ETIC
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13 August 2020

Mr. James Ryan
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Well Installation Work Plan, 25808 Narbonne Avenue, Lomita, California 93620
Case No. I-05152C

Dear Mr. Ryan:

At the request of ExxonMobil Environmental and Property Solutions Company, on behalf of ExxonMobil Oil Corporation (ExxonMobil), and Hanukah, Inc. (Hanukah), ETIC has prepared this Well Installation Work Plan for the above-referenced site for your review and comment. This document has been prepared in response to the Los Angeles Regional Water Quality Control Board (LARWQCB) letter dated 14 July 2020. This work plan outlines the plan to install three onsite groundwater monitoring wells to evaluate the extent of petroleum hydrocarbons in soil and groundwater at the site. Site maps are included in Attachment 1 and the LARWQCB letter is included in Attachment 2.

Site Location

The site is located on the southeast corner of the intersection of Pacific Coast Highway and Narbonne Avenue in Lomita, Los Angeles County, California (Figures 1 and 2). The Assessor's parcel number is 7553-006-043 and the parcel covers approximately 0.37 acres. The site is currently occupied by a Shell branded service station, carwash, and associated parking lot (Figure 3) and is owned and operated by Hanukah.

Site Geology and Hydrogeology

Based on soil borings advanced at the site, soil beneath the site consists of clays, sandy clays, sandy silts, and sands (ETIC 2020). From the ground surface to approximately 8 to 15 feet below ground surface (bgs), the lithology primarily consists of clays, below which is primarily sandy clay, with interbedded clays, sands, and silty sands to a depth of approximately 70 feet bgs. The sandy clay is underlain by a primarily sandy unit from approximately 70 feet bgs to the total depth explored, 140 feet bgs. Groundwater was encountered beneath the site at approximately 138 feet bgs (ETIC 2020).

Proposed Scope of Work

ETIC proposes to install three onsite groundwater monitoring wells (MW-1 through MW-3) to further evaluate the vertical and horizontal extents of petroleum hydrocarbons beneath the site, and to determine groundwater flow direction and gradient. Proposed well construction details are provided in Figure 4. Field protocols are described in Attachment 3.

Groundwater monitoring well installation activities will include the following:

- Prior to mobilization to the field, ETIC will obtain a groundwater monitoring well permit from Los Angeles County Public Health, Environmental Health, Drinking Water Program. A site-specific health and safety plan will be prepared and reviewed prior to each day of field activities.
- USA Dig Alert will be notified, and a private utility locator will also be retained to survey the boring locations for utilities.
- The boreholes will initially be advanced using a hand-auger or air knife and vacuum system to approximately 8 feet bgs, and then with a hollow-stem auger drill rig. The borings will be advanced to a total depth of 150 feet bgs.
- Soil samples will be collected at 5 feet bgs, and then at 5-foot intervals to the total depth of each boring. Lithologic changes and potential zones of hydrocarbon impact identified based on field observations also will be sampled.
- Soil samples will be stored with ice in a thermally insulated cooler, and then transported and delivered to Eurofins Calscience, LLC, of Garden Grove, California, a state-certified analytical laboratory under chain-of-custody protocol.
- The remaining sample contents will be examined for lithologic soil characteristics in accordance with the Unified Soil Classification System (USCS) and the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), ASTM International (ASTM) Designation D2488 (ASTM 2008) and screened in the field with a photoionization detector (PID) to assess relative hydrocarbon content.
- The soil samples will be analyzed for the following constituents:
    - Total petroleum hydrocarbons quantified as gasoline (TPH-g) and diesel (TPH-d) by U.S. Environmental Protection Agency (EPA) Method 8015B.
    - Volatile organic compounds (VOCs) by EPA Method 8260B Full Scan.
- Following soil sample collection, the soil borings will be completed as 4-inch-diameter groundwater monitoring wells screened from 130 to 150 feet bgs.
- The wells will be surveyed by a licensed surveyor.
- Investigation derived waste will be temporarily stored onsite in steel, 55-gallon drums pending waste profiling, and then transported to an approved disposal facility.

Groundwater monitoring well sampling activities will include the following activities:

- At least 72 hours following installation, the wells will be developed. Well development protocols are included in Attachment 3.
- At least 48 hours following well development, the wells will be sampled using the following procedure:
    - Prior to sampling, the wells will be gauged for depth to water and results recorded on the field data sheets.
    - The wells will be purged of at least three casing volumes and then sampled using a clean disposable bailer. If the well screen is submerged after purging, the sample will be collected from the groundwater pump set at a low flow rate with the inlet 1 to 2 feet below the top of the well screen.
    - During the purge process, field parameters such as water temperature, pH, oxidation reduction potential, and electrical conductivity will be collected and recorded on the field notes.
    - Groundwater samples will be placed into appropriate containers provided by the laboratory, placed on ice in a thermally insulated cooler, and transported to the laboratory under chain-of-custody protocol.
    - The groundwater samples will be analyzed for the constituents listed below by Eurofins Calscience.
        - TPH-g and TPH-d by EPA Method 8015B.
        - VOCs by EPA Method 8260B Full Scan.
        - Methyl tertiary butyl ether (MTBE) and tert-butyl alcohol (TBA) by EPA Method 8260B.
- Purge water will be temporarily stored onsite in steel, 55-gallon drums, pending waste profiling, and transported to an approved disposal facility.

All activities will be conducted under the direct supervision of a California Professional Geologist. A report of findings will be submitted electronically and will be uploaded to GeoTracker following completion of site assessment activities.

Schedule

ETIC will commence with permitting upon LARWQCB approval of this work plan. Site assessment field activities will be performed within 30 days following the receipt of the permit. A report of findings will be submitted within 60 days of completion of the field work.

If you have any questions regarding this work plan, please contact Ms. Marla Madden of ExxonMobil Environmental and Property Solutions Company at (714) 964-4935 or the undersigned at (626) 831-5374.

Respectfully submitted,
ETIC

Zach Spahn, PG
Project Manager

Ryan Haughy, PG
Principal

Attachments: 1 – Figures
1. Site Location Map
2. Vicinity Map
3. Site Plan
4. Well Construction Diagram

2 – Agency Correspondence
3 – Field Protocols

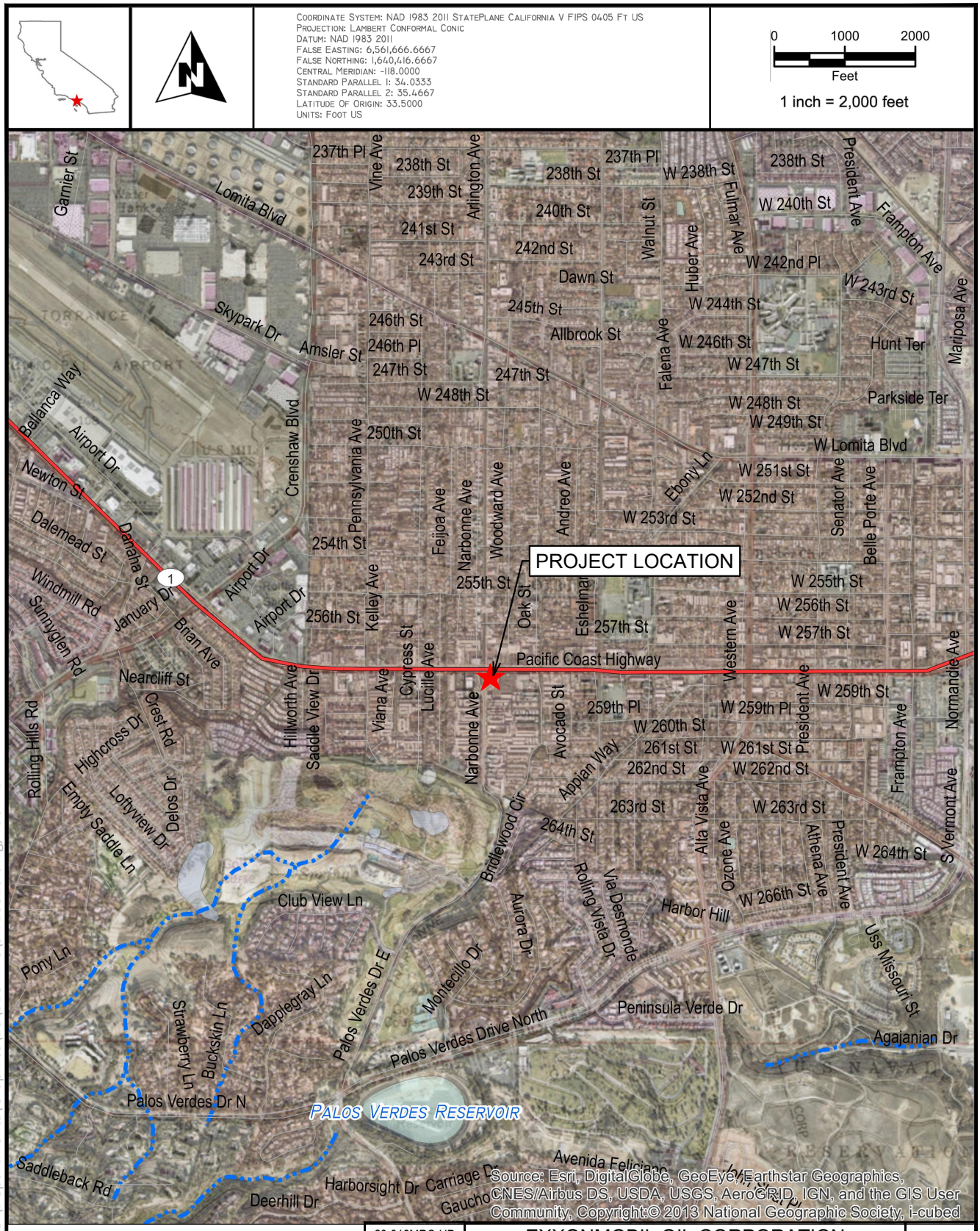
cc: Ms. Marla Madden, ExxonMobil Environmental and Property Solutions Company
Mr. Vahid Vahdat, Hanukah, Inc.
Mr. George Zoumalan, Ramtox

References

ETIC 2020. Site Assessment Report. Former Mobil Service Station 18MRC, 25808 Narbonne Avenue, Lomita, CA. 16 March.

Attachment 1

Figures



20-018MRC-UP	EXXONMOBIL OIL CORPORATION	
OR: ZS	SITE LOCATION MAP FORMER MOBIL SERVICE STATION 18MRC 25808 NARBONNE AVENUE	FIGURE: 1
DR: AJW		
CK:		
FR:	LOMITA, CALIFORNIA.	

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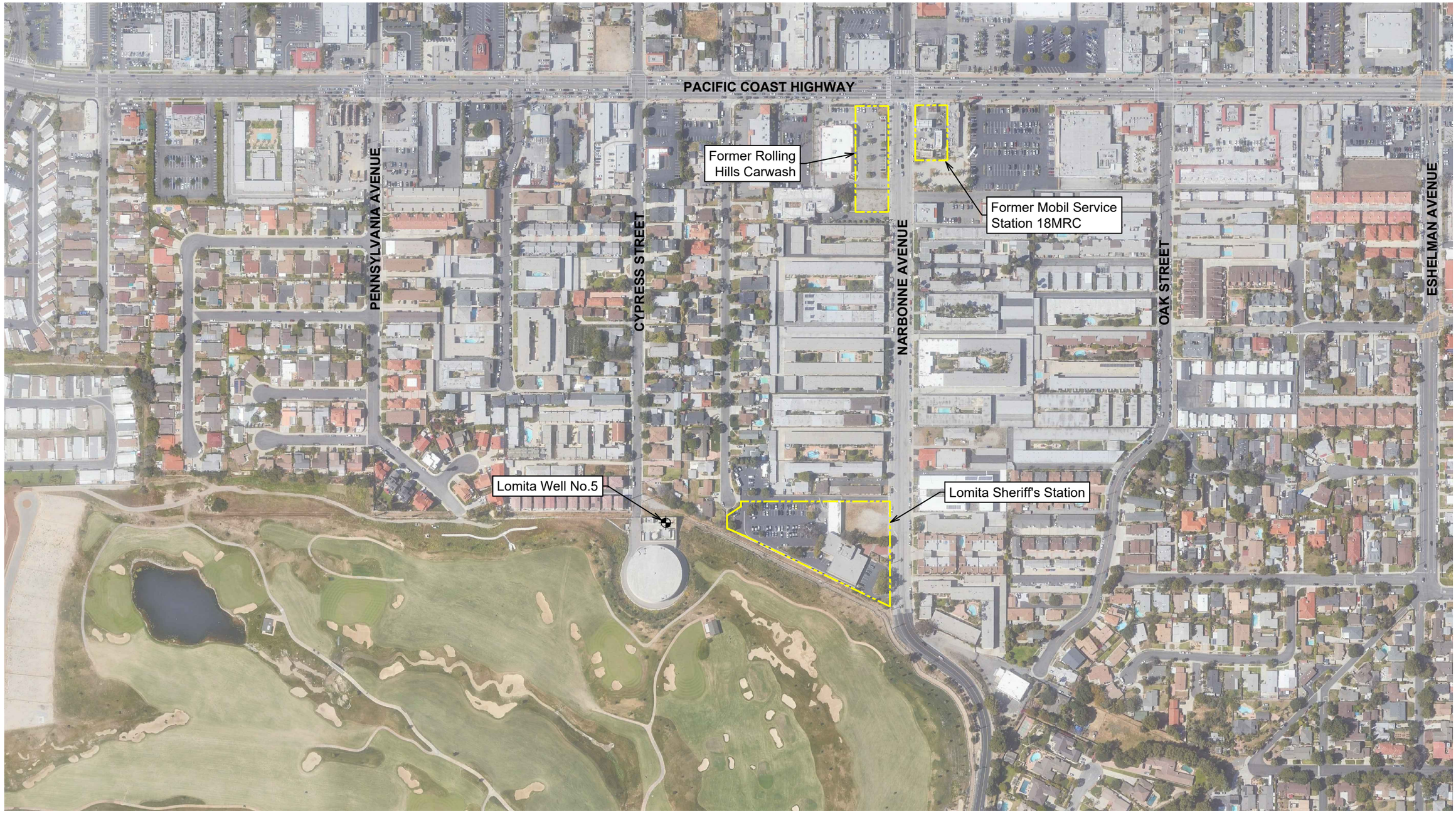

0 150 300
APPROX. SCALE (feet)

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20-018MRC-UP	
OR:	ZS
DR:	AJW
CK:	
FR:	

EXXONMOBIL OIL CORPORATION

VICINITY MAP
FORMER MOBIL SERVICE STATION 18MRC
25808 NARBONNE AVENUE

LOMITA, CALIFORNIA.

FIGURE: 2

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LEGEND:

- ● SOIL BORING
- ▲ SOIL SAMPLE COLLECTED BENEATH FORMER UST
- ⌖ PROPOSED GROUNDWATER MONITORING WELL

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20-018MRC-UP	
OR:	ZS
DR:	AJW
CK:	
FR:	

EXXONMOBIL OIL CORPORATION

SITE PLAN
FORMER MOBIL SERVICE STATION 18MRC
25808 NARBONNE AVENUE
LOMITA, CALIFORNIA.

FIGURE: 3

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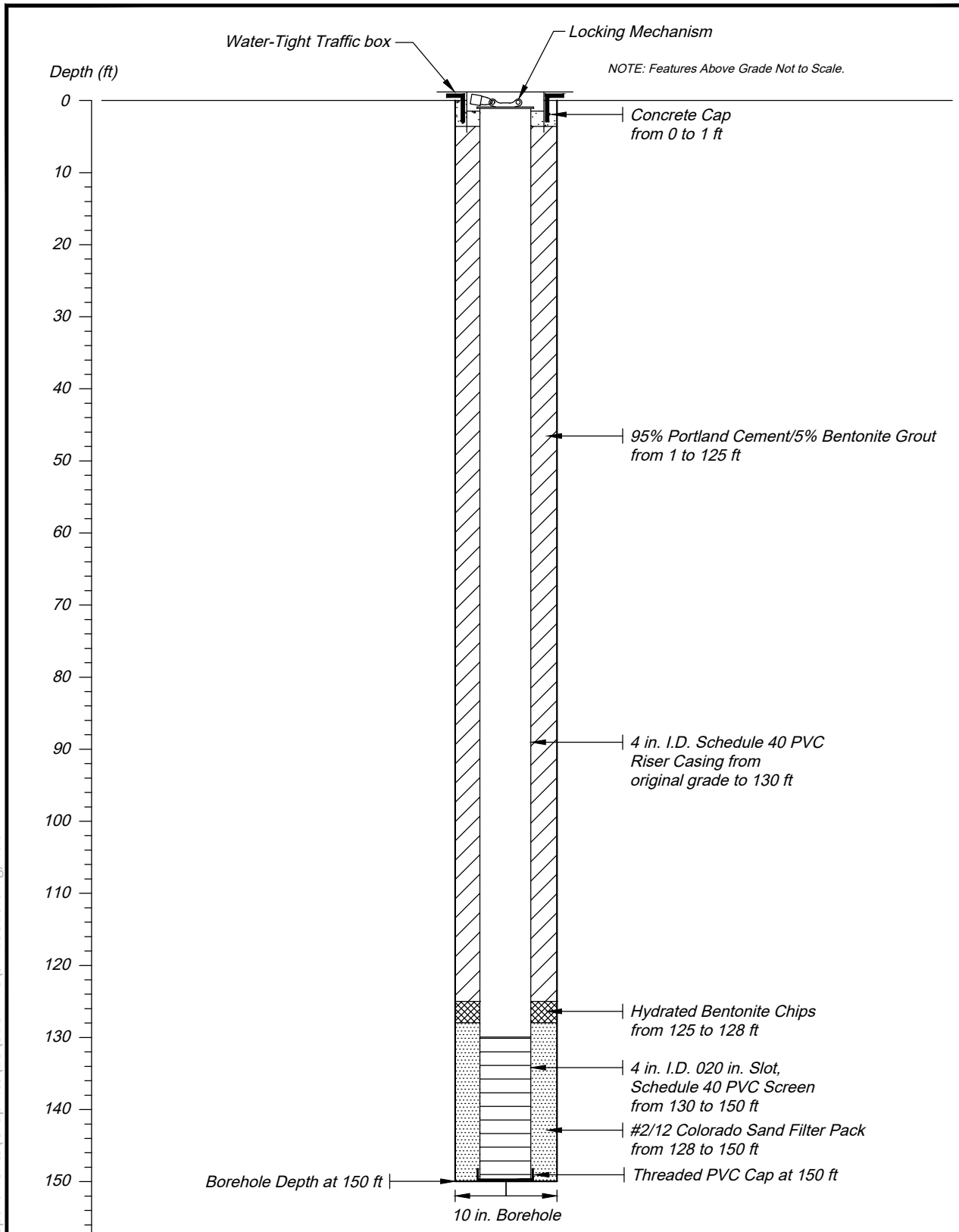

20-018MRC-UP	EXXONMOBIL OIL CORPORATION	
OR: ZS	WELL CONSTRUCTION DIAGRAM FOR PROPOSED GROUNDWATER MONITORING WELLS MW-1 THROUGH MW-3	
DR: AJW	FORMER MOBIL SERVICE STATION 18MRC	FIGURE: 4
CK:	25808 NARBONNE AVENUE	
FR:	LOMITA, CALIFORNIA.	

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Attachment 2

Agency Correspondence

Los Angeles Regional Water Quality Control Board

July 14, 2020

ExxonMobil Oil Corporation
Attn: Ms. Marla D. Madden
8941 Atlanta Avenue, #384
Huntington Beach, CA 92646

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO.: 7019 0700 0001 9921 1645

Hanukah, Inc.
Attn: Mr. Vahid Vahdat
25808 South Narbonne Avenue
Lomita, CA 90717

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO.: 7019 0700 0001 9921 1652

Mr. Bharat Bhattarai
Agent for Service of Process for
Petroleum Management & Marketing
28441 Highridge Road, Suite 101
Rolling Hills Estate, CA 90274

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO.: 7019 0700 0001 9921 1669

UNDERGROUND STORAGE TANK PROGRAM – WORK PLAN REQUIREMENT

PACIFIC SHELL SERVICE STATION (FORMER SAFAR EXXON-MOBIL AND MOBIL SERVICE STATION #18-MRC)
25808 SOUTH NARBONNE AVENUE, LOMITA
(CASE NO. I-05152C) (GLOBAL ID NO. T10000013273)

Dear Ms. Madden, Mr. Vahdat, and Mr. Bhattarai,

The California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Regional Board), is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within Los Angeles and Ventura counties. As such, the Los Angeles Regional Board is the lead regulatory agency for overseeing corrective actions (assessment and/or monitoring activities) and cleanup of releases from leaking underground storage tank (UST) systems at the subject site (Site).

Pursuant to Health and Safety Code Section 25296.10, ExxonMobil Oil Corporation, Hanukah, Inc., and Petroleum Management & Marketing (collectively "Responsible Parties") are required to take corrective actions (i.e. Preliminary Site Assessment, Soil

and Water Investigation, Corrective Action Plan Implementation, and Verification Monitoring) to ensure protection of human health, safety, and the environment. Corrective action requirements are set forth in California Code of Regulations (CCR), Title 23, Chapter 16, Sections 2720 through 2727.

Los Angeles Regional Board staff has received the document titled "Site Assessment Report" (Report) dated March 16, 2020, prepared by ETIC, on behalf of ExxonMobil Oil Corporation. Los Angeles Regional Board staff has reviewed the Report and other information in our case file for the Site.

Review of Site Assessment Report

In February 2020, ETIC oversaw the advancement of one soil boring at the Site to 140 feet below ground surface (bgs). Groundwater was encountered in the soil boring at approximately 138 feet bgs. Soil samples were collected in the soil boring at five-foot intervals beginning at five feet bgs. A grab groundwater sample was also collected in the soil boring. Soil and grab groundwater samples were submitted to an analytical laboratory to be tested for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd) by modified Environmental Protection Agency (EPA) Method 8015B and for the full list of volatile organic compounds (VOCs), including fuel oxygenates, by EPA Method 8260B. Soil samples collected at 5 and 10 feet bgs were also tested for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C. Laboratory results for the soil samples indicated maximum concentrations of TPHg of 4,700 milligrams per kilogram (mg/kg), TPHd of 66 mg/kg, benzene of 130 mg/kg, toluene of 2,200 mg/kg, ethylbenzene of 410 mg/kg, xylenes of 2,400 mg/kg, naphthalene of 73 mg/kg, methyl tertiary butyl ether (MTBE) of 0.062 mg/kg, and tertiary butyl alcohol (TBA) of 0.034 mg/kg. Laboratory results for the grab groundwater sample indicated concentrations of TPHg of 3,900 micrograms per liter (µg/L), TPHd of 710 µg/L, benzene of 62 µg/L, toluene of 260 µg/L, ethylbenzene of 240 µg/L, xylenes of 1,000 µg/L, naphthalene of 210 µg/L, MTBE of 74 µg/L, and TBA of 78 µg/L.

Work Plan Requirement (per CCR, Title 23, Chapter 16, §2726)

Based on site investigation data, the extent of soil and groundwater contamination at the Site has not been delineated. The Responsible Parties are required to submit a work plan for the advancement of soil borings at the Site and the completion of those soil borings as groundwater monitoring wells. Enough soil borings and monitoring wells to delineate soil and groundwater impacts and determine groundwater flow direction must be proposed in the work plan. The work plan is due to the Los Angeles Regional Water Board by **August 13, 2020**.

The Responsible Parties must jointly comply with Los Angeles Regional Board requirements. Los Angeles Regional Board staff encourages the Responsible Parties to work together to meet Los Angeles Regional Board requirements.

General Requirements

The contractor who conducts the environmental work as required in this directive shall, at all times, comply with all applicable State laws, rules, regulations, and local ordinances specifically including, but not limited to, environmental, procurement, and safety laws, rules, regulations, and ordinances. The contractor shall obtain the services of a Professional Geologist or Engineer, Civil (PG/PE-Civil) to comply with the applicable requirements of the Business and Professions Code, sections 6700 et seq. and/or 7800 et seq. implementing regulations for engineering or geological analysis and interpretation for this case. All documents prepared by the contractor that reflect or rely upon engineering or geological interpretations by the contractor shall be signed and stamped by the PG/PE-Civil indicating her/his responsibility for them, as required by the Business and Professions Code.

Regulatory Requirement for Electronic Submission of Laboratory Data to the State GeoTracker Internet Database

On September 30, 2004, the State Water Resources Control Board (State Board) adopted the resolution to revise regulations in Chapter 30, Division 3 of Title 23 of CCR, which requires persons to ensure electronic submission of laboratory analytical data (i.e., soil or water chemical analysis) and locational data (i.e., location and elevation of groundwater monitoring wells) via the Internet to the State Board's GeoTracker database. The regulations and other background information are available at http://geotracker.waterboards.ca.gov.

In accordance with the regulations, the Responsible Parties must upload the following information to the State Board's GeoTracker database: reports and work plans (in PDF format), laboratory analytical data (in electronic data format [EDF]), monitoring event information in GEO_WELL format, an updated site map (GEO_MAP) showing any monitoring well locations, boring logs in PDF (GEO_BORE) to be used to link to well locations, monitoring well latitude and longitude (GEO_XY) survey data, and monitoring well elevation data (GEO_Z). Hard copy paper reports, which have already been electronically uploaded to the GeoTracker data base, are no longer required to be submitted to the Los Angeles Regional Board.

Enforcement

Pursuant to Health and Safety Code section 25299, subdivision (d), any person who violates any corrective action requirement established by, or issued pursuant to, section 25296.10 is liable for a civil penalty of not more than ten thousand dollars ($10,000) for each underground storage tank for each day of violation. A civil penalty may be imposed by civil action pursuant to Health and Safety Code section 25299, subdivision (d)(2) or imposed administratively by the Los Angeles Regional Board pursuant to California Water

Code (CWC) sections 13323 through 13328. The Los Angeles Regional Board may also request that the Attorney General seek judicial civil liabilities or injunctive relief pursuant to CWC sections 13264, 13304, and 13340. The Los Angeles Regional Board reserves its rights to take any further enforcement action authorized by law.

If you have any questions regarding this matter, please contact Dr. Weixing Tong at (213) 576-6715 or at weixing.tong@waterboards.ca.gov, or Mr. James W. Ryan IV at (213) 576-6711 or at jamesw.ryan@waterboards.ca.gov.

Sincerely,

Renee Purdy
Executive Officer

cc: Ric Roda, State Water Resources Control Board, Division of Drinking Water
Brian Partington, Water Replenishment District of Southern California
Tim Smith, Los Angeles County Department of Public Works, Environmental Program Division
Carla Dillon, City of Lomita, Department of Public Works
Ryan Haughy, ETIC
George Zoumalan, Ramtox Corporation

Attachment 3

Field Protocols

PROTOCOLS FOR WELL DRILLING, COMPLETION, DEVELOPMENT, AND SAMPLING

DRILLING

Prior to drilling, all boreholes are cleared of underground utilities to a depth of at least 8 feet below ground surface (bgs) in "non-critical zones" and in "critical zones." Per ExxonMobil Subsurface Clearance Protocol, the critical zones are defined as locations that are within 10 feet from the farthest edge of any underground storage tank (UST), within 10 feet of the product dispenser islands, the entire area between the UST field and the product dispenser islands, and within 10 feet of any underground utility. For wells, a 10-inch circle to a 24-inch circle or a 2-foot by 2-foot square will be cut in the surface cover at each well location. A hole, greater than the diameter of the drilling tool being used, will then be cleared at each soil boring location, using a hand auger or vacuum excavation system. The vacuum system consists of a water lance or air-knife, used to loosen native soil by injecting water or air into the soil, and a vacuum, used to remove the soil.

Boreholes are drilled with a truck-mounted rotary drill, using hollow-stem continuous-flight augers. The diameter of the augers is selected to provide an annular space between the boring wall and the well casing of no less than 2 inches.

All augers are pressure-washed or steam-cleaned before drilling begins and before each new borehole is drilled. All drill cuttings are either placed on and covered with plastic sheeting or contained in sealed 55-gallon drums. All fluids generated during cleaning of drilling equipment or during well development are contained in sealed 55-gallon drums. All waste generated during drilling activities is stored onsite until appropriate disposal is arranged. The drums are labeled with the site description (including the owner's name) and date. The drill cuttings are disposed of at a proper ExxonMobil-approved facility based on results of soil sample analysis.

During drilling, an ETIC Engineering, Inc. geologist generates a soil boring log for each borehole. The boring logs contain detailed geological information, including descriptions of the soils classified according to the Unified Soil Classification System (USCS), blow counts for soil sampling intervals, photoionization detector (PID) or vapor analyzer (OVA) readings, relative moisture content of the soils, and initial and static water levels.

SOIL SAMPLING

Soil samples are collected using a 2-inch-diameter by 18- or 24-inch-long modified California split-spoon sampler containing three or four 6-inch-long brass or stainless steel liners. The sampler and liners are scrubbed in potable water with Alconox or equivalent detergent and double rinsed with potable water after use at each sampling interval.

At each sample depth, the sampler is driven 18 or 24 inches ahead of the augers into undisturbed soil. When the sampler is retrieved, either the lowermost or the middle sample liner is removed and the ends of the tube are covered with Teflon tape and sealed with plastic caps. If EPA Method 5035 is required, then 5 to 20 grams of soil is extracted from the sample and placed in methanol-preserved or sodium bisulfate-preserved containers supplied by the laboratory, or sub-samples are collected using En Core® samples. The soil-filled liner, preserved sample, or En

Core® sample is labeled with the borehole number, sample depth, site location, date, and time. The samples are placed in zip-lock bags and stored in a cooler containing ice.

Soil from one of the liners is removed and placed in a sealed plastic bag. The soil is scanned with an OVA equipped with a flame ionization detector or photo ionization detector and the readings are noted on the soil boring logs. The soil from the remaining liner(s) is examined and classified according to the USCS.

Soil samples are delivered, under chain of custody, to a laboratory certified by the California Department of Health Services for analyses.

WELL INSTALLATION

The boreholes are completed as groundwater monitoring wells, vapor extraction wells, groundwater extraction wells, or air sparging wells. The wells are typically constructed by installing Schedule 40 polyvinyl chloride (PVC) flush-threaded casing through the inner opening of the auger. The screened interval consists of slotted casing of the appropriate slot size and length placed at depths depending on soil conditions encountered during drilling and the depth to groundwater. A threaded end plug or a slip cap secured with a stainless steel screw is placed on the bottom of the well.

A filter pack of clean sand of appropriate size is placed in the annular space around the well screen to approximately 1 to 2 feet above the top of the screen. The sand is placed through the inner opening of the augers as they are slowly removed. A transitional seal is completed above the sand pack by adding 2 to 3 feet of bentonite chips and hydrating them with water. A surface seal is then created by placing bentonite grout from the top of the bentonite seal to approximately 18 inches below the ground surface.

The well is finished at the surface with a slightly raised, traffic-rated, watertight steel box set in approximately 18 inches of concrete. The traffic box is secured with bolts and the casing is further secured with a locking well cap.

WELL DEVELOPMENT

The wells are developed no less than 72 hours after completion or prior to establishing the bentonite seal during the drilling activities. Development typically consists of surging the screened interval of the well with a flapper valve surge block of the same diameter as the well for approximately 10 minutes. The well is then purged using one of the following methods: a vacuum truck and a dedicated PVC stinger, disposable tubing, an inertial pump, a submersible electric pump, a centrifugal pump, an air-lift pump, or a stainless steel or PVC bailer until at least 3 casing volumes are removed and the water is free of silt and apparent turbidity.

A record of the purging methods and volumes of water purged is maintained. All purge water is contained onsite in properly labeled 55-gallon drums. Purged water is transported to an appropriate treatment facility.

GROUNDWATER SAMPLING

The wells are sampled at least 72 hours after grout placement and at least 48 hours after development. Prior to groundwater sample collection and depending on site-specific conditions, each well is purged until at least 3 casing volumes are removed or a non-purge sample is collected. Wells that purge dry are allowed to recover prior to sampling. The pH, specific conductivity, and temperature of the groundwater removed are recorded during purging to ensure that the physical parameters are stable prior to sampling. All samples are collected with a factory cleaned disposable bailer. The bailer is operated by hand using new rope or Teflon-coated stainless steel wire. The sampling personnel wear clean Nitrile gloves during sampling operations and while handling sample bottles.

The groundwater samples are emptied from the bailer directly into the sample bottles with a bottom-emptying device. The samples are collected in 40-milliliter glass volatile organic analysis (VOA) vials and/or 1-liter amber bottles with Teflon-lined septum caps as appropriate. The sample bottles contain appropriate preservatives, typically hydrochloric acid. VOA vials are filled to the top of the bottle so that there are no air bubbles.

The sample bottles are labeled with the well number, date, location, sampler's initials, and preservative used. The sample vials are placed in a cooler with ice for delivery to the laboratory. Standard chain-of-custody procedures are followed.

WELL SURVEY

The elevation of the top of the well casing is surveyed by state licensed land surveyor. A small notch is cut in the top of the well casing to mark the survey point and to establish the point used for all future water level measurements. A loop originating and ending at the datum is closed to ±0.01 feet according to standard methods. All survey data are collected in accordance with AB2886.