1.5E-03	1.7E-01	NC	--	NC	NC	3.6E-04	--
IW-16 (5 ft)	08/05/14	5.1E-05	NC	NC	7.9E-03	NC	--	NC	NC	NC	--
IW-17 (5 ft)	08/05/14	2.1E-04	NC	1.6E-03	4.6E-02	5.8E-04	--	NC	NC	5.8E-05	--
IW-2 (3 ft)	08/05/14	4.6E-08	NC	NC	3.7E-05	NC	--	1.3E-07	NC	NC	--
IW-3 (3 ft)	01/17/14	NC	NC	NC	NC	NC	--	NC	NC	NC	--
IW-4 (4.5 ft)	08/05/14	3.8E-06	NC	9.7E-05	NC	NC	--	NC	NC	NC	--
IW-5 (3 ft)	01/15/14	4.2E-07	NC	1.2E-04	4.0E-04	NC	--	NC	NC	NC	--
IW-6 (4.5 ft)	08/05/14	1.1E-04	NC	6.3E-02	NC	NC	--	1.8E-05	6.2E-05	6.0E-05	--
IW-7 (3 ft)	01/15/14	1.5E-04	NC	3.1E-03	4.5E-02	6.7E-04	--	NC	2.1E-05	2.7E-05	--
IW-8 (5.5 ft)	08/05/14	3.0E-04	NC	1.6E-03	1.9E-02	1.0E-02	--	NC	6.1E-05	5.8E-04	--
MW-22 (3 ft)	01/15/14	5.2E-05	NC	1.0E-03	1.4E-02	NC	--	NC	1.8E-07	3.0E-07	--
SS-21 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-21 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-22 (0.3-0.9 ft)	06/01/23	2.8E-07	NC	NC	1.0E-04	NC	--	NC	NC	NC	--
TEI-01 AboveGW (4-5 ft)	08/23/23	5.8E-04	NC	NC	NC	NC	--	NC	NC	NC	--
TEI-01 Shallow (9-10 ft)	08/23/23	5.6E-05	NC	NC	2.7E-01	1.7E-03	--	NC	NC	NC	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5.4E-06	NC	2.7E-02	2.6E-03	NC	--	NC	3.3E-06	7.0E-06	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4.9E-05	NC	2.1E-02	3.6E-02	NC	--	NC	NC	NC	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-11 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	4.8E-06	2.6E-04	--
SS-12 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-12 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-13 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-13 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	3.7E-05	4.3E-04	--
SS-14 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	2.3E-04	--
SS-14 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	--	NC	NC	2.4E-04	--
TEI-14 AboveGW (4-5 ft)	8/31/2023	4.4E-07	NC	1.1E-05	3.2E-04	1.2E-05	--	NC	NC	NC	--
Area 7											
PR-36 (3-5 ft)	11/09/10	NC	NC	NC	NC	NC	--	--	NC	NC	--
PR-36 (3-5 ft) Dup	11/09/10	NC	NC	NC	NC	NC	--	--	NC	NC	--
SS-15 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-15 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-16 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-16 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-17 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	3.8E-05	--
SS-17 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Area 4											
HA-1 (3 ft)	08/05/14	NC	NC	NC	NC	NC	3.1E-05	NC	9.0E-05	NC	6.7E-04
HA-2 (3 ft)	01/16/14	NC	NC	NC	NC	NC	2.0E-04	7.2E-07	1.8E-06	NC	1.8E-04
HA-3 (1 ft)	08/05/14	7.9E-05	3.2E-06	NC	NC	NC	1.3E-03	NC	4.2E-04	NC	NC
IW-10 (3 ft)	01/15/14	5.6E-06	NC	NC	NC	1.5E-07	2.8E-01	3.0E-07	8.8E-03	NC	1.1E-01
IW-12 (6 ft)	08/05/14	1.5E-02	NC	2.0E-02	7.9E-05	NC	1.3E-01	NC	3.3E-01	NC	**4.8E+01**
IW-13 (3 ft)	01/15/14	NC	NC	NC	NC	NC	1.3E-01	2.6E-07	1.5E-02	NC	3.3E-01
IW-14 (6 ft)	08/05/14	2.5E-02	NC	2.6E-02	1.2E-04	NC	9.7E-01	NC	**1.3E+00**	NC	**6.7E+01**
IW-15 (6 ft)	08/05/14	2.8E-03	NC	5.4E-02	2.3E-04	NC	6.9E-02	NC	5.1E-02	NC	**4.6E+00**
IW-16 (5 ft)	08/05/14	4.6E-03	NC	NC	NC	NC	2.1E-02	NC	NC	4.1E-02	1.2E-01
IW-17 (5 ft)	08/05/14	9.3E-02	NC	1.1E-02	3.5E-05	NC	4.9E-03	NC	2.9E-03	NC	**2.7E+00**
IW-2 (3 ft)	08/05/14	NC	NC	4.2E-05	NC	NC	6.0E-02	NC	2.1E-04	NC	2.3E-02
IW-3 (3 ft)	01/17/14	3.6E-06	NC	NC	NC	NC	1.8E-01	NC	1.0E-03	NC	3.4E-01
IW-4 (4.5 ft)	08/05/14	7.1E-06	NC	3.4E-05	7.5E-08	NC	5.4E-01	NC	3.1E-01	NC	**1.1E+00**
IW-5 (3 ft)	01/15/14	2.8E-06	NC	NC	NC	NC	2.1E-02	NC	2.8E-03	NC	3.2E-02
IW-6 (4.5 ft)	08/05/14	1.8E-03	2.5E-06	6.4E-03	3.8E-05	NC	1.4E-01	5.7E-05	8.1E-02	NC	**1.7E+01**
IW-7 (3 ft)	01/15/14	7.1E-04	NC	NC	2.5E-05	NC	**1.7E+00**	NC	8.9E-01	NC	**4.5E+01**
IW-8 (5.5 ft)	08/05/14	2.8E-01	NC	5.0E-02	3.5E-04	NC	8.9E-04	NC	NC	NC	**2.3E+00**
MW-22 (3 ft)	01/15/14	2.1E-04	NC	NC	2.0E-07	NC	**1.1E+00**	1.6E-06	1.9E-01	NC	**6.7E+00**
SS-21 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	2.7E-04	NC	NC	NC	3.9E-04
SS-21 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	9.1E-04	NC	NC	NC	NC
SS-22 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	1.1E-03	NC	3.3E-04	NC	3.1E-02
TEI-01 AboveGW (4-5 ft)	08/23/23	NC	NC	NC	NC	NC	**2.5E+00**	NC	4.9E-01	NC	**5.3E+01**
TEI-01 Shallow (9-10 ft)	08/23/23	NC	NC	NC	NC	NC	7.7E-03	NC	NC	NC	1.0E-01
TEI-05 AboveGW (5-6 ft)	08/24/23	NC	NC	3.2E-04	3.6E-06	NC	**4.0E+00**	NC	8.3E-01	NC	**2.6E+00**
TEI-09 AboveGW (4-5 ft)	08/22/23	2.2E-03	NC	NC	NC	NC	**2.0E+00**	NC	1.2E-01	NC	**2.8E+00**
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-11 (2.5-3 ft)	06/01/23	NC	NC	2.0E-02	1.7E-04	NC	NC	NC	NC	NC	NC
SS-12 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-12 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-13 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-13 (2.5-3 ft)	06/01/23	NC	NC	6.8E-02	3.3E-04	NC	NC	NC	NC	NC	NC
SS-14 (0.3-0.9 ft)	06/01/23	NC	NC	5.4E-03	1.5E-04	NC	NC	NC	NC	NC	NC
SS-14 (2.5-3 ft)	06/01/23	NC	NC	NC	1.7E-04	NC	NC	NC	NC	NC	NC
TEI-14 AboveGW (4-5 ft)	8/31/2023	NC	NC	NC	NC	NC	8.6E-06	NC	NC	NC	5.1E-03
Area 7											
PR-36 (3-5 ft)	11/09/10	NC	1.8E-07	NC	NC	NC	NC	NC	NC	NC	NC
PR-36 (3-5 ft) Dup	11/09/10	NC	3.7E-07	NC	NC	NC	NC	NC	NC	NC	NC
SS-15 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-15 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	3.4E-07	NC	NC	NC
SS-16 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-16 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	3.8E-04
SS-17 (0.3-0.9 ft)	05/31/23	NC	NC	5.0E-04	2.2E-05	NC	NC	NC	NC	NC	NC
SS-17 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene
Area 4											
HA-1 (3 ft)	08/05/14	NC	NC	NC	NC	NC	--	--	--	--	--
HA-2 (3 ft)	01/16/14	NC	NC	NC	NC	NC	--	--	--	--	--
HA-3 (1 ft)	08/05/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-10 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-12 (6 ft)	08/05/14	NC	NC	8.0E-04	6.7E-03	8.3E-04	--	--	--	--	--
IW-13 (3 ft)	01/15/14	2.2E-06	NC	NC	NC	NC	--	--	--	--	--
IW-14 (6 ft)	08/05/14	NC	NC	1.2E-03	2.9E-03	3.3E-04	--	--	--	--	--
IW-15 (6 ft)	08/05/14	NC	1.2E-03	2.4E-03	8.7E-02	8.8E-04	--	--	--	--	--
IW-16 (5 ft)	08/05/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-17 (5 ft)	08/05/14	NC	NC	3.8E-04	5.3E-03	NC	--	--	--	--	--
IW-2 (3 ft)	08/05/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-3 (3 ft)	01/17/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-4 (4.5 ft)	08/05/14	NC	1.4E-06	NC	NC	1.2E-06	--	--	--	--	--
IW-5 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-6 (4.5 ft)	08/05/14	NC	NC	3.9E-04	NC	6.7E-04	--	--	--	--	--
IW-7 (3 ft)	01/15/14	NC	NC	NC	NC	NC	--	--	--	--	--
IW-8 (5.5 ft)	08/05/14	NC	1.1E-03	3.8E-03	NC	2.0E-03	--	--	--	--	--
MW-22 (3 ft)	01/15/14	2.4E-07	NC	NC	NC	NC	--	--	--	--	--
SS-21 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-21 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-22 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
TEI-01 AboveGW (4-5 ft)	08/23/23	NC	NC	NC	NC	NC	--	--	--	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	NC	NC	NC	1.5E-02	NC	--	--	--	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	NC	1.6E-04	8.7E-05	NC	9.6E-05	--	--	--	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	NC	NC	NC	NC	NC	--	--	--	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-11 (2.5-3 ft)	06/01/23	NC	6.7E-04	6.7E-04	NC	2.7E-04	NC	--	--	NC	--
SS-12 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-12 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-13 (0.3-0.9 ft)	06/01/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-13 (2.5-3 ft)	06/01/23	NC	2.7E-03	3.5E-03	NC	2.8E-03	NC	--	--	NC	--
SS-14 (0.3-0.9 ft)	06/01/23	NC	5.6E-05	NC	NC	NC	NC	--	--	NC	--
SS-14 (2.5-3 ft)	06/01/23	NC	NC	NC	NC	NC	9.1E-05	--	--	NC	--
TEI-14 AboveGW (4-5 ft)	8/31/2023	NC	NC	NC	1.6E-04	NC	--	--	--	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	NC	NC	NC	NC	NC	--	--	--	--	--
PR-36 (3-5 ft) Dup	11/09/10	NC	NC	NC	NC	NC	--	--	--	--	--
SS-15 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-15 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-16 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-16 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-17 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-17 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
Area 4										
HA-1 (3 ft)	08/05/14	--	--	--	--	--	--	--	--	1.6E-01
HA-2 (3 ft)	01/16/14	--	--	--	--	--	--	--	--	1.3E-02
HA-3 (1 ft)	08/05/14	--	--	--	--	--	--	--	--	3.7E-02
IW-10 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	5.5E-01
IW-12 (6 ft)	08/05/14	--	--	--	--	--	--	--	--	**4.9E+01**
IW-13 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	5.2E-01
IW-14 (6 ft)	08/05/14	--	--	--	--	--	--	--	--	**7.5E+01**
IW-15 (6 ft)	08/05/14	--	--	--	--	--	--	--	--	**1.4E+02**
IW-16 (5 ft)	08/05/14	--	--	--	--	--	--	--	--	2.1E-01
IW-17 (5 ft)	08/05/14	--	--	--	--	--	--	--	--	**1.3E+01**
IW-2 (3 ft)	08/05/14	--	--	--	--	--	--	--	--	9.2E-02
IW-3 (3 ft)	01/17/14	--	--	--	--	--	--	--	--	5.4E-01
IW-4 (4.5 ft)	08/05/14	--	--	--	--	--	--	--	--	**2.0E+00**
IW-5 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	6.6E-02
IW-6 (4.5 ft)	08/05/14	--	--	--	--	--	--	--	--	**1.7E+01**
IW-7 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	**5.4E+01**
IW-8 (5.5 ft)	08/05/14	--	--	--	--	--	--	--	--	**8.8E+01**
MW-22 (3 ft)	01/15/14	--	--	--	--	--	--	--	--	**9.9E+00**
SS-21 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	4.4E-01
SS-21 (2.5-3 ft)	06/01/23	--	--	--	--	--	NC	--	--	3.8E-02
SS-22 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	2.6E-01
TEI-01 AboveGW (4-5 ft)	08/23/23	--	--	--	--	--	--	--	--	**5.6E+01**
TEI-01 Shallow (9-10 ft)	08/23/23	--	--	--	--	--	--	--	--	3.9E-01
TEI-05 AboveGW (5-6 ft)	08/24/23	--	--	--	--	--	--	--	--	**7.5E+00**
TEI-09 AboveGW (4-5 ft)	08/22/23	--	--	--	--	--	--	--	--	**5.0E+00**
Area 5 / Area 6										
SS-11 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	7.0E-01
SS-11 (2.5-3 ft)	06/01/23	--	--	--	--	--	NC	--	--	**5.7E+01**
SS-12 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	8.6E-01
SS-12 (2.5-3 ft)	06/01/23	--	--	--	--	--	1.4E-02	--	--	**7.6E+01**
SS-13 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	2.1E-01
SS-13 (2.5-3 ft)	06/01/23	--	--	--	--	--	NC	--	--	**2.1E+01**
SS-14 (0.3-0.9 ft)	06/01/23	--	--	--	--	--	NC	--	--	**8.8E+00**
SS-14 (2.5-3 ft)	06/01/23	--	--	--	--	--	1.7E-03	--	--	**1.1E+01**
TEI-14 AboveGW (4-5 ft)	8/31/2023	--	--	--	--	--	--	--	--	5.7E-03
Area 7										
PR-36 (3-5 ft)	11/09/10	--	--	--	--	--	--	--	--	1.8E-07
PR-36 (3-5 ft) Dup	11/09/10	--	--	--	--	--	--	--	--	3.7E-07
SS-15 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	9.7E-03
SS-15 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.0E-02
SS-16 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	ND
SS-16 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	7.8E-02
SS-17 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	**2.7E+00**
SS-17 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.2E-02

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	1.1E-01	1.4E-02	2.0E-04	NC	NC	NC	NC	NC	NC
SS-19 (2.5-3 ft)	05/31/23	3-2.5	2.0E-02	1.8E-03	NC	NC	NC	NC	NC	NC	NC
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	6.9E-02	5.0E-03	NC	NC	NC	NC	NC	NC	NC
SS-20 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	NC	NC	NC	NC	NC	NC
Screening Levels in milligrams per kilograms (mg/kg) [b]											
SFBRWQCB Construction Worker ESL - Noncancer			1100	54000	45	--	--	220	1200	860	15000
USEPA Industrial RSL - Noncancer			--	--	--	58000	120000	--	--	--	--
Noncancer Screening Level			1100	54000	45	58000	120000	220	1200	860	15000

Note: Bold values indicate the value is greater than the target noncancer hazard of 1.

Abbreviations:

-- = not available / analyzed; no screening level available or sample was not analyzed

bgs = below ground surface

NC = not calculated since the value was a non-detect.

ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Noncancer Hazard Quotient Equation

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Noncancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Hazard\ Index (1)$$

Note: The soil concentrations are presented on Table 1

Noncancer Hazard Index Equation

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene	p-Isopropyl-toluene
SS-19 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-19 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-20 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
SS-20 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	--	NC	NC	NC	--
Screening Levels in milligrams per kilogra											
SFBRWQCB Construction Worker ESL - Nor		71000	130	350	78	570	--	--	15000	--	--
USEPA Industrial RSL - Noncancer		--	--	--	--	--	--	270000	--	9900	--
Noncancer Screening Level		71000	130	350	78	570	--	270000	15000	9900	--

Note: Bold values indicate the value is greater than the target noncancer hazard of 1.

Abbreviations:

-- = not available / analyzed; no screening level available or sample was not analyzed

bgs = below ground surface

NC = not calculated since the value was a non-detect.

ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Noncancer Hazard Quotient Equation

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Noncancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Hazard\ Index (1)$$

Note: The soil concentrations are presented on Table 1

Noncancer Hazard Index Equation

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
SS-19 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	6.6E-06	4.3E-07	NC	NC	NC
SS-19 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SS-20 (0.3-0.9 ft)	05/31/23	NC	2.3E-08	NC	NC	NC	NC	2.1E-07	NC	NC	NC
SS-20 (2.5-3 ft)	05/31/23	NC	2.3E-08	NC	NC	NC	NC	NC	NC	NC	NC
Screening Levels in milligrams per kilogra											
SFBRWQCB Construction Worker ESL - Nor		1400	65000	500	--	7100	350	4700	720	6.3	18
USEPA Industrial RSL - Noncancer		--	--	--	24000	--	--	--	--	--	--
Noncancer Screening Level		1400	65000	500	24000	7100	350	4700	720	6.3	18

Note: Bold values indicate the value is greater than the target noncancer hazard of 1.

Abbreviations:

-- = not available / analyzed; no screening level available or sample was not analyzed

bgs = below ground surface

NC = not calculated since the value was a non-detect.

ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Noncancer Hazard Quotient Equation

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Noncancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Hazard\ Index (1)$$

Note: The soil concentrations are presented on Table 1

Noncancer Hazard Index Equation

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene
SS-19 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-19 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-20 (0.3-0.9 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
SS-20 (2.5-3 ft)	05/31/23	NC	NC	NC	NC	NC	NC	--	--	NC	--
Screening Levels in milligrams per kilogra											
SFBRWQCB Construction Worker ESL - Nor		--	--	--	300	2400	10000	--	--	10	--
USEPA Industrial RSL - Noncancer		28000	1800	1500	--	--	--	--	--	--	--
Noncancer Screening Level		28000	1800	1500	300	2400	10000	--	--	10	--

Note: Bold values indicate the value is greater than the target noncancer hazard of 1.

Abbreviations:

-- = not available / analyzed; no screening level available or sample was not analyzed

bgs = below ground surface

NC = not calculated since the value was a non-detect.

ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Noncancer Hazard Quotient Equation

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Noncancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Hazard\ Index (1)$$

Note: The soil concentrations are presented on Table 1

Noncancer Hazard Index Equation

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

ATTACHMENT A-1. SOIL NONCANCER HAZARD INDEX CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
SS-19 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	1.2E-01
SS-19 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	2.2E-02
SS-20 (0.3-0.9 ft)	05/31/23	--	--	--	--	--	NC	--	--	7.4E-02
SS-20 (2.5-3 ft)	05/31/23	--	--	--	--	--	NC	--	--	2.3E-08
Screening Levels in milligrams per kilogra										
SFBRWQCB Construction Worker ESL - Nor		--	--	--	--	--	500	--	--	--
USEPA Industrial RSL - Noncancer		--	--	--	--	--	--	--	--	--
Noncancer Screening Level		--	--	--	--	--	500	--	--	--

Note: Bold values indicate the value is greater than the target noncancer hazard of 1.

Abbreviations:

-- = not available / analyzed; no screening level available or sample was not analyzed

bgs = below ground surface

NC = not calculated since the value was a non-detect.

ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:

a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.

b The published screening levels are from the following sources in order of priority:

SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.

USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.

USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Noncancer Hazard Quotient Equation

$$Hazard\ Quotient\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Noncancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Hazard\ Index (1)$$

Note: The soil concentrations are presented on Table 1

Noncancer Hazard Index Equation

$$Hazard\ Index = \sum_{i=1}^{n} Hazard\ Quotient_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-1 (2.5-3 ft)	05/30/23	2.5-3	--	--	2.0E-09	--	--	NC	--	NC	NC
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	3.6E-11	--	--	NC	--	NC	NC
SS-2 (2.5-3 ft)	05/30/23	2.5-3	--	--	5.5E-11	--	--	NC	--	NC	NC
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-3 (2.5-3 ft)	05/30/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	3.9E-11	--	--	NC	--	NC	NC
SS-4 (2.5-3 ft)	05/30/23	2.5-3	--	--	7.6E-11	--	--	NC	--	NC	NC
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	3.6E-11	--	--	NC	--	NC	NC
SS-5 (2.5-3 ft)	05/30/23	2.5-3	--	--	1.2E-10	--	--	NC	--	NC	NC
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-6 (2.5-3 ft)	05/30/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	5.5E-11	--	--	NC	--	NC	NC
SS-7 (2.5-3 ft)	05/30/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	6.1E-11	--	--	NC	--	NC	NC
SS-8 (2.5-3 ft)	05/30/23	2.5-3	--	--	1.9E-10	--	--	NC	--	NC	NC
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-9 (2.5-3 ft)	05/30/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	--	6.1E-11	--	--	NC	--	NC	NC
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	--	NC	--	--	NC	--	NC	NC
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	3.9E-11	--	--	NC	--	NC	NC
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	NC	--	--	NC	--	NC	NC
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	NC	--	--	NC	--	NC	NC
Area 2											
IW-1 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	NC	NC
IW-9 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	NC	NC
MW-23 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	NC	NC
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-23 (2.5-3 ft)	05/31/23	2.5-3	--	--	2.5E-11	--	--	NC	--	NC	NC
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	NC	--	--	NC	--	NC	NC
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	NC	--	--	NC	--	NC	NC
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	--	--	4.5E-11	--	--	NC	--	NC	NC
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	--	7.3E-11	--	--	NC	--	NC	NC
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-10 (2.5-3 ft)	05/31/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-18 (2.5-3 ft)	05/31/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-24 (2.5-3 ft)	05/31/23	2.5-3	--	--	NC	--	--	NC	--	NC	NC
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	NC	--	--	NC	--	NC	NC
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	NC	--	--	NC	--	NC	NC
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	NC	--	--	NC	--	NC	NC

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-1 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	3.0E-12	--
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-2 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-3 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-4 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-5 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-6 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-7 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-8 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-9 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	--	NC	2.6E-09	--
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	NC	NC	--	--	--	--	NC	1.3E-09	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	NC	NC	--	--	--	--	NC	1.1E-11	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	NC	NC	--	--	--	--	2.0E-11	NC	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	NC	NC	--	--	--	--	NC	NC	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	NC	NC	--	--	--	--	NC	3.3E-09	--
Area 2											
IW-1 (3 ft)	01/15/14	3	5.4E-12	NC	--	--	--	--	NC	NC	--
IW-9 (3 ft)	01/15/14	3	NC	NC	--	--	--	--	NC	NC	--
MW-23 (3 ft)	01/15/14	3	NC	NC	--	--	--	--	NC	NC	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-23 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	NC	NC	--	--	--	--	NC	NC	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	NC	NC	--	--	--	--	NC	1.5E-10	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	NC	NC	--	--	--	--	--	NC	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	NC	NC	--	--	--	--	--	NC	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-10 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-18 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-24 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	--	NC	NC	--
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	NC	NC	--	--	--	--	NC	NC	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	NC	NC	--	--	--	--	NC	NC	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	NC	NC	--	--	--	--	NC	NC	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-1 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-2 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-3 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-4 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-5 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-6 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-7 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-8 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-9 (2.5-3 ft)	05/30/23	2.5-3	--	NC	NC	4.0E-09	--	NC	NC	--	--
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	NC	NC	1.3E-10	--	NC	NC	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	NC	NC	4.3E-11	--	NC	NC	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	NC	NC	6.5E-10	--	NC	NC	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	NC	NC	NC	--	NC	NC	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	NC	NC	4.0E-10	--	NC	3.6E-09	--	--
Area 2											
IW-1 (3 ft)	01/15/14	3	--	NC	NC	NC	--	NC	3.9E-09	--	--
IW-9 (3 ft)	01/15/14	3	--	NC	NC	NC	--	NC	6.4E-10	--	--
MW-23 (3 ft)	01/15/14	3	--	NC	NC	NC	--	NC	3.3E-09	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	1.1E-08	--	--
SS-23 (2.5-3 ft)	05/31/23	2.5-3	--	NC	NC	NC	--	NC	2.1E-10	--	--
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	NC	NC	NC	--	NC	4.5E-10	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	NC	NC	6.8E-10	--	NC	6.7E-08	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	--	NC	NC	NC	--	NC	NC	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	NC	NC	NC	--	NC	NC	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-10 (2.5-3 ft)	05/31/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-18 (2.5-3 ft)	05/31/23	2.5-3	--	NC	NC	NC	--	NC	1.1E-08	--	--
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	9.4E-10	--	--
SS-24 (2.5-3 ft)	05/31/23	2.5-3	--	NC	NC	NC	--	NC	NC	--	--
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	NC	NC	NC	--	NC	NC	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	NC	NC	NC	--	NC	4.5E-09	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	NC	NC	NC	--	NC	NC	--	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane	Trichloroethene	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-1 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-2 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-3 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-4 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-5 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-6 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-7 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-8 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-9 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	NC	NC	--	--	--	NC	--	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	NC	NC	--	--	--	NC	--	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	NC	NC	--	--	--	NC	--	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	NC	NC	--	--	--	NC	--	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	NC	NC	--	--	--	NC	--	--	--
Area 2											
IW-1 (3 ft)	01/15/14	3	NC	1.5E-10	--	--	--	NC	--	--	--
IW-9 (3 ft)	01/15/14	3	NC	2.9E-11	--	--	--	NC	--	--	--
MW-23 (3 ft)	01/15/14	3	NC	1.3E-10	--	--	--	NC	--	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	2.2E-10	--	--	--	NC	--	--	--
SS-23 (2.5-3 ft)	05/31/23	2.5-3	NC	1.0E-11	--	--	--	NC	--	--	--
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	NC	1.0E-11	--	--	--	NC	--	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	NC	NC	--	--	--	NC	--	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	NC	NC	--	--	--	NC	--	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	NC	NC	--	--	--	NC	--	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-10 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	7.7E-12	--	--	--	NC	--	--	--
SS-18 (2.5-3 ft)	05/31/23	2.5-3	NC	1.8E-09	--	--	--	NC	--	--	--
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	1.8E-09	--	--	--	NC	--	--	--
SS-24 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	--	--	--	NC	--	--	--
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	NC	NC	--	--	--	NC	--	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	NC	3.3E-10	--	--	--	NC	--	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	NC	1.4E-11	--	--	--	NC	--	--	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene
Area 1											
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-1 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-2 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-3 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-4 (2.5-3 ft)	05/30/23	2.5-3	2.9E-10	4.1E-09	5.3E-10	--	4.2E-12	9.9E-12	NC	2.4E-10	NC
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-5 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-6 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-7 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-8 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	NC	NC	NC	--	NC	7.8E-12	NC	NC	NC
SS-9 (2.5-3 ft)	05/30/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	--	--	--	--	--	--	--	--
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	--	--	--	--	--	--	--	--
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	--	--	--	--	--	--	--
Area 2											
IW-1 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-9 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
MW-23 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-23 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	--	--	--	--	--	--	--
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	--	--	--	--	--	--	--
Area 3											
PR-38 (3-5 ft)	12/06/10	3-5	--	--	--	--	--	--	--	--	--
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	--	--	--	--	--	--	--	--
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-10 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-18 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-24 (2.5-3 ft)	05/31/23	2.5-3	NC	NC	NC	--	NC	NC	NC	NC	NC
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	--	--	--	--	--	--	--
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	--	--	--	--	--	--	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
Area 1					
SS-1 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	ND
SS-1 (2.5-3 ft)	05/30/23	2.5-3	--	NC	2.0E-09
SS-2 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	3.6E-11
SS-2 (2.5-3 ft)	05/30/23	2.5-3	--	NC	5.5E-11
SS-3 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	ND
SS-3 (2.5-3 ft)	05/30/23	2.5-3	--	NC	ND
SS-4 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	3.9E-11
SS-4 (2.5-3 ft)	05/30/23	2.5-3	--	1.3E-11	5.2E-09
SS-5 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	3.6E-11
SS-5 (2.5-3 ft)	05/30/23	2.5-3	--	NC	1.2E-10
SS-6 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	ND
SS-6 (2.5-3 ft)	05/30/23	2.5-3	--	NC	ND
SS-7 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	5.5E-11
SS-7 (2.5-3 ft)	05/30/23	2.5-3	--	NC	ND
SS-8 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	NC	6.1E-11
SS-8 (2.5-3 ft)	05/30/23	2.5-3	--	NC	1.9E-10
SS-9 (0.3-0.9 ft)	05/30/23	0.3-0.9	--	9.0E-12	1.7E-11
SS-9 (2.5-3 ft)	05/30/23	2.5-3	--	NC	6.6E-09
Tank 384-HA-1 (0.5-0 ft)	07/03/14	0-0.5	--	--	1.5E-09
Tank 384-HA-1 (5-0 ft)	07/03/14	0-5	--	--	5.3E-11
TEI-03 AboveGW (4-5 ft)	8/16/2023	4-5	--	--	7.1E-10
TEI-04 AboveGW (4-5 ft)	8/15/2023	4-5	--	--	ND
TEI-08 AboveGW (4-5 ft)	8/22/2023	4-5	--	--	7.4E-09
Area 2					
IW-1 (3 ft)	01/15/14	3	--	--	4.1E-09
IW-9 (3 ft)	01/15/14	3	--	--	6.7E-10
MW-23 (3 ft)	01/15/14	3	--	--	3.5E-09
SS-23 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	1.1E-08
SS-23 (2.5-3 ft)	05/31/23	2.5-3	--	NC	2.4E-10
TEI-06 AboveGW (4-5 ft)	08/30/23	4-5	--	--	4.6E-10
TEI-10 AboveGW (4-5 ft)	08/21/23	4-5	--	--	6.7E-08
Area 3					
PR-38 (3-5 ft)	12/06/10	3-5	--	--	4.5E-11
PR-38 (3-5 ft) Dup	12/06/10	3-5	--	--	7.3E-11
SS-10 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	ND
SS-10 (2.5-3 ft)	05/31/23	2.5-3	--	NC	ND
SS-18 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	7.7E-12
SS-18 (2.5-3 ft)	05/31/23	2.5-3	--	NC	1.3E-08
SS-24 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	2.7E-09
SS-24 (2.5-3 ft)	05/31/23	2.5-3	--	NC	ND
TEI-07 AboveGW (4-5 ft)	8/29/2023	4-5	--	--	ND
TEI-11 AboveGW (4-5 ft)	8/24/2023	4-5	--	--	4.9E-09
TEI-12 AboveGW (4-5 ft)	8/28/2023	4-5	--	--	1.4E-11

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
Area 4											
HA-1 (3 ft)	08/05/14	3	--	--	NC	--	--	NC	--	NC	NC
HA-2 (3 ft)	01/16/14	3	--	--	1.2E-10	--	--	NC	--	NC	NC
HA-3 (1 ft)	08/05/14	1	--	--	NC	--	--	NC	--	NC	NC
IW-10 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	4.4E-11	NC
IW-12 (6 ft)	08/05/14	6	--	--	NC	--	--	NC	--	NC	NC
IW-13 (3 ft)	01/15/14	3	--	--	5.5E-11	--	--	NC	--	NC	NC
IW-14 (6 ft)	08/05/14	6	--	--	NC	--	--	NC	--	NC	NC
IW-15 (6 ft)	08/05/14	6	--	--	NC	--	--	NC	--	NC	NC
IW-16 (5 ft)	08/05/14	5	--	--	NC	--	--	1.1E-08	--	NC	NC
IW-17 (5 ft)	08/05/14	5	--	--	NC	--	--	NC	--	NC	NC
IW-2 (3 ft)	08/05/14	3	--	--	NC	--	--	NC	--	NC	NC
IW-3 (3 ft)	01/17/14	3	--	--	NC	--	--	NC	--	NC	NC
IW-4 (4.5 ft)	08/05/14	4.5	--	--	NC	--	--	NC	--	NC	NC
IW-5 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	NC	NC
IW-6 (4.5 ft)	08/05/14	4.5	--	--	NC	--	--	NC	--	NC	NC
IW-7 (3 ft)	01/15/14	3	--	--	NC	--	--	NC	--	4.1E-09	NC
IW-8 (5.5 ft)	08/05/14	5.5	--	--	NC	--	--	NC	--	NC	NC
MW-22 (3 ft)	01/15/14	3	--	--	1.5E-10	--	--	NC	--	3.5E-10	1.3E-10
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	3.0E-11	--	--	NC	--	NC	NC
SS-21 (2.5-3 ft)	06/01/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	3.6E-11	--	--	NC	--	NC	NC
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	NC	--	--	NC	--	NC	NC
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	NC	--	--	NC	--	NC	NC
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	NC	--	--	NC	--	NC	NC
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	NC	--	--	NC	--	NC	NC
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-11 (2.5-3 ft)	06/01/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-12 (2.5-3 ft)	06/01/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-13 (2.5-3 ft)	06/01/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-14 (2.5-3 ft)	06/01/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	1.5E-10	--	--	NC	--	NC	NC
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	--	--	NC	--	--	NC	--	NC	NC
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	--	NC	--	--	NC	--	NC	NC
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-15 (2.5-3 ft)	05/31/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-16 (2.5-3 ft)	05/31/23	3-2.5	--	--	3.0E-11	--	--	NC	--	NC	NC
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene
Area 4											
HA-1 (3 ft)	08/05/14	3	5.9E-11	NC	--	--	--	--	1.5E-11	NC	--
HA-2 (3 ft)	01/16/14	3	NC	NC	--	--	--	--	NC	NC	--
HA-3 (1 ft)	08/05/14	1	NC	NC	--	--	--	--	NC	NC	--
IW-10 (3 ft)	01/15/14	3	3.2E-10	2.9E-11	--	--	--	--	NC	NC	--
IW-12 (6 ft)	08/05/14	6	4.9E-08	NC	--	--	--	--	NC	1.9E-09	--
IW-13 (3 ft)	01/15/14	3	7.8E-10	NC	--	--	--	--	NC	NC	--
IW-14 (6 ft)	08/05/14	6	1.2E-07	NC	--	--	--	--	NC	NC	--
IW-15 (6 ft)	08/05/14	6	1.1E-07	NC	--	--	--	--	NC	NC	--
IW-16 (5 ft)	08/05/14	5	9.7E-09	NC	--	--	--	--	NC	NC	--
IW-17 (5 ft)	08/05/14	5	4.1E-08	NC	--	--	--	--	NC	NC	--
IW-2 (3 ft)	08/05/14	3	8.9E-12	NC	--	--	--	--	5.4E-12	NC	--
IW-3 (3 ft)	01/17/14	3	NC	NC	--	--	--	--	NC	NC	--
IW-4 (4.5 ft)	08/05/14	4.5	7.3E-10	NC	--	--	--	--	NC	NC	--
IW-5 (3 ft)	01/15/14	3	8.1E-11	NC	--	--	--	--	NC	NC	--
IW-6 (4.5 ft)	08/05/14	4.5	2.1E-08	NC	--	--	--	--	7.4E-10	1.7E-09	--
IW-7 (3 ft)	01/15/14	3	3.0E-08	NC	--	--	--	--	NC	5.7E-10	--
IW-8 (5.5 ft)	08/05/14	5.5	5.7E-08	NC	--	--	--	--	NC	1.7E-09	--
MW-22 (3 ft)	01/15/14	3	1.0E-08	NC	--	--	--	--	NC	5.0E-12	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-21 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	5.4E-11	NC	--	--	--	--	NC	NC	--
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	1.1E-07	NC	--	--	--	--	NC	NC	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	1.1E-08	NC	--	--	--	--	NC	NC	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	1.0E-09	NC	--	--	--	--	NC	9.3E-11	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	9.5E-09	NC	--	--	--	--	NC	NC	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-11 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	--	NC	1.3E-10	--
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-12 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-13 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	--	NC	1.0E-09	--
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-14 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	8.4E-11	NC	--	--	--	--	NC	NC	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	NC	NC	--	--	--	--	--	NC	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	NC	NC	--	--	--	--	--	NC	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-15 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-16 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane
Area 4											
HA-1 (3 ft)	08/05/14	3	--	NC	NC	NC	--	NC	3.3E-10	--	--
HA-2 (3 ft)	01/16/14	3	--	NC	NC	NC	--	NC	2.1E-09	--	--
HA-3 (1 ft)	08/05/14	1	--	2.2E-10	5.1E-11	NC	--	NC	1.3E-08	--	--
IW-10 (3 ft)	01/15/14	3	--	1.6E-11	NC	NC	--	2.2E-11	**3.0E-06**	--	--
IW-12 (6 ft)	08/05/14	6	--	4.3E-08	NC	2.5E-08	--	NC	**1.4E-06**	--	--
IW-13 (3 ft)	01/15/14	3	--	NC	NC	NC	--	NC	**1.4E-06**	--	--
IW-14 (6 ft)	08/05/14	6	--	7.1E-08	NC	3.3E-08	--	NC	**1.0E-05**	--	--
IW-15 (6 ft)	08/05/14	6	--	8.0E-09	NC	6.8E-08	--	NC	7.3E-07	--	--
IW-16 (5 ft)	08/05/14	5	--	1.3E-08	NC	NC	--	NC	2.2E-07	--	--
IW-17 (5 ft)	08/05/14	5	--	2.7E-07	NC	1.4E-08	--	NC	5.2E-08	--	--
IW-2 (3 ft)	08/05/14	3	--	NC	NC	5.3E-11	--	NC	6.4E-07	--	--
IW-3 (3 ft)	01/17/14	3	--	1.0E-11	NC	NC	--	NC	**1.9E-06**	--	--
IW-4 (4.5 ft)	08/05/14	4.5	--	2.0E-11	NC	4.3E-11	--	NC	**5.8E-06**	--	--
IW-5 (3 ft)	01/15/14	3	--	8.0E-12	NC	NC	--	NC	2.2E-07	--	--
IW-6 (4.5 ft)	08/05/14	4.5	--	5.1E-09	3.9E-11	8.0E-09	--	NC	**1.5E-06**	--	--
IW-7 (3 ft)	01/15/14	3	--	2.0E-09	NC	NC	--	NC	**1.8E-05**	--	--
IW-8 (5.5 ft)	08/05/14	5.5	--	8.0E-07	NC	6.3E-08	--	NC	9.4E-09	--	--
MW-22 (3 ft)	01/15/14	3	--	6.1E-10	NC	NC	--	NC	**1.1E-05**	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	NC	--	NC	2.8E-09	--	--
SS-21 (2.5-3 ft)	06/01/23	3-2.5	--	NC	NC	NC	--	NC	9.7E-09	--	--
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	NC	--	NC	1.2E-08	--	--
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	NC	NC	NC	--	NC	**2.7E-05**	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	NC	NC	NC	--	NC	8.2E-08	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	NC	NC	4.0E-10	--	NC	**4.2E-05**	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	6.3E-09	NC	NC	--	NC	**2.2E-05**	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-11 (2.5-3 ft)	06/01/23	3-2.5	--	NC	NC	2.5E-08	--	NC	NC	--	--
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-12 (2.5-3 ft)	06/01/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-13 (2.5-3 ft)	06/01/23	3-2.5	--	NC	NC	8.5E-08	--	NC	NC	--	--
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	NC	6.8E-09	--	NC	NC	--	--
SS-14 (2.5-3 ft)	06/01/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	NC	NC	NC	--	NC	9.1E-11	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	--	NC	2.9E-12	NC	--	NC	NC	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	NC	5.9E-12	NC	--	NC	NC	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-15 (2.5-3 ft)	05/31/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	NC	--	--
SS-16 (2.5-3 ft)	05/31/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	6.3E-10	--	NC	NC	--	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane	Trichloroethene	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene
Area 4											
HA-1 (3 ft)	08/05/14	3	NC	9.2E-11	--	--	--	NC	--	--	--
HA-2 (3 ft)	01/16/14	3	NC	2.5E-11	--	--	--	NC	--	--	--
HA-3 (1 ft)	08/05/14	1	NC	NC	--	--	--	NC	--	--	--
IW-10 (3 ft)	01/15/14	3	NC	1.5E-08	--	--	--	NC	--	--	--
IW-12 (6 ft)	08/05/14	6	NC	**6.6E-06**	--	--	--	5.9E-07	--	--	--
IW-13 (3 ft)	01/15/14	3	NC	4.6E-08	--	--	--	NC	--	--	--
IW-14 (6 ft)	08/05/14	6	NC	**9.2E-06**	--	--	--	2.5E-07	--	--	--
IW-15 (6 ft)	08/05/14	6	NC	6.4E-07	--	--	--	**7.6E-06**	--	--	--
IW-16 (5 ft)	08/05/14	5	2.4E-09	1.6E-08	--	--	--	NC	--	--	--
IW-17 (5 ft)	08/05/14	5	NC	3.8E-07	--	--	--	4.7E-07	--	--	--
IW-2 (3 ft)	08/05/14	3	NC	3.2E-09	--	--	--	NC	--	--	--
IW-3 (3 ft)	01/17/14	3	NC	4.8E-08	--	--	--	NC	--	--	--
IW-4 (4.5 ft)	08/05/14	4.5	NC	1.5E-07	--	--	--	NC	--	--	--
IW-5 (3 ft)	01/15/14	3	NC	4.4E-09	--	--	--	NC	--	--	--
IW-6 (4.5 ft)	08/05/14	4.5	NC	**2.3E-06**	--	--	--	NC	--	--	--
IW-7 (3 ft)	01/15/14	3	NC	**6.2E-06**	--	--	--	NC	--	--	--
IW-8 (5.5 ft)	08/05/14	5.5	NC	3.2E-07	--	--	--	NC	--	--	--
MW-22 (3 ft)	01/15/14	3	NC	9.2E-07	--	--	--	NC	--	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	5.4E-11	--	--	--	NC	--	--	--
SS-21 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	4.3E-09	--	--	--	NC	--	--	--
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	NC	**7.3E-06**	--	--	--	NC	--	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	NC	1.4E-08	--	--	--	**1.3E-06**	--	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	NC	3.6E-07	--	--	--	NC	--	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	NC	3.8E-07	--	--	--	NC	--	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-11 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-12 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-13 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-14 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	NC	7.1E-10	--	--	--	1.4E-08	--	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	NC	NC	--	--	--	NC	--	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	NC	NC	--	--	--	NC	--	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-15 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-16 (2.5-3 ft)	05/31/23	3-2.5	NC	5.2E-11	--	--	--	NC	--	--	--
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene
Area 4											
HA-1 (3 ft)	08/05/14	3	--	--	--	--	--	--	--	--	--
HA-2 (3 ft)	01/16/14	3	--	--	--	--	--	--	--	--	--
HA-3 (1 ft)	08/05/14	1	--	--	--	--	--	--	--	--	--
IW-10 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-12 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-13 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-14 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-15 (6 ft)	08/05/14	6	--	--	--	--	--	--	--	--	--
IW-16 (5 ft)	08/05/14	5	--	--	--	--	--	--	--	--	--
IW-17 (5 ft)	08/05/14	5	--	--	--	--	--	--	--	--	--
IW-2 (3 ft)	08/05/14	3	--	--	--	--	--	--	--	--	--
IW-3 (3 ft)	01/17/14	3	--	--	--	--	--	--	--	--	--
IW-4 (4.5 ft)	08/05/14	4.5	--	--	--	--	--	--	--	--	--
IW-5 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-6 (4.5 ft)	08/05/14	4.5	--	--	--	--	--	--	--	--	--
IW-7 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
IW-8 (5.5 ft)	08/05/14	5.5	--	--	--	--	--	--	--	--	--
MW-22 (3 ft)	01/15/14	3	--	--	--	--	--	--	--	--	--
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-21 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	--	--	--	--	--	--	--
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	--	--	--	--	--	--	--
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	--	--	--	--	--	--	--
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	--	--	--	--	--	--	--
Area 5 / Area 6											
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-11 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	NC	--	NC	NC	1.2E-10	NC	NC
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-12 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	NC	--	NC	NC	2.2E-09	NC	1.8E-08
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-13 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-14 (2.5-3 ft)	06/01/23	3-2.5	NC	NC	NC	--	NC	NC	4.3E-10	NC	2.1E-09
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	--	--	--	--	--	--	--
Area 7											
PR-36 (3-5 ft)	11/09/10	3-5	--	--	--	--	--	--	--	--	--
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	--	--	--	--	--	--	--	--
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-15 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-16 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
Area 4					
HA-1 (3 ft)	08/05/14	3	--	--	5.0E-10
HA-2 (3 ft)	01/16/14	3	--	--	2.2E-09
HA-3 (1 ft)	08/05/14	1	--	--	1.4E-08
IW-10 (3 ft)	01/15/14	3	--	--	**3.0E-06**
IW-12 (6 ft)	08/05/14	6	--	--	**8.7E-06**
IW-13 (3 ft)	01/15/14	3	--	--	**1.4E-06**
IW-14 (6 ft)	08/05/14	6	--	--	**2.0E-05**
IW-15 (6 ft)	08/05/14	6	--	--	**9.2E-06**
IW-16 (5 ft)	08/05/14	5	--	--	2.7E-07
IW-17 (5 ft)	08/05/14	5	--	--	**1.2E-06**
IW-2 (3 ft)	08/05/14	3	--	--	6.4E-07
IW-3 (3 ft)	01/17/14	3	--	--	**1.9E-06**
IW-4 (4.5 ft)	08/05/14	4.5	--	--	**5.9E-06**
IW-5 (3 ft)	01/15/14	3	--	--	2.3E-07
IW-6 (4.5 ft)	08/05/14	4.5	--	--	**3.8E-06**
IW-7 (3 ft)	01/15/14	3	--	--	**2.5E-05**
IW-8 (5.5 ft)	08/05/14	5.5	--	--	**1.2E-06**
MW-22 (3 ft)	01/15/14	3	--	--	**1.2E-05**
SS-21 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	2.9E-09
SS-21 (2.5-3 ft)	06/01/23	3-2.5	--	NC	9.7E-09
SS-22 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	1.6E-08
TEI-01 AboveGW (4-5 ft)	08/23/23	4-5	--	--	**3.4E-05**
TEI-01 Shallow (9-10 ft)	08/23/23	9-10	--	--	**1.4E-06**
TEI-05 AboveGW (5-6 ft)	08/24/23	5-6	--	--	**4.3E-05**
TEI-09 AboveGW (4-5 ft)	08/22/23	4-5	--	--	**2.2E-05**
Area 5 / Area 6					
SS-11 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	ND
SS-11 (2.5-3 ft)	06/01/23	3-2.5	--	NC	2.5E-08
SS-12 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	ND
SS-12 (2.5-3 ft)	06/01/23	3-2.5	--	NC	2.0E-08
SS-13 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	ND
SS-13 (2.5-3 ft)	06/01/23	3-2.5	--	NC	8.6E-08
SS-14 (0.3-0.9 ft)	06/01/23	0.3-0.9	--	NC	6.8E-09
SS-14 (2.5-3 ft)	06/01/23	3-2.5	--	NC	2.6E-09
TEI-14 AboveGW (4-5 ft)	8/31/2023	4-5	--	--	1.5E-08
Area 7					
PR-36 (3-5 ft)	11/09/10	3-5	--	--	2.9E-12
PR-36 (3-5 ft) Dup	11/09/10	3-5	--	--	5.9E-12
SS-15 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	ND
SS-15 (2.5-3 ft)	05/31/23	3-2.5	--	NC	ND
SS-16 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	ND
SS-16 (2.5-3 ft)	05/31/23	3-2.5	--	NC	8.3E-11
SS-17 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	6.3E-10

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	DRO as Diesel	Motor Oil (C23-C43) [a]	Benzene	n-Butylbenzene	sec-Butylbenzene	Carbon tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene
SS-17 (2.5-3 ft)	05/31/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	2.8E-10	--	--	NC	--	NC	NC
SS-19 (2.5-3 ft)	05/31/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	--	NC	--	--	NC	--	NC	NC
SS-20 (2.5-3 ft)	05/31/23	3-2.5	--	--	NC	--	--	NC	--	NC	NC
Screening Levels in milligrams per kilograms (mg/kg) [b]											
RWQCB Construction Worker ESL - Cancer			--	--	33	--	--	53	--	34	280
USEPA Commercial RSL - Cancer			--	--	--	--	--	--	--	--	--
Cancer Screening Level			--	--	33	--	--	53	--	34	280

Notes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:
-- = not available / analyzed; no screening level available or sample was not analyzed
bgs = below ground surface
NC = not calculated since the value was a non-detect.
ND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes:
a The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.
b The published screening levels are from the following sources in order of priority:
SFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.
USEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. November.
USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical Specific Cancer Risk Equation

$$Cancer\ Risk\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Cancer\ Screening\ Level\ \left(\frac{mg}{kg}\right)} \times Target\ Cancer\ Risk(1E^{-}06)$$

Note: The soil concentrations are presented on Table 1

Cancer Risk Equation

$$Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloropropene	1,1-Dimethylethanol	Ethylbenzene	Isopropyl-benzene
SS-17 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-19 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	--	NC	NC	--
SS-20 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	--	NC	NC	--
Screening Levels in milligrams per kilograms (mg/											
RWQCB Construction Worker ESL - Cancer			370	45	--	--	--	--	--	540	--
USEPA Commercial RSL - Cancer			--	--	--	--	--	--	6500	--	--
Cancer Screening Level			370	45	--	--	--	--	6500	540	--

Notes: Bold vNotes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:Abbreviations:
-- = not availa-- = not available / analyzed; no screening level available or sample was not analyzed
bgs = below gbgs = below ground surface
NC = not calcuNC = not calculated since the value was a non-detect.
ND = not deteND = not detected; all compounds with a screening level that were analyzed for all non-detect

Footnotes: Footnotes:
a The motor oa The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.
b The publishb The published screening levels are from the following sources in order of priority:
SFBRWQCSFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.
USEPA IndUSEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven
USEPA RSL USEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical SpChemical Specific Cancer Risk Equation

$$Cancer \quad Cancer\ Risk\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Cancer\ Screening\ Level\ \left(\frac{mg}{kg}\right)} \times Target\ Cancer\ Risk(1E^{-}06)$$

Note: The soil Note: The soil concentrations are presented on Table 1

Cancer Risk Cancer Risk Equation

$$Cancer \quad Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	p-Isopropyl-toluene	Methylene Chloride	MTBE	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetra-chloroethene	Toluene	1,1,1-Trichloroethane
SS-17 (2.5-3 ft)	05/31/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	NC	NC	--	NC	7.0E-11	--	--
SS-19 (2.5-3 ft)	05/31/23	3-2.5	--	NC	NC	NC	--	NC	NC	--	--
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	3.7E-13	NC	--	NC	NC	--	--
SS-20 (2.5-3 ft)	05/31/23	3-2.5	--	NC	3.7E-13	NC	--	NC	NC	--	--
Screening Levels in milligrams per kilograms (mg/											
RWQCB Construction Worker ESL - Cancer			--	490	4100	400	--	49	33	--	--
USEPA Commercial RSL - Cancer			--	--	--	--	--	--	--	--	--
Cancer Screening Level			--	490	4100	400	--	49	33	--	--

Notes: Bold vNotes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:Abbreviations:
-- = not availa-- = not available / analyzed; no screening level available or sample was not analyzed
bgs = below gbgs = below ground surface
NC = not calcuNC = not calculated since the value was a non-detect.
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Footnotes: Footnotes:
a The motor oa The motor oil value is a calculated value used in the Human Health and Ecological Risk Assessments, which is the sum of carbon ranges C23-C43. The carbon range for motor oil is C24-C36.
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SFBRWQCSFBRWQCB Construction Worker ESL: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2019. Environmental Screening Levels (ESLs) Workbook. Revision 2. Interim Final 2019.
USEPA IndUSEPA Industrial RSL: United States Environmental Protection Agency (USEPA). 2023. Regional Screening Levels (RSLs) – Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Noven
USEPA RSL vUSEPA RSL values was provided if there was not an established SFBRWQCB ESL.

Chemical SpChemical Specific Cancer Risk Equation

$$Cancer \quad Cancer\ Risk\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Cancer\ Screening\ Level\ \left(\frac{mg}{kg}\right)} \times Target\ Cancer\ Risk(1E^{-}06)$$

Note: The soilNote: The soil concentrations are presented on Table 1

Cancer Risk Cancer Risk Equation

$$Cancer \quad Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	1,1,2-Trichloroethane	Trichloroethene	1,1,2-Trichloro-trifluoroethane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl Chloride	Xylenes, Total	Acenaphthene	Acenaphthylene
SS-17 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-19 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	--	--	--	NC	--	--	--
SS-20 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	--	--	--	NC	--	--	--
Screening Levels in milligrams per kilograms (mg/											
RWQCB Construction Worker ESL - Cancer			110	130	--	--	--	3.4	--	--	--
USEPA Commercial RSL - Cancer			--	--	--	--	--	--	--	--	--
Cancer Screening Level			110	130	--	--	--	3.4	--	--	--

Notes: Bold v<Notes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:Abbreviations:
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bgs = below g bgs = below ground surface
NC = not calcı NC = not calculated since the value was a non-detect.
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Chemical Sp<Chemical Specific Cancer Risk Equation

$$Cancer \qquad Cancer\ Risk\ for\ Compound\ (i) = \frac{Soil\ Concentration\ \left(\frac{mg}{kg}\right)}{Cancer\ Screening\ Level\left(\frac{mg}{kg}\right)} \times Target\ Cancer\ Risk(1E^{-}06)$$

Note: The soil Note: The soil concentrations are presented on Table 1

Cancer Risk ı Cancer Risk Equation

$$Cancer \qquad Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Benzo(a)-anthracene	Benzo(a)- pyrene	Benzo(b)-fluoranthene	Benzo(ghi)-perylene	Chrysene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene
SS-17 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-19 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	NC	NC	NC	--	NC	NC	NC	NC	NC
SS-20 (2.5-3 ft)	05/31/23	3-2.5	NC	NC	NC	--	NC	NC	NC	NC	NC
Screening Levels in milligrams per kilograms (mg/											
RWQCB Construction Worker ESL - Cancer			110	11	110	--	9100	6700	6700	110	400
USEPA Commercial RSL - Cancer			--	--	--	--	--	--	--	--	--
Cancer Screening Level			110	11	110	--	9100	6700	6700	110	400

Notes: Bold vNotes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:Abbreviations:
-- = not availa-- = not available / analyzed; no screening level available or sample was not analyzed
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Chemical SpChemical Specific Cancer Risk Equation

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Note: The soilNote: The soil concentrations are presented on Table 1

Cancer Risk Cancer Risk Equation

$$Cancer \quad Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT A-2. SOIL CANCER RISK CALCULATIONS
PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL
BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Location ID	Date Sampled	Sample Depth (feet bgs)	Phenanthrene	Pyrene	Total Noncancer Hazard TH = 1
SS-17 (2.5-3 ft)	05/31/23	3-2.5	--	NC	ND
SS-19 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	3.5E-10
SS-19 (2.5-3 ft)	05/31/23	3-2.5	--	NC	ND
SS-20 (0.3-0.9 ft)	05/31/23	0.3-0.9	--	NC	3.7E-13
SS-20 (2.5-3 ft)	05/31/23	3-2.5	--	NC	3.7E-13
Screening Levels in milligrams per kilograms (mg/					
RWQCB Construction Worker ESL - Cancer			--	5000	
USEPA Commercial RSL - Cancer			--	--	
Cancer Screening Level			--	5000	

Notes: Bold vNotes: Bold values indicate the value is greater than the target cancer risk of 0.000001.

Abbreviations:Abbreviations:
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Chemical SpChemical Specific Cancer Risk Equation

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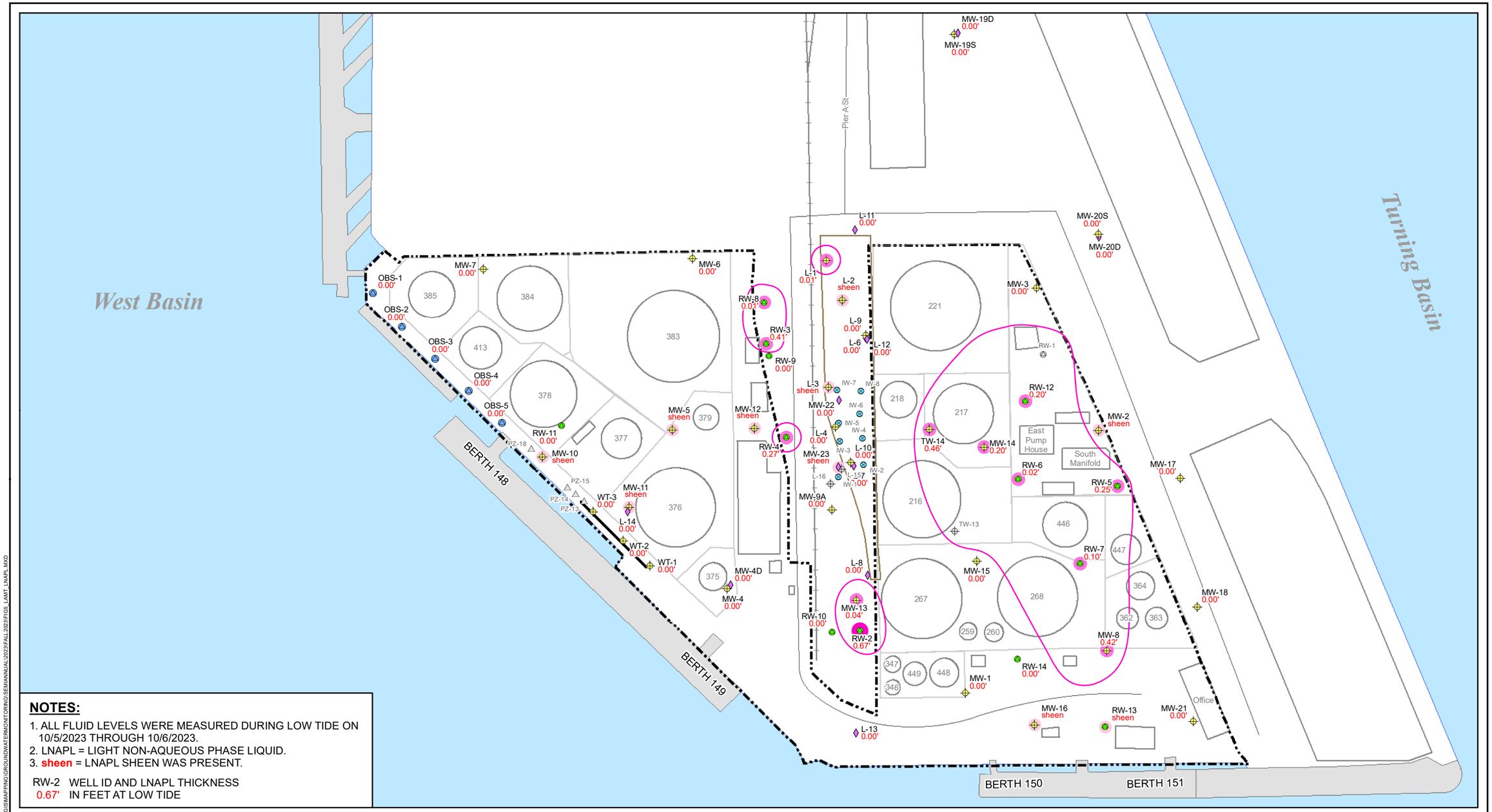
Note: The soil Note: The soil concentrations are presented on Table 1

Cancer Risk Cancer Risk Equation

Cance $$Cancer\ Risk = \sum_{i=1}^{n} Cancer\ Risk_i$$

ATTACHMENT B

FIGURES



NOTES:

1. ALL FLUID LEVELS WERE MEASURED DURING LOW TIDE ON 10/5/2023 THROUGH 10/6/2023.
2. LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID.
3. **sheen** = LNAPL SHEEN WAS PRESENT.

RW-2 WELL ID AND LNAPL THICKNESS
0.67' IN FEET AT LOW TIDE

EXPLANATION

- WATER TABLE MONITORING WELL
- RECOVERY WELL
- DEEP COMPLETION WATER TABLE MONITORING WELL
- PIEZOMETER
- INJECTION WELL
- OBSERVATION WELL
- LNAPL SHEEN
- LNAPL THICKNESS - 0.01 TO 0.50 FEET
- LNAPL THICKNESS - GREATER THAN 0.50 FEET
- APPROXIMATE LNAPL BOUNDARY AT LOW TIDE
- FACILITY LEASE BOUNDARY

N

0 150'

M:\DTOR\PHILLIPS66\PROJECTS\LAMARINETERMINAL\GIS\MAPPING\GROUNDWATER\MONITORING\SEMIANNUAL\2023\FALL2023\FIG5_LAMT_LNAPL.MXD

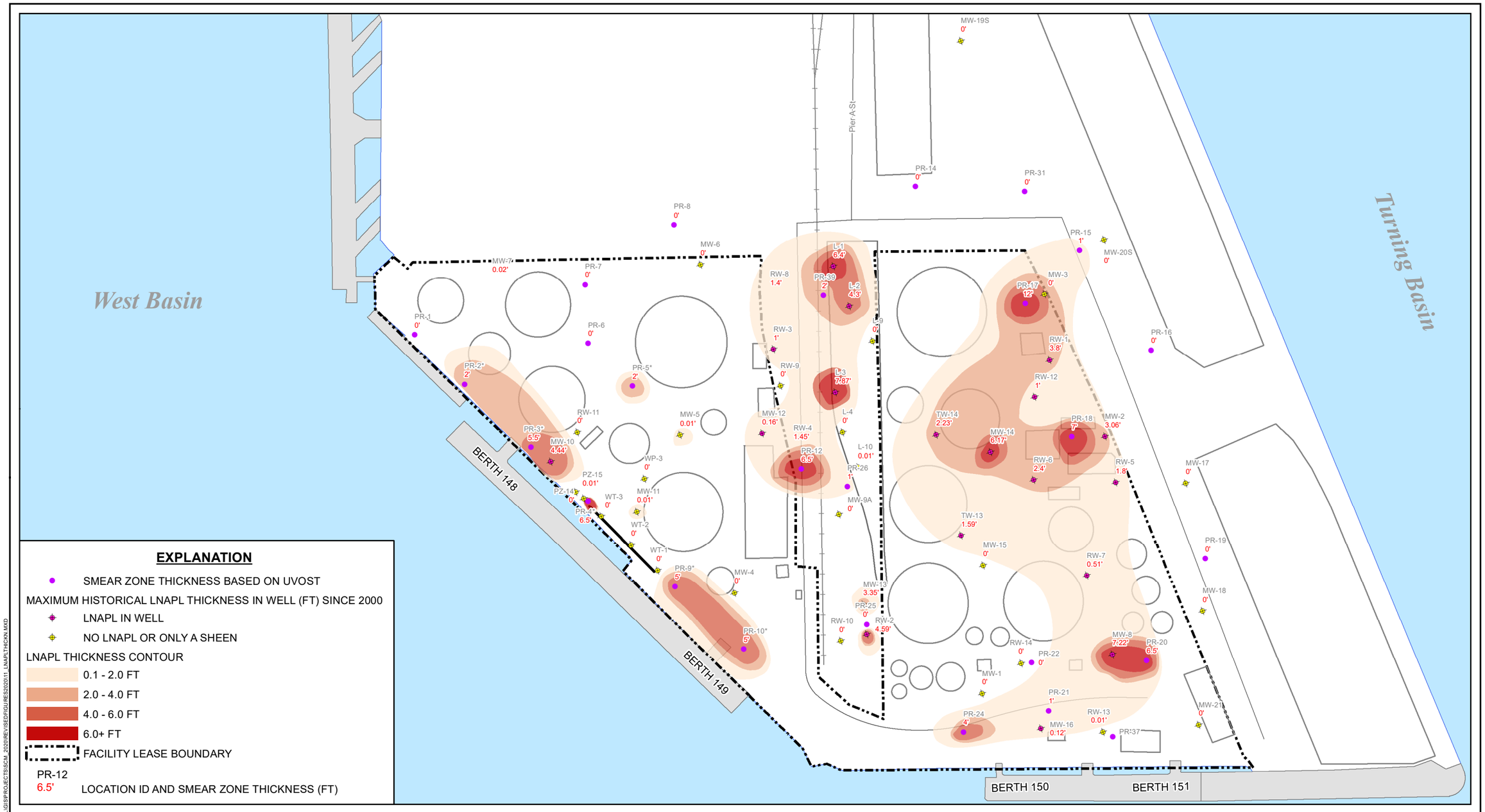
Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 5

MEASURABLE LNAPL DISTRIBUTION (FALL 2023)

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: MW	Scale: 1 " = 150 '	Date: 12/28/23	File: Fig5_LAMT_LNAPL.mxd



EXPLANATION

- SMEAR ZONE THICKNESS BASED ON UVOST

MAXIMUM HISTORICAL LNAPL THICKNESS IN WELL (FT) SINCE 2000

- LNAPL IN WELL
- NO LNAPL OR ONLY A SHEEN

LNAPL THICKNESS CONTOUR

- 0.1 - 2.0 FT
- 2.0 - 4.0 FT
- 4.0 - 6.0 FT
- 6.0+ FT
- FACILITY LEASE BOUNDARY
- PR-12 / 6.5' — LOCATION ID AND SMEAR ZONE THICKNESS (FT)

NOTES:

1. MW-3 IS APPARENTLY NEAR OR WITHIN SMEAR ZONE (BASED ON PR-17) ALTHOUGH LNAPL HAS NOT BEEN DETECTED IN THE WELL.
2. UVOST - ULTRA-VIOLET OPTICAL SCREENING TOOL
3. LNAPL - LIGHT NON-AQUEOUS PHASE LIQUID.
4. FT - FEET.

N

0 140'

M:\DT\ORPHILLIPS66\PROJECTS\LAMARINETERMINAL\GIS\PROJECTS\SCM_2020\REVISED\FIGURES\20201111_LNAPLTHICKN.MXD

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 12

LNAPL SMEAR ZONE THICKNESS

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: KS	Scale: 1" = 150'	Date: 9/2/22	File: 11_LNAPLThickn.mxd



M:\GTO\PHILLIPS66\PROJECTS\LAMARINETERMINAL\GIS\PROJECTS\SCM_2020\REVISED\FIGURES\2020\13_LNAPLTYPE.MXD

EXPLANATION

- WELL WITH 1998 LNAPL CHEMISTRY SAMPLE
- MONITORING WELL
- APPROXIMATE LNAPL SMEAR ZONE FOOTPRINT
- FACILITY LEASE BOUNDARY

NOTES:

1. MTBE = METHYL TERT-BUTYL ETHER
2. LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID

N

0 150'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 14

MAP OF LNAPL TYPES

PHILLIPS 66 LOS ANGELES REFINERY, MARINE TERMINAL, BERTHS 148 – 151, PORT OF LOS ANGELES, WILMINGTON, CALIFORNIA

Drawn By: DH	Checked By: BLM	Scale: 1 " = 150 '	Date: 9/2/22	File: 13_LNAPLType.mxd

ATTACHMENT B

REFINERY POLICIES AND PROCEDURES

LOS ANGELES REFINERY POLICIES & PROCEDURES MANUAL			
Name: LAMT Soil Excavation			
Dept.: Environmental			Retention Code: HSE105
Section: X-X-XX	Issued: 5/24	Rev. 1	Page 1 of 10

LAMT SOIL EXCAVATION

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3.0 SCOPE 2

4.0 DEFINITIONS 3

5.0 REPRESENTATIVE SAMPLING 4

6.0 STANDARDS 5

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8.0 ROLES AND RESPONSIBILITIES 7

9.0 P&P REVIEW / TRAINING REQUIREMENTS 9

10.0 REFERENCES 9

11.0 DOCUMENT REVISION HISTORY 10

LOS ANGELES REFINERY POLICIES & PROCEDURES MANUAL			
Name: LAMT Soil Excavation			
Dept.: Environmental			Retention Code: HSE105
Section: X-X-XX	Issued: 5/24	Rev. 1	Page 2 of 10

1.0 REFERENCES

1.1 Prior to conducting excavation and if necessary, dewatering activities, consult with Phillips 66 Remediation Management and review the following documents:

- Human Health Risk Assessment and Ecological Risk Assessment for Petroleum-Related Compounds, Phillips 66 Los Angeles Refinery, Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. Trihydro. March 1, 2024.
- Human Health Risk Assessment and Ecological Risk Assessment for HVOCs, Unocal Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. Trihydro. March 1, 2024.
- Soil and Water Management Plan, Phillips 66 Los Angeles Refinery, Marine Terminal, Port of Los Angeles, Berths 148 - 151, Wilmington, California. Trihydro. May 23, 2024.

2.0 PURPOSE

2.1 The purpose of this policy is to define the procedures to be followed for soil excavation and handling to ensure compliance with South Coast Air Quality Management District (SCAQMD) Rule 1166, “Volatile Organic Compound Emissions from Decontamination of Soil”, and hazardous waste regulations. This P&P is specific to the Los Angeles Marine Terminal (LAMT).

3.0 SCOPE

3.1 This policy and procedure applies to excavating and handling of soils that are known to be, or are suspected of being, contaminated with volatile organic compounds (VOC), including soil removal due to leaks, spills and releases of hydrocarbon liquids and chlorinated liquids from an adjacent site.

3.2 Due to historical contamination, it must be assumed that excavation anywhere within the refinery will encounter VOC contaminated soil.

3.3 SCAQMD Rule 1166 has additional, more stringent requirements for removal of underground tanks that stored a VOC containing liquid. Because

LAMT does not have underground tanks, this P&P does not address tank removal.

4.0 DEFINITIONS

4.1 EXCAVATION

Any undertaking which results in the removal of one (1) cubic yard or more by digging, trenching, scraping, boring (for foundations, wells, etc.), grading to new contours, or relocation of any soils. This includes any handling (disposal, repositioning or reuse) of previously accumulated soils, removal of asphalt or concrete to expose soil for excavation, and cleanup or removal of soils due to leaks, spills, or releases.

4.2 HAZARDOUS WASTE

Wastes that are deemed a hazard to health or the environment and must be managed in accordance with regulatory requirements. Such wastes are designated by: 1) State of California or federal listings, or 2) characteristic testing. Soil that has >50 ppm VOC emissions, as measured with an OVA, or contains more that 1,000 PPM of Total Petroleum Hydrocarbon (TPH) in the soil, as determined by laboratory testing, must be managed as hazardous waste and cannot be reused on site.

4.3 OVA

Organic Vapor Analyzer, calibrated to hexane.

4.4 COMPANY REPRESENTATIVE

The Company employee responsible for initiating and/or supervising the excavation work onsite.

4.5 SEALED CONTAINER

A drum; a standard, roll-off bin covered by a tarp that has no tears or holes, and the soil is completely wrapped with plastic; or a “hard topped” bin that has a rigid, gasketed cover.

4.6 VOLATILE ORGANIC COMPOUND (VOC)

Any volatile compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds. Exempt compounds are defined in SCAQMD Rule 102.

4.7 VOC CONTAMINATED SOIL

Soil that registers a concentration of 50 ppm emissions 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 (OVA) calibrated with hexane.

4.8 VOC CONTAMINATED SOIL MITIGATION PLAN

A plan to minimize VOC emissions to the atmosphere during excavation and any subsequent handling of VOC-contaminated soil.

4.9 DEWATER

Remove groundwater or accumulated water from an excavation.

5.0 REPRESENTATIVE SAMPLING

5.1 Prior to conducting excavation work, representative soil samples are required to be collected and analyzed from the planned excavation area.

5.2 If groundwater water accumulates within an excavation, representative water samples are required to be collected and analyzed.

5.3 Representative samples must be submitted to a certified contract laboratory under Chain of Custody.

5.4 Based on past operations and historical data, representative samples must be analyzed for the following, at a minimum:

- Fuel fingerprint of TPH-GRO and TPH-DRO by LUFT/FFP
- TPH carbon chain identification by USEPA Method 8015CC
- VOCs by USEPA Test Method 8260B

5.5 Additionally, P&P 3-2-9 Hazardous Waste Disposal sampling guidelines should be followed.

LOS ANGELES REFINERY POLICIES & PROCEDURES MANUAL			
Name: LAMT Soil Excavation			
Dept.: Environmental			Retention Code: HSE105
Section: X-X-XX	Issued: 5/24	Rev. 1	Page 5 of 10

6.0 STANDARDS

6.1 The following are the minimum requirements to comply with SCAQMD Rule 1166. The contractor's "VOC Contaminated Soil Mitigation Plan" (Plan) may have additional, or more stringent, requirements. The Company Representative and Contractor are responsible for work-site compliance with the contractor's Plan.

6.2 The Company Representative shall notify Environmental, and provide a copy of the contractor's Plan and SCAQMD Rule 1166 Notification Form, prior to starting any soil excavation.

6.3 Use only contractors that have a current "VOC Contaminated Soil Mitigation Plan" approved by the SCAQMD.

6.3.1 Contractor must notify the SCAQMD at least 24 hours prior to starting any excavation using a SCAQMD Rule 1166 Notification Form.

6.3.2 Contractor must have a copy of their approved Rule 1166 Plan and all notification(s) on site, and monitor for VOC emissions with an OVA at least every 15 minutes and keep a log of all readings per their approved Plan.

6.4 Contractor must notify the SCAQMD again, within 24 hours, if VOC contaminated soil with >50 ppm emissions is detected.

6.5 Once detected, VOC contaminated soil with >50 ppm emissions must be handled as follows:

6.5.1 Segregate VOC contaminated excavated soil from clean soil by: stockpiling on plastic sheeting; placing in drums; wrapping in plastic inside standard roll-off bins with tarps; or placing in hard topped roll-off bins.

6.5.2 Spray contaminated excavated soil in containers or stockpiles with water and/or odor suppressants.

6.5.3 During periods of inactivity lasting more than one hour: completely cover stockpiles with plastic sheeting; cover drums with lids; cover

soil inside standard roll-off bins with plastic and secure the tarp; or close the cover of hard-topped bins.

6.5.4 Conduct a daily inspection of stock piles and/or containers to ensure integrity of covers.

6.5.5 Soil with >50 ppm emissions must be handled as hazardous waste and may not be reused on site. Contact Hazardous Waste Coordinator for proper disposal.

6.6 Contractor must notify the SCAQMD a third time, within one hour, if VOC contaminated soil with >1000 ppm emissions is detected.

6.7 Once detected, VOC contaminated soil with >1000 ppm emissions must be handled as follows:

6.7.1 Place soil only in drums or hard-topped bins within 15 minutes of excavation. Do not use standard bins with tarps or place in stockpiles on plastic sheeting.

6.7.2 Spray the exposed excavation site, and excavated soil in drums or bins, with water and/or vapor suppressants.

6.7.3 Conduct a daily inspection of containers to ensure integrity of covers.

6.7.4 Soil with >1000 ppm emissions must be handled as hazardous waste and may not be reused on site. Contact Hazardous Waste Coordinator for proper disposal.

6.8 Exemptions

6.8.1 Excavations of less than one cubic yard.
6.8.2 Removal of soil for sampling purposes.
6.8.3 Removal of soil to clean up spills of 5 gallons or less.

6.9 Handling of Excavated Soil

6.9.1 Excavated VOC contaminated soil with >1000 ppm or >50 ppm emissions as measured with an OVA cannot be reused and must be

handled and disposed of in accordance with the contractor's mitigation Plan, and also P&P 3-2-9, Hazardous Waste Disposal.

6.9.2 Excavated soil with <50 emissions and with <1,000 PPM Total Petroleum Hydrocarbon (TPH) in the soil based on laboratory testing, and is also not a hazardous waste due to other contaminants, may be used for back fill or placed in the refinery's clean soil stockpile. Contact the Maintenance Hazardous Waste Coordinator for sampling and testing before using for backfill or placing in the clean soil stockpile.

7.0 HANDLING OF DEWATERED LIQUIDS

7.1 Dewatered liquids must be containerized and characterized for proper disposal in accordance with the P&P 3-2-10 Portable Waste Container Management and Inspection, and also P&P 3-2-9 Hazardous Waste Disposal.

7.2 Excavated VOC contaminated soil with >1000 ppm or >50 ppm emissions as measured with an OVA cannot be reused and must be handled and disposed of mitigation Plan, and also P&P 3-2-9 Hazardous Waste Disposal.

8.0 ROLES AND RESPONSIBILITIES

8.1 Contractor

8.1.1 Apply for and obtain a VOC Contaminated Soil Mitigation Plan approved by the SCAQMD.

8.1.2 Sign the Plan certification on behalf of the General Contractor and Excavation Contractor.

8.1.3 Make all necessary notifications to SCAQMD required prior to and during soil excavation work activity.

8.1.4 Conduct soil excavation work in compliance with the requirements contained in the Plan.

8.2 Company Representative

8.2.1 Coordinate with Environmental to ensure that all contractors conducting soil excavation work have a valid Plan.

8.2.2 Sign the Plan certification on behalf of the Responsible Party.

8.2.3 Supervise work of the contractor to ensure that all soil excavation work activity is done in compliance with the Plan.

8.3 Environmental

8.3.1 Coordinate with Company Representative to ensure that all contractors conducting soil excavation work have a valid Plan.

8.3.2 Conduct periodic inspections of soil excavation work activity to evaluate compliance with the Plan.

8.4 Remediation Management

8.4.1 Review historical site impacts with Environmental and Company Representative

8.4.2 Coordinate with Company Representative to ensure that all contractors conducting soil excavation work have a valid Plan.

LOS ANGELES REFINERY POLICIES & PROCEDURES MANUAL			
Name: LAMT Soil Excavation			
Dept.: Environmental			Retention Code: HSE105
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9.0 P&P REVIEW / TRAINING REQUIREMENTS

P&P REVIEW / TRAINING REQUIREMENTS

Work Group	Level of Training Required			
	1	2	3	4
Administrative Assistants				X
Business Analysis				X
Capital Projects				X
Emergency Response Team (ERT)				X
Environmental Services			X	
Finance				X
GIS				X
Health & Safety				X
Human Resources				X
Laboratory				X
LAMT Staff				X
LAMT Operations				X
LAMT Maintenance			X	
Material Management				X
Medical Department				X
Mechanical Integrity				X
New Construction			X	
Process Engineering & Optimization				X
Project Engineering			X	
Public Relations				X
Refinery Leadership Team				X
Security				X
Warehouse				X

Training Levels:

Level 1: Formal Classroom Training/Skill Verification Required
Level 2: Complete LMS/Self– Familiarization Training Module
Level 3: Safety/Team Meeting Review Required
Level 4: Familiar with Change / Review Not Required

10.0 REFERENCES

- Rule 1166 – Volatile Organic Compound Emissions From Decontamination of Soil (SCAQMD – Adopted August 5, 1988, Amended July 14, 1995, and Amended May 11, 2001).
- P&P 3-2-9 Hazardous Waste Disposal
- P&P 3-2-10 Portable Waste Container Management and Inspection

LOS ANGELES REFINERY POLICIES & PROCEDURES MANUAL			
Name: LAMT Soil Excavation			
Dept.: Environmental			Retention Code: HSE105
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11.0 DOCUMENT REVISION HISTORY

Approved By	Author(s)	Revision	Date Implemented	Reason
M. Waller	HSE	8	12/1/12	Minor updates to various sections and added a definition and Table of Contents and the following sections: Roles and Responsibilities, Training Requirements, References, and Document Revision History.
M. Waller	HSE	9	4/16	Changed “Phillips 66” to “Company”.
		1	5/24	Updated P&P specific to LAMT.

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March 8, 2024

Dr. Jeffrey Thompson, Ph.D., P.G., C.Hg.
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: UNOCAL Marine Terminal, 885 S. Pier A Street, Berths 148-151
Port of Los Angeles, Los Angeles, CA
Soil Management Plan

Dear Dr. Thompson:

This statement is being provided per the California Regional Water Quality Control Board's, *Order to Provide Technical Report,* under California Water Code §13267. Please note that this statement should be read in conjunction with the referenced document and any comments on the referenced document that are provided concurrently with the statement.

On March 8, 2024, Langan CA, Inc. submitted the referenced document on behalf of Occidental Chemical Corporation, Glenn Springs Holdings, Inc. according to the January 16, 2024, communication from the California Regional Water Quality Control Board which references Cleanup and Abatement Order No. R4-2022-0139, dated July 7, 2022.

> "I certify under penalty of perjury that I am Michael Christopher, Senior Project Manager for Occidental Chemical Corporation, Glenn Springs Holdings, Inc. (Occidental) and that the *Soil Management Plan*, was prepared under the direction or supervision of an Occidental employee whose responsibilities included ensuring that qualified personnel properly gathered and evaluated the information submitted to the California Regional Water Quality Control Board at the time it was provided. Based on my inquiry of the person or persons responsible for gathering the information, the information submitted to the California Regional Water Quality Control Board in the above referenced document was, to the best of my knowledge and belief, true, accurate, and complete at the time it was submitted."

I do so certify, this 8th day of March 2024

Michael Christopher
_____
Michael Christopher, PE
Senior Project Manager
Occidental, Glenn Springs Holdings, Inc.

Please contact me at (713) 366-5143 or Michael_Christopher@oxy.com if you have any questions or require additional information.

Sincerely,

Michael Christopher

Michael Christopher, P.E.
Senior Project Manager
Glenn Springs Holdings, Inc.

SOIL MANAGEMENT PLAN

UNOCAL Marine Terminal, Sliver Site
560 Pier "A" Place
Port of Los Angeles
Los Angeles, California

Prepared For:

Occidental Chemical Corporation
Glenn Springs Holdings, Inc.
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Prepared By:

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8 March 2024
Project No. 700099601

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FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan

ATTACHMENTS

Attachment A POLA Environmental Guidance for Industrial Fill

SOIL MANAGEMENT PLAN
UNOCAL Marine Terminal, Sliver Site
560 Pier "A" Place
Port of Los Angeles, Los Angeles, California

1.0 INTRODUCTION

On behalf of Occidental Petroleum Corporation (Oxy) and Glenn Springs Holdings, Inc. (GSH), Langan CA, Inc. (Langan) has prepared this Soil Management Plan (SMP) for the UNOCAL Marine Terminal Site Sliver Site (the Site) at 560 Pier "A" Place, Los Angeles, California (Figure 1). The Site is a 0.74-acre, vacant area located within the 15-acre Port of Los Angeles property (POLA) and between portions of the larger Phillips 66 Los Angeles Refinery Marine Terminal (LAMT), Berth 148-151, a bulk fuel terminal facility.

In their 16 January 2024 letter responding to Langan's 2023 Halogenated Volatile Organic Compounds *(*HVOCs) IRAP Amendment for Shallow Soils, the Los Angeles Regional Water Quality Control Board (LARWQCB) stated the following: *…HVOCs in shallow soils could result in construction worker exposure during soil movement if appropriate controls are not implemented. To address this potential exposure scenario, a soil management plan for the Sliver Area is required…*

Langan has prepared this SMP in response to the LARWQCB's request.

1.1 Objectives and Limitations of SMP

The objectives of this SMP are as follows:

- Provide protocols and procedures to be utilized during redevelopment activities whereby soil is excavated;
- Provide procedures to properly handle manage, dispose, and document impacted soils encountered during future Site redevelopment; and
- Protect human health and the environment during future redevelopment.

This SMP does not address geotechnical or structural considerations associated with soil excavation to prevent collapse, cave-ins, or damage to existing structures and utilities. Additionally, this SMP is considered minimum criteria and additional evaluation(s) may be necessary depending on site specific circumstances and/or development plans.

2.0 SITE BACKGROUND AND HISTORY

2.1 Site History

Historical records indicate that the Site was used for bulk chemical storage and distribution of HVOCs from 1949 through 1993, when equipment, storage tanks, and handling infrastructure were dismantled. No operations at the Site have been conducted since approximately 1992, and the Site has been unoccupied since 1993. POLA records and other documents show that historical releases of HVOCs on the Site appear to have been concentrated in areas where HVOC handling, and conveyance occurred. Areas of the Site are contaminated with petroleum hydrocarbons, including light non-aqueous phase liquid (LNAPL), which are believed to have been released from the petroleum storage and operations that surround the Site.

2.2 Site Geology

The Site and larger LAMT were reportedly constructed on hydraulic fill consisting of dredged harbor sediments. The dredged material consists of unconsolidated, laterally discontinuous, and largely heterogeneous zones of silty sand, sandy silt, and lenses of homogeneous coarse sand with shell fragments. Site soils typically become finer grained with depth. The top of a semi-confining layer, consisting of finely laminated, undisturbed, gray-green to olive green silts and clays, is generally encountered at depths of 35 to 50 feet below ground surface (bgs).

2.3 Site Hydrogeology

Groundwater beneath the Site and larger LAMT has been investigated to a depth of approximately 60 feet bgs. There are 24 groundwater monitoring wells on the Site or in the near vicinity of the Site boundary. The 24 groundwater monitoring wells are screened at various depths that correspond to either the shallow or deep groundwater zones, which are defined as follows:

- A shallow groundwater zone from approximately two to nine feet bgs (depending on tidal stage) to approximately 30 feet bgs; and
- A deep groundwater zone from approximately 30 to 50 feet bgs.

Groundwater at the Site has been encountered as shallow as two feet bgs and is tidally influenced. In April 2023, groundwater depth at low tide in Site monitoring wells was measured to be between five and nine feet bgs (TriHydro, 2023). Groundwater elevation fluctuations and salinity, as indicated by electrical conductivity measurements of 45,000 µS/cm, support that

groundwater beneath the Site is strongly influenced by the surrounding ocean water. Site groundwater is not potable.

The tidal influence on groundwater elevation decreases to the north, with increasing distance from the harbor channel. Monitoring wells screened in the deep groundwater zone show piezometric fluctuations of approximately 1.5 feet and 0.5 hours of lag time from tidal cycles; monitoring wells screened in the shallow groundwater zone show piezometric fluctuations of approximately 0.5 feet and 1.5 hours of lag time from tidal cycles. The groundwater flow direction in the shallow and deep zones at high and low tides is summarized in Table 1. In summary, twice daily tidal fluctuations are mirrored in the groundwater flow and direction.

Table 1
Groundwater Flow Direction Summary

Groundwater Zone	Tide	Groundwater Flow Behavior
Shallow Zone	High Tide	Groundwater flow is generally north during high tide.
	Low Tide	A local groundwater divide forms during low tide as a mound in the central portion of the Sliver Site, with radial flow away from the mounded area. The gradient appears steeper towards the shoreline and flatter in the upland area.
Deep Zone	High Tide	Groundwater flows generally to the north-northeast towards the shoreline and to the southeast in the upland area.
	Low Tide	Groundwater generally flows to the southwest towards the shoreline and north-northeast in the upland area.

3.0 CURRENT ENVIRONMENTAL CONDITIONS

Historical operations at the Site primarily included the transport, distribution, and storage of HVOCs, specifically trichloroethylene (TCE), tetrachloroethylene (PCE), and trichloroethane (TCA), until the early 1990s. There were multiple solvent handling areas within the boundaries of the Site, and because of the historical operations at the property, HVOCs have been identified as contaminants of potential concern (COPCs).

3.1 Soil

In 2015, Trihydro conducted soil sampling at 21 locations within the Site and within and in the vicinity of the Site (Trihydro, 2015). The most predominant HVOCs and the maximum detected concentrations included (see Figure 2 for sampling locations):

- PCE (610 milligrams per kilogram [mg/kg] at IW-7),
- TCE (1,200 mg/kg at IW-14),
- 1,1-DCA (46 mg/kg at IW-14),
- 1,1,1-TCA (910 mg/kg at IW-14),
- 1,1,-DCE (22 mg/kg at IW-6),
- 1,2-DCA (0.0013 mg/kg at IW-10),
- Cis-1,2-DCE (22 mg/kg at IW-12),
- Trans-1,2-DCE (5.7 mg/kg at IW-8),
- Methylene chloride (390 mg/kg at IW-8), and
- Vinyl chloride (26 mg/kg at IW-15).

3.2 Groundwater

In the most recent groundwater monitoring event conducted in the spring of 2023, 28 wells were sampled and analyzed for HVOCs, eight of which are located within the Site or within the vicinity of the Site (Trihydro, 2023). The most predominant HVOCs and the maximum detected concentration included (see Figure 2 for sampling locations):

- PCE (67,000 micrograms per liter (µg/L); L-4),
- TCE (85,000 µg/L; L-7),
- 1,1,1-TCA (180,000 µg/L; L-4),
- 1,1-DCE (33,000 µg/L; L-4),
- 1,2-DCE (320,000 µg/L; L-7),
- Cis-1,2-DCE (320,000 µg/L; L-7),
- Trans-1,2-DCE (5,200 µg/L; L-7),
- 1,1-DCA (66,000 µg/L; L-9),
- 1,2-DCA (140 µg/L; L-7),
- Methylene chloride (24,000 µg/L; L-7), and
- Vinyl chloride (200,000 µg/L; L-7).

4.0 HEALTH AND SAFETY

Working near contaminated media at the Site may present a health and safety exposure concern, depending on the nature and extent of hazardous substances present. The contractor is responsible for all health and safety controls on the jobsite. Potential routes of exposure to hazardous substances are through the following four exposure pathways:

- Dermal (skin) contact with soil, liquid, or other media containing hazardous substances;
- Inhalation of chemically-affected dust;
- Inhalation of volatile organic compounds (VOCs) from contaminated soil or soil gas; and
- Ingestion of soil, liquid, or other media containing hazardous substances.

Prior to the initiation of construction activities, any on-site contractors that may contact potentially contaminated media at the Site are required to prepare a site-specific health and safety plan (HASP) that complies with applicable occupational health and safety standards, including, but not limited to Occupational Safety and Health Administration (OSHA) Section 29 CFR 1910.120 and California Code of Regulations, Title 8, Section 5192. Hazardous Waste Operations and Emergency Response (8 CCR 5192).

The contractor-specific HASPs must be maintained by the contractor at the Site. All HASPs must be maintained by on-site environmental health and safety personnel. This section is not intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under relevant federal, state, or local statutes. Personnel conducting the work are responsible for reviewing information about Site conditions, potential health and safety concerns, and toxicological information for contaminants of concern (COCs) or COPCs when preparing a HASP for the Site. Contractors working in areas of known or suspected impacts must ensure that workers have appropriate health and safety training, site-specific training, and personal protective equipment (PPE) as determined by the relevant HASP.

5.0 SOIL MANAGEMENT PROCEDURES

The sections below detail general soil management procedures to be implemented at the Site during general construction related activities.

All on-site work that involves disturbances of soil should be conducted by the contractor in a manner that minimizes worker exposure and protects public health and the environment from

potential Site contaminants, including dust, and should be in accordance with the soil management methods described within this plan. Additionally, prior to any soil disturbance activities for which this SMP is intending to address, all appropriate stakeholder approvals and/or permits will be obtained.

It is assumed that all soil disturbances will be conducted under a Site construction Storm Water Pollution Prevention Plan (SWPPP), to be prepared by the contractor.

If soil is observed to have an irregular or peculiar odor, staining, and/or photoionization detector (PID) readings at a concentration of 50 parts per million (ppm) or more, it is to be excavated and placed in a separate stockpile and managed as potentially impacted soil. These soils will need to be characterized via sampling to determine proper disposition.

5.1 Soil Screening for Potential Impacts

Soil removed from areas of known COCs shall be observed for visual and olfactory evidence including evidence of soil staining/discoloring (black, grey, etc.), petroleum odors, and other chemical odors as well as for field VOC concentrations. The soil removed from areas of known COCs is to be stockpiled onsite as described in Section 5.2 or loaded directly onto trucks for offsite transport for pre-characterized soil. Field VOC readings will be obtained and documented using a calibrated organic vapor analyzer equipped with a photoionization detector (PID) in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1166. Soils with PID readings greater than 1,000 ppm will be placed in sealed containers or directly loaded into covered trucks for off-site disposal.

5.2 General Stockpile Management

In general, soil removed from areas of known COCs should be segregated and may be either stockpiled onsite or direct loaded onto trucks for offsite disposal and/or treatment as characterized based on existing data (and depending upon receiving facility requirements). Non-impacted soil removed may be stockpiled for potential backfill material or offsite disposal/treatment as non-hazardous soil. Potentially impacted soil should be segregated from other soils and the Contractor should place the excavated potentially impacted soil in pre-determined areas as delineated in the Contractor's approved SWPPP. Caution should be exercised during handling and transportation not to cross-contaminate the surrounding areas. Impacted soil, or potentially impacted soil, must be placed on Visqueen™ (or similar) and never placed directly on the existing ground surface soils. If soil is confirmed to be impacted, the

impacted soil will be placed in different areas from the potentially impacted soil and non-impacted or clean soil in the staging area. Soil stockpiled will be covered with Visqueen™ (or similar) and secured with sandbags (or equivalent) to control dust and prevent runoff during storm events. Stockpiles will not be placed near storm drain inlets.

Any soil exceeding the established screening criteria detailed in Section 5.7 is considered to be impacted and cannot be reused onsite.

5.3 Loading and Transport

Loading will be conducted in a designated area if not directly adjacent to the excavation.

Hazardous waste transport will be performed in accordance with U.S. Department of Transportation regulations in 49 CFR Parts 171 and 180, CFR Part 262, Subpart B, and Title 22 of the California Code of Regulations (CCR) Section 66262.

Trucks hauling contaminated soil, sand, or gravel will follow South Coast Air Quality Management District (SCAQMD) Rule 403 best available control (BAC) measures and the following additional requirements:

- Maintain at least 6 inches of freeboard.
- Cover all materials.
- Install liners in trucks hauling impacted soil to prevent any discharge of liquid.

5.4 Decontamination

Any equipment used to excavate impacted media will be decontaminated before moving to a non-impacted area. All waste materials generated during decontamination of equipment will be contained, characterized, and disposed of in conformance with all local, state, and federal regulations and guidelines.

5.5 Dust Control

The Contractor shall conduct all excavation and backfill activities in accordance with SCAQMD Rules 402 (Nuisance) and Rule 403 (Fugitive Dust). Soil excavation, handling, and loading operations shall be conducted in such a way as to minimize disturbance to impacted soil and potentially impacted soil and reduce the amount of particulate matter entrained in the ambient air both in and out of the work zone resulting from fugitive dust sources.

5.5.1 VOC-Contaminated Soil

SCAQMD Rule 1166 monitoring shall be conducted during excavation, loading, and stockpiling activities of all impacted soil and potentially impacted soil. Monitoring shall be conducted at a minimum frequency of one reading every fifteen minutes commencing at the beginning of excavation and in accordance with SCAQMD Rule 1166. PID field readings of 50 parts per million by volume (ppmv) or higher will be considered VOC-contaminated soil.

Monitoring observations during earthwork activities will be recorded by the Contractor in a daily log which will include locations of visually impacted soil, locations and concentrations of PID field readings in accordance with SCAQMD Rule 1166, including calibration logs and conversions from isobutylene to hexane VOC readings.

5.6 Stockpile Sample Collection and Analyses

The existing analytical data of soil from known impacted areas may be used to profile the excavated soil if the historical data is considered representative of the soil by the receiving disposal and/or treatment facility. As referenced above, soil samples were previously collected by Trihydro in 2015. Additional soil samples will be collected in 2024 as described in Langan's *HVOC Shallow Soil Sampling Plan*.

If existing analytical data is not considered representative by the receiving disposal and/or treatment facility, the soil shall be stockpiled and sampled for characterization. The stockpiles will be divided by measurement into equally-sized (by volume) quadrants (four sections), and one grab sample will be collected from each quadrant in separate sample containers to be composited by the laboratory into a single sample for analyses. Samples will be collected from the soil stockpiles at the following frequency:

Stockpile Volume	Sample Frequency	Minimum Number of Samples	Maximum Number of Samples
Equal to or less than 500 CY	1 sample per 100 CY	1	5
Equal to or less than 1,000 CY but greater than 500 CY	1 sample per 100 CY for the first 100 CY plus 1 sample per each additional 250 CY	3	5
Equal to or less than 5,000 CY but greater than 1,000 CY	1 sample per 250 CY for the first 1,000 CY plus 1 sample per each additional 500 CY	4	12

Equal to or less than 20,000 CY but greater than 5,000 CY	12 samples for the first 5,000 CY plus 1 sample per each additional 1,000 CY	12	27
Greater than 20,000 CY	1 sample per 1,000 CY for the first 20,000 CY plus 1 sample per each additional 1,000 CY	20	--

Note: CY = cubic yards

All soil and liquid waste samples will be submitted to an analytical laboratory certified by the California State Water Resources Control Board (SWRCB) for the following analytical methods:

- VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B and collect soil by U.S. EPA Method 5035
- TPH-gasoline carbon chain range C6 to C12 by U.S. EPA Method 8015 Modified and collect soil by U.S. EPA Method 5035
- TPH-diesel carbon chain range C9 to C25 by U.S. EPA Method 8015 Modified
- TPH-motor oil carbon chain range C24 to C40 by U.S. EPA Method 8015 Modified
- Total TPH carbon chain range C6 to C40 by calculation
- PAHs by U.S. EPA Method 8310
- Title 22 Metals by U.S. EPA Method 6010B, 6020 (selenium), and 7471A (mercury)

Soluble metals concentrations may be needed to determine California and/or Federal waste classifications and shall be conducted when total metal concentrations exceed screening criteria as follows:

- Waste Extraction Test (WET) when the total metal concentrations exceed ten times the soluble threshold limit concentration (STLC) per Title 22 CCR, Division 4.5, Chapter 11.
- Toxicity characteristic leaching procedure (TCLP) by the Solid Waste (SW)-846 Method 1311 when the total metals concentrations exceed twenty times the TCLP.

5.7 Disposition of Soils

The results of the sampling and analysis will be used to evaluate the dispositions of soils. Soil samples will be compared to the most recently published San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESL) and the Port of Los Angeles' Import Fill and Reuse Criteria, dated December 2021 (Attachment A). Soils below applicable standards are acceptable for reuse on-site. Soils above applicable standards should be characterized and

profiled for disposal. Soil proposed for off-site disposal must undergo waste characterization sampling and analysis in accordance with hazardous waste requirements outlined in the CCR Title 22 and requirements imposed by the facilities receiving waste.

5.8 Disposal of Soils

Soil designated for offsite disposal should be directly loaded from the stockpile into a container, dump truck, or trailer, and immediately transported to the licensed soil disposal facility. The material is be handled and transported in accordance with applicable Department of Transportation (DOT) regulations and other applicable local, state, and federal regulations. All transport of the stockpiled materials will be performed by licensed haulers with current permits in accordance with appropriate local, state, and federal regulations. Loaded vehicles leaving the Site will be appropriately placarded, lined and securely covered in accordance with applicable federal, state, local, and DOT requirements (or other applicable transportation requirements).
Before transporting soil off-site, trucks must use a tarp cover (or equivalent) and soil must be sufficiently wetted during loading to avoid generating dust. Excess soil should be removed from bumpers, fenders, or other exterior surfaces of the cargo compartment where soil may collect. Haul trucks transporting soil off-site must follow established Site access protocols, as required, to meet the requirements of the Site's construction SWPPP.

If warranted, Site personnel may be stationed at the access and egress points to monitor inflow into and outflow from the Site, document truck number, destination, and truck ticket number. Site personnel must inspect all trucks exiting the Site and must conduct necessary cleaning to prevent track out.

Soil excavated and removed from the Site should be tracked using bills of lading, tickets or manifests to confirm disposal/placement area.

Impacted soil slated for off-site disposal must be transported only to a certified California landfill or an equivalent out-of-state landfill, as appropriate. Labeling requirements for transportation of waste shall be in accordance with Title 29 of the CFR, Parts 172 and 173, and any other applicable law. The contractor should document the exporting, tonnage/yardage, and the receiving facility of soil shipped offsite, and copies provided upon request.

5.9 Imported Soil Backfill

Soil to be imported to the Site as backfill will be imported from a documented clean source (e.g., virgin quarry material). A documented clean soil source will include environmental soil analytical data. This information shall be obtained and compared against criteria presented in the Port of Los Angeles' Import Fill and Reuse Criteria, dated December 2021 (Attachment A). The appropriateness of the provided test data will be evaluated by the contractor and approved by POLA, with consideration of sample date(s), approximate volume and/or acreage the sample(s) are representative of, and chemical tests conducted.

5.10 Groundwater Monitoring Well Protection

Earthwork overlapping with existing groundwater monitoring wells should be planned to avoid wells when possible, and as needed protection measures should be taken. Protection measures may include, but are not limited to, modifying the well casing and well boxes to accommodate changes in grade. It may also be necessary to abandon wells prior to earthwork and install replacement wells after earthwork is completed. Los Angeles County Department of Public Health requires submittal of well permit applications for approval in advance of well abandonment and installation. Modification, abandonment, and installation of wells is required to be performed by a California C-57 licensed contractor.

6.0 IDENTIFICATION AND MANAGEMENT OF OTHER CONDITIONS

The section below describes other conditions that may require special handling and management under this SMP.

The following conditions, if encountered at the Site or within areas immediately adjacent to the Site, may require additional assessment:

- Soil with unusual coloring or staining, which may indicate the presence of VOCs or TPH
- Soil with strong or unusual odors, which may indicate the presence of VOCs or TPH
- Oily or shiny soil or soil saturated with free-phase petroleum product
- Soil vapor indicated by strong or unusual odor
- Oil or other petroleum hydrocarbon materials
- Unknown or unidentified liquids
- Buried structures, including, but not limited to, former underground storage tanks, pipelines, sumps, or vaults that may potentially contain hazardous materials

- Former wells
- Other unanticipated conditions not listed above

Encountering these conditions at the Site during grading, construction, or development may present a health and safety exposure concern, depending on the nature and extent of hazardous substances or petroleum products that may be associated with the condition. If such conditions are encountered, the contractor must stop work, secure the Site, and provide health and safety guidelines for personnel for the new conditions.

7.0 AIR MONITORING

SCAQMD is the jurisdictional agency for all impacts and protections related to air quality to the Site. The following permits may be required to be obtained by the contractor prior to and enforced during construction activities:

- SCAQMD Rule 403 – Fugitive Dust
- SCAQMD Rule 1166 – VOC Emissions from Decontamination of Soil
- SCAQMD Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants

SCAQMD Rule 1166 and Rule 1466 Permits are required for earth-moving and handling of impacted soil. A site-specific Rule 1166 Various Locations Mitigation Plan and/or site-specific Rule 1466 Permit Notification will have to be submitted for the project. This SMP addresses elements of the Rule 1166 Mitigation Plan but would be a standalone document submittal by the contractor to SCAQMD.

8.0 WATER MANAGEMENT PROCEDURES

As discussed in Section 2.3 above, groundwater has been encountered as shallow as two feet bgs and is tidally influenced. Therefore, construction-phase dewatering and disposal of groundwater may be required. Unless proper prior authorization and/or permits are obtained, any groundwater removed from the Site cannot be discharged into Site groundwater or discharged to land or water on or offsite. All removed groundwater is required to be properly stored onsite, sampled for characterization, and transported to a regulated treatment and/or disposal facility offsite.

9.0 DOCUMENTATION

Daily logs summarizing site activities, including calibration logs and air monitoring data, field notes, and import and export soil documentation (including bills of lading or haul tickets, truck numbers, etc.) will be prepared. Additional documentation requirements following completion of the soil work will include final laboratory analytical reports, figures showing stockpile and sampling locations, final import and export volumes, waste manifests, etc. Documentation shall be maintained by the contractor, and copies will be provided to the appropriate stakeholders.

10.0 REFERENCES

Langan (2024) HVOCs Shallow Soil Sampling Plan, Amendment to: HVOCs Pilot Study Work Plan, UNOCAL Marine Terminal, Sliver Site, 560 Pier "A" Place, Port of Los Angeles, Los Angeles, California. February 15.

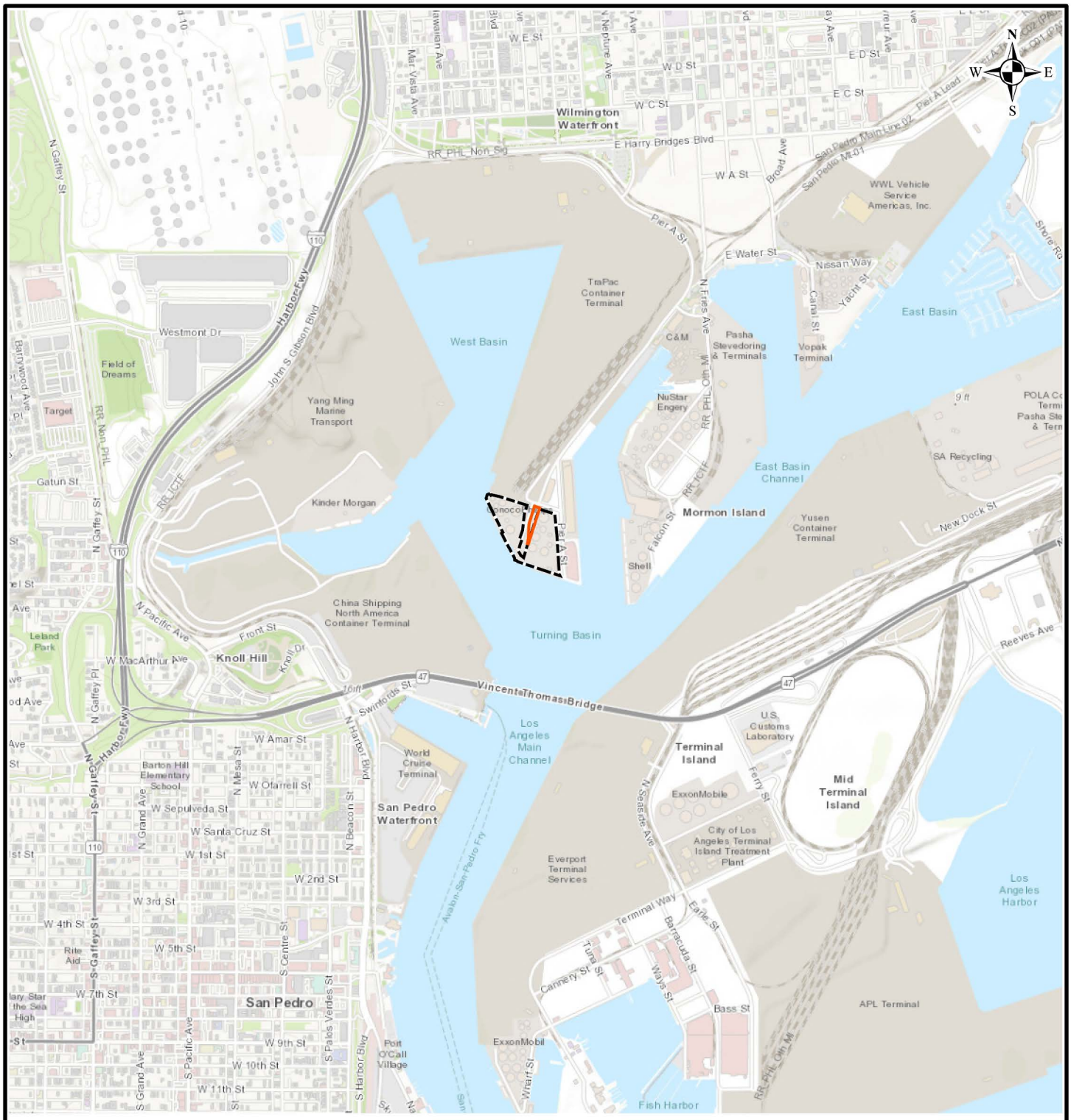
Port of Los Angeles (2021) Environmental Guidance for Industrial Fill Material. December

Terraphase (2022) Removal Action Work Plan/Interim Remedial Action Plan for HVOCs, Sliver Site, 560 Pier "A" Place, Wilmington, California. December 30.

TriHydro (2023) Semiannual Groundwater Monitoring and LNAPL Recovery Report, Phillips Los Angeles Refinery Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. July 21.

TriHydro (2015) Phase I and II Enhanced In Situ Bioremediation and Shallow Soil Sampling Report, Phillips Los Angeles Refinery Marine Terminal, 885 S. Pier A Street, Berths 148-151, Port of Los Angeles, Wilmington, California. November 17.

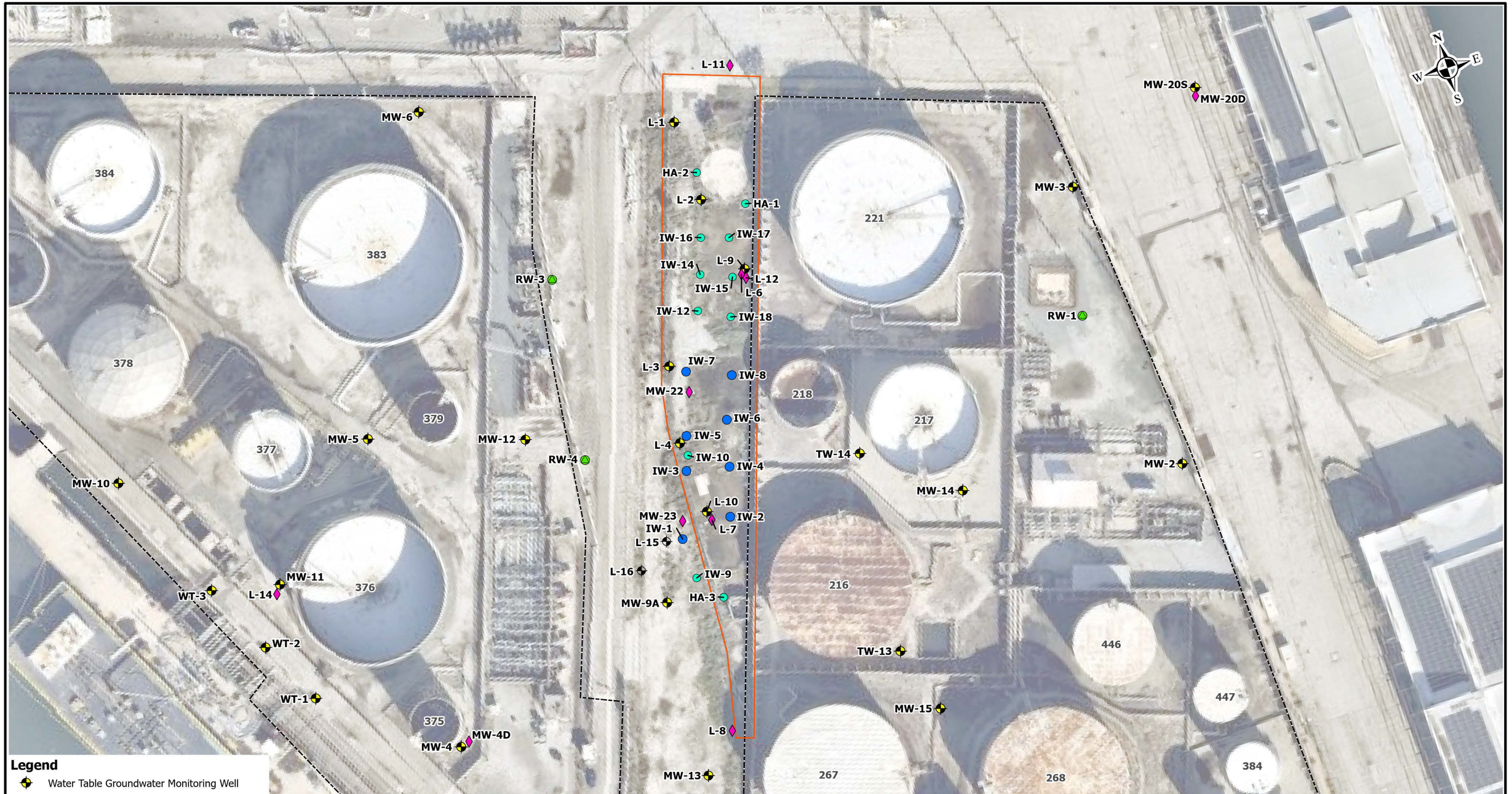
FIGURES



LANGAN Langan Engineering and Environmental Services, Inc. 18575 Jamboree Road, Suite 150 Irvine, CA 92612 T: 949.561.9200 F: 949.561.9201 www.langan.com	Project UNOCAL MARINE TERMINAL WILMINGTON LOS ANGELES COUNTY CALIFORNIA	Figure Title SITE LOCATION MAP	Project No. 700099602 Date 9/26/2023 Scale 1"=2,000' Drawn By TO	Figure 1

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Legend

- Water Table Groundwater Monitoring Well
- Deep Completion Water Table Groundwater Monitoring Well
- Recovery Well
- Injection Well/Shallow Soil Sample Location
- Abandoned Well Location
- Shallow Soil Sample Location
- Sliver Site Boundary
- Approximate Site Boundary

Notes:
1. Aerial imagery provided by Langan's subscription to Nearmap.com. Imagery dated 1/17/2023.
2. All features shown are approximate.
3. Based on TriHydro ISB Pilot Study Figure 3, dated 08/24/2015.

75 0 75
SCALE IN FEET

LANGAN

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Project
UNOCAL MARINE TERMINAL
WILMINGTON
LOS ANGELES COUNTY CALIFORNIA

Figure Title
SITE MAP

Project No. 700099603	Figure 2
Date 2/29/2024	
Scale 1" = 75'	
Drawn By TO	

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Attachment A

POLA Environmental Guidance for Industrial Fill

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

09/2021