

ALAMEDA COUNTY
HEALTH CARE SERVICES

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February 10, 2014

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P.O. Box 696000
San Antonio, TX 78269-6000

Subject: Technical Report Request for Fuel Leak Case No. RO0003115 and GeoTracker Global ID
T10000004796, Stop N Go Gas Station, 7701 Bancroft Avenue, Oakland, CA 94605

Dear Ladies and Gentlemen:

Alameda County Environmental Health (ACEH) has reviewed the case file including *Phase 1 Environmental Site Assessment Report* (Phase 1 Report) dated April September 23, 2011 and the *Limited Phase II Spoil and Groundwater Investigation Letter Report* (Phase II Report), dated April 16, 2012, prepared on behalf of Union Bank by Geologica Inc. (Geologica). The Phase I Report documented the existence of a Wilshire Oil Company (Gulf) gasoline service station from the 1962 to 1969 and a Stop N Go convenience store from 1974 to approximately the mid 1980's. No records were found regarding the installation, operation, or removal of the underground storage tanks (USTs) however building department records indicate the demolition of the site building 1997, leaving the lot vacant since that time. According to the Phase II Report, a geophysical survey was conducted and seven direct-push soil borings were drilled onsite for evaluation of the presence of historic USTs and residual petroleum hydrocarbon in soil and/or groundwater at the site. Concentrations of up to 110 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons (TPH) as gasoline (TPHG), 1,500 mg/kg TPH as diesel (TPHD), 4,500 mg/kg TPH as motor oil (TPHmo), and 0.019 mg/kg ethylbenzene were documented in soil samples. Concentrations of up to 150 micrograms per liter (ug/l) TPHD and 370 ug/l TPHmo were documented in grab groundwater samples. These

data indicate that an unauthorized release from the underground storage tanks (USTs) had occurred at the site. The release was referred to the ACEH Local Oversight Program (LOP), the lead agency for oversight of investigation and cleanup of petroleum hydrocarbon releases in Alameda County. ACEH-LOP subsequently listed the subject case on our data base of fuel leak sites.

ACEH has evaluated the data and recommendations presented in the above-mentioned reports, in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Based on ACEH staff review, we have determined that the site fails to meet the LTCP General Criteria b (Petroleum Release Only), c (Primary Release Stopped), d (Free Product), e (Site Conceptual Model), f (Secondary Source Removal), Media-Specific Criteria for Groundwater, Media-Specific Criteria for Vapor Intrusion to Indoor Air, and the Media-Specific Criteria for Direct Contact (see Attachment A for a copy of the LTCP checklist).

Therefore, at this juncture ACEH requests that you prepare a Data Gap Investigation Work Plan that is supported by a Site Conceptual Model (SCM) to address the Technical Comments provided below.

TECHNICAL COMMENTS

- 1. LTCP General Criteria b (Unauthorized Release Consists Only of Petroleum)** – For purposes of this policy, petroleum is defined as crude oil, or any fraction thereof, which is liquid at standard conditions and temperature and pressure, which means 60 degrees Fahrenheit and 14.7 pounds per square inch absolute including the following substances: motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils, including any additives and blending agents such as oxygenates contained in the formulation of the substances.

Because there was no documentation provided of the removal of the USTs, pump island (s) and fuel lines, the UST usage is unknown. Soil samples collected from boring GP-5 contained substantial concentrations of TPHmo suggesting this location may have been in close proximity to a waste oil UST location. Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the data gaps identified above. After identifying the current and historic uses of the property, please identify any additional data gaps, such as the need for analysis of chlorinated solvents, naphthalene, Polycyclic Aromatic Hydrocarbons (PAHs), wear metals, and/or fuel oxygenates that are typically associated with unknown past historic uses. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

- 2. General Criteria c (Primary Release Stopped)** – The LTCP requires that the tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e., the primary source) has been removed, repaired, or replaced. It is not the intent of the policy to allow sites with ongoing leaks from the UST system to qualify for closure.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to support that the primary source of petroleum hydrocarbons have been removed. Specifically, the geophysical survey in the Phase II Report revealed potential buried metallic objects including a former pump island and a disturbed area 30 by 40 feet suggesting the size of an excavation resulting from the installation (or removal) of USTs. No analytical samples were collected to document the environmental quality or nature of the fill material. Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the data gaps identified above. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

- 3. LTCP General Criteria d (Free Product)** – The LTCP requires free product to be removed to the extent practicable at release sites where investigations indicate the presence of free product by removing in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges, or disposes of recovery byproducts in compliance with applicable laws. Additionally, the LTCP requires that abatement of free product migration be used as a minimum objective for the design of any free product removal system.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to assess the presence of free product at the site. Specifically, concentrations of up to 1,500 mg/kg TPHD and 4,500 mg/kg TPHmo were documented in soil samples, indicating the possible presence of free product as discussed in the Vapor Intrusion (VI) Technical Support Documentation for the LTCP. Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the data gaps identified above. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

- 4. LTCP General Criteria e (Site Conceptual Model)** – According to the LTCP, the SCM is a fundamental element of a comprehensive site investigation. The SCM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants). The SCM is relied upon by practitioners as a guide for investigative design and data collection. All relevant site characteristics identified by the SCM shall be assessed and supported by data so that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy.

Our review of the case files indicates that insufficient data collection and analysis has not been presented to assess the nature, extent, and mobility of the release and to support compliance with General Criteria b, c, d, and f, Media Specific Criteria for Groundwater, Vapor Intrusion to Indoor Air, and Direct Contact and Outdoor Air Exposure as described in Technical Comments 1 through 8. Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the data gaps identified above. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

- 5. General Criteria f – Secondary Source Has Been Removed to the Extent Practicable** – “Secondary source” is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable as described in the policy. “To the extent practicable” means implementing a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. It is expected that most secondary mass removal efforts will be completed in one year or less. Following removal or destruction of the secondary source, additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy.

ACEH's review of the case files indicates that insufficient data and analysis has been presented to assess compliance with General Criteria f. No analytical samples were collected to document the environmental

quality or nature of the fill materials. Additional secondary sources may be present beneath the pump island and along piping runs which may be intact.

Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the Technical Comments discussed above. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

- 6. LTCP Media Specific Criteria for Groundwater** – To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

Our review of the case files indicates that the distance of the nearest surface water body to the site is Arroyo Viejo Creek located approximately 100 feet to the southwest of the site. However, insufficient data and analysis has been presented to support the remaining requisite characteristics of plume direction, plume length, distance of nearest water well supply, and stability. Please present a strategy in the Data Gap Work Plan discussed in Technical Comment 9 below to determine if groundwater in the vicinity of the site has been impacted by a release.

Alternatively, please provide justification of why the site satisfies the media-specific criteria for groundwater in the SCM that assures that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis.

- 7. LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air** – The LTCP describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

Our review of the case files indicate that due to insufficient information, the risk of vapor intrusion to indoor air to neighboring residents has not been assessed. Additionally, intended future use of the property has not been disclosed, which affects the selection of an appropriate VI goal for the site. Missing information includes thickness and depth of the bioattenuation zone, collection of soil samples within the 1 to 5 feet and 5 to 10 feet below ground surface (bgs) intervals across the site, especially in suspected source areas, and analytical results for naphthalene and PAHs in soil. ACEH notes that naphthalene is one of the contaminants that the LTCP uses to assess risk from vapor intrusion to indoor air. Please present a strategy in the Data Gap Work Plan (described in Technical Comment 9 below) to address the data gaps identified above. Alternatively, please provide justification of why the site satisfies this general criterion in the focused SCM described in Technical Comment 9 below.

Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Vapor Intrusion to Indoor Air in a SCM that assures that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to occupants of current or future buildings.

Please note, that if direct measurement of soil gas is proposed, ensure that your strategy is consistent with the field sampling protocols described in the Department of Toxic Substances Control's Final Vapor Intrusion Guidance (October 2011). Consistent with the guidance, ACEH requires installation of permanent vapor wells to assess temporal and seasonal variations in soil gas concentrations.

- 8. LTCP Media Specific Criteria for Direct Contact and Outdoor Air Criteria** – The LTCP describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. According to the policy, release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if the maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth bgs. Alternatively, the policy allows for a site specific risk assessment that demonstrates that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health, or controlling exposure through the use of mitigation measures, or institutional or engineering controls.

As mentioned in Technical Comment 7, our review of the case file indicates that the soil or groundwater samples were not analyzed for naphthalene or PAHs. Therefore, please present a strategy in the Data Gap Work Plan described in Technical Comment 9 below to collect sufficient data to satisfy the LTCP direct contact and outdoor air exposure criteria. Sample and analyze soil within the zero to five and five to ten foot intervals, at the groundwater interface, lithologic changes, and at areas of obvious impact. Please include the requisite analysis for benzene, ethylbenzene, naphthalene and polycyclic aromatic hydrocarbons (PAH) analysis.

Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Direct Contact and Outdoor Air Exposure in the focused SCM described in Technical Comment 9 below that assures that exposure to petroleum constituents in soil will have no significant risk of adversely affecting human health.

- 9. Data Gap Investigation Work Plan and Site Conceptual Model** – Please prepare Data Gap Investigation Work Plan to address the technical comments listed above. Please support the scope of work in the Data Gap Investigation Work Plan with a focused SCM and Data Quality Objectives (DQOs) that relate the data collection to each LTCP criteria. For example please clarify which scenario within each Media-Specific Criteria a sampling strategy is intended to apply to. If the sampling strategy includes data collection to support the proposed site redevelopment, a description of that redevelopment should be included in the Data Gap Investigation Work Plan to support your sampling strategy so that ACEH can verify the appropriateness of the proposed sample locations.

Please include a site map based on historical aerial photographs indicating the approximate location of the former USTs and the extent of the excavation, the fill pipe, and all UST system appurtenances by the date specified below. Please include in all future reports an extended site map using an aerial photographic base map to depict both the site and immediate vicinity to facilitate understanding the site and surrounding vicinity use (commercial or residential).

In order to expedite review, ACEH requests the SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure under the LTCP. Please see Attachment B “Site Conceptual Model Requisite Elements in Tabular Form”. Please sequence activities in the proposed Data Gap Investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

- 10. Claim Site On Geotracker** - As described in the Attachment 1, Responsible Party(ies) Legal Requirements/Obligations, all technical reports must be submitted to both the ACEH ftp website and the State Water Resource Control Board (SWRCB) GeoTracker website. To upload to the Geotracker website you will need to claim your site on GeoTracker and then upload the Work Plan and all future reports to the GeoTracker website. Pursuant to CCR Sections 2729 and 2729.1, all analytical data submitted in a report to a regulatory agency as part of the LUFT program, must be transmitted electronically to the SWRCB Geotracker website via

the internet. Additionally, should groundwater wells be required, all permanent monitoring points utilized to collect groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude accurate to within 1-meter accuracy, using NAD 83, and transmitted electronically to the SWRCB Geotracker website. Beginning July 1, 2005, electronic submittal of a complete copy of all reports (LUFT or SLIC) is required in GeoTracker (in PDF format). Please upload all reports prepared after July 1, 2005 to the SWRCB's Geotracker database website in accordance with the above-cited regulation. Please additionally upload the reports to the ACEH ftp website.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **March 10, 2014** – Claim site in Geotracker, Report upload, and Geotracker Submittal Notification
Files to be named: RO3115_CORRES_L_YYYY-mm-dd
- **April 11, 2014** – SCM and Data Gap Work Plan
File to be named: RO3115_SCM_WP_R_YYYY-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>. If your email address does not appear on the cover page of this notification, ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708.

Sincerely,

Karel Detterman, PG
Hazardous Materials Specialist

Enclosures: Attachment A – LTCP Check List
Attachment B - Site Conceptual Model Requisite Elements in Tabular Format
Attachment 1 - Responsible Party(ies) Legal Requirements/Obligations
ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department (Sent via E-mail to: lgriffin@oaklandnet.com)

Uwe Ligmund, Union Bank, 500 South Main Street, Suite 320, Orange, CA 92868 (Sent via e-mail to: Uwe.Ligmund@unionbank.com)
Dilan Roe, ACEH (Sent via E-mail to: dilan.roe@acgov.org)
Karel Detterman, ACEH (Sent via E-mail to: karel.detterman@acgov.org)
GeoTracker, Electronic Case File

ATTACHMENT A

STOP N GO GAS STATION (T10000004796) - MAP THIS SITE

OPEN - SITE ASSESSMENT

7701 BANCROFT AVE
OAKLAND , CA 94621
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)
[PUBLIC WEBPAGE](#)

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0003115
CASEWORKER: [KAREL DETTERMAN](#) - SUPERVISOR: [DILAN ROE](#)
SAN FRANCISCO BAY RWQCB (REGION 2)
CASEWORKER: [Cherie McCaulou](#) - SUPERVISOR: [Cheryl L. Prowell](#)

[VIEW PRINTABLE CASE SUMMARY FOR THIS SITE](#)

THIS PROJECT WAS LAST MODIFIED BY [KAREL DETTERMAN](#) ON 2/4/2014 3:09:58 PM - [HISTORY](#)

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 2/4/2014

CHECKLIST INITIATED ON 7/26/2013

[CLOSURE POLICY HISTORY](#)

General Criteria - The site satisfies the policy general criteria - [CLEAR SECTION ANSWERS](#)

NO

a. Is the unauthorized release located within the service area of a public water system?

Name of Water System :

YES NO

b. The unauthorized release consists only of petroleum (info).

Contaminants : Chlorobenzene PCE TCE Chloroform Vinyl Chloride Bromoform
 Other:

YES NO

c. The unauthorized ("primary") release from the UST system has been stopped.

Explain :

YES NO

d. Free product has been removed to the maximum extent practicable (info).

Free Product Remaining:
Removal Methods Tried : HVDPE Skimmer Bailing Absorbant Materials
 Did Not Try to Remove FP OTHER:

FP Not Encountered YES NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed (info).

Description (Check all that Apply):
 GW Not Evaluated
 Groundwater Assessment Incomplete - Areal Extent of Contamination Not Defined
 Groundwater Assessment Incomplete - Depth of Contamination Not Defined
 Hydrogeology Not Adequately Defined
 Potential Receptors Not Identified
 Soil Assessment Incomplete - Areal Extent Not Defined
 Soil Assessment Incomplete - Depth Unknown
 Soil Vapor Not Evaluated
 Other -

YES NO

f. Secondary source has been removed to the extent practicable (info).

Impediment to Removing Secondary Source (Check all that Apply):
 Remediation Has Not Been Attempted
 Remediation Was Designed Incorrectly
 Remediation Was Shut Off Prematurely
 Poor Remediation O&M
 Other -

YES NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15.

Not Required YES NO

h. Does a nuisance exist, as defined by [Water Code section 13050](#).

YES NO

1. Media-Specific Criteria: Groundwater - The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below. - [CLEAR SECTION ANSWERS](#)

NO

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - [Info](#))

YES NO

Does the site meet any of the Groundwater specific criteria scenarios?

YES NO

ADDITIONAL QUESTIONS - Please indicate only those conditions that do not meet the policy criteria:

Plume Length (That Exceeds Water Quality Objectives) :

≥ 100 Feet and < 250 Feet ≥ 250 Feet and < 1,000 Feet ≥ 1,000 Feet Unknown

Plume is Stable or Decreasing in **AREAL** Extent :

No Unknown

Free Product in Groundwater :

Yes No Unknown

Free Product Has Been Removed to the Maximum Extent Practicable :

No Unknown

For sites with free product, the Plume Has Been Stable or Decreasing for 5-Years (info) :

No Unknown

For sites with free product, owner Willing to Accept a Land Use Restriction (if required) :

No Unknown

Free Product Extends Offsite :

Yes Unknown

Benzene Concentration :

≥ 1,000 µg/l and < 3,000 µg/l ≥ 3,000 µg/l Unknown

MTBE Concentration :

$\geq 1,000 \mu\text{g/l}$ Unknown

Nearest Supply Well (From Plume Boundary) :

≤ 250 Feet > 250 Feet and $\leq 1,000$ Feet Unknown

Nearest Surface Water Body (From Plume Boundary) :

≤ 250 Feet > 250 Feet and $\leq 1,000$ Feet Unknown

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c - [CLEAR SECTION ANSWERS](#)

EXEMPTION - Active Commercial Petroleum Fueling Facility YES NO

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios? YES NO

ADDITIONAL QUESTIONS - Please indicate only those conditions that do not meet the policy criteria:

Soil Gas Samples :

No Soil Gas Samples Taken Incorrectly

Exposure Type :

Residential Commercial

Free Product :

In Groundwater In Soil Unknown

TPH in the Bioattenuation Zone :

≥ 100 mg/kg Unknown Soil samples not taken at two depths within 5 ft. zone (only for Scenario 4 with BioZone)

Bioattenuation Zone Thickness :

< 5 Feet (No BioZone) ≥ 5 Feet and < 10 Feet ≥ 10 Feet and < 30 Feet ≥ 30 Feet 30ft BioZone Compromised TPH > 100 mg/kg Unknown

O2 Data in Bioattenuation Zone :

No O₂ Data O₂ $< 4\%$ O₂ $\geq 4\%$

Benzene in Groundwater :

$\geq 100 \mu\text{g/l}$ and $< 1,000 \mu\text{g/l}$ $\geq 1,000 \mu\text{g/l}$ Unknown

Soil Gas Benzene :

$\geq 85 \mu\text{g/m}^3$ and $< 280 \mu\text{g/m}^3$ $\geq 280 \mu\text{g/m}^3$ and $< 85,000 \mu\text{g/m}^3$ $\geq 85,000 \mu\text{g/m}^3$ and $< 280,000 \mu\text{g/m}^3$ $\geq 280,000 \mu\text{g/m}^3$ Unknown

Soil Gas EthylBenzene :

$\geq 1,100 \mu\text{g/m}^3$ and $< 3,600 \mu\text{g/m}^3$ $\geq 3,600 \mu\text{g/m}^3$ and $< 1,100,000 \mu\text{g/m}^3$ $\geq 1,100,000 \mu\text{g/m}^3$ and $< 3,600,000 \mu\text{g/m}^3$ $\geq 3,600,000 \mu\text{g/m}^3$ Unknown

Soil Gas Naphthalene :

$\geq 93 \mu\text{g/m}^3$ and $< 310 \mu\text{g/m}^3$ $\geq 310 \mu\text{g/m}^3$ and $< 93,000 \mu\text{g/m}^3$ $\geq 93,000 \mu\text{g/m}^3$ and $< 310,000 \mu\text{g/m}^3$ $\geq 310,000 \mu\text{g/m}^3$ Unknown

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below. - [CLEAR SECTION ANSWERS](#)

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination YES NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios? YES NO

ADDITIONAL QUESTIONS - Please indicate only those conditions that do not meet the policy criteria:

Exposure Type :

Residential Commercial Utility Worker

Petroleum Constituents in Soil :

≤ 5 Feet bgs > 5 Feet bgs and ≤ 10 Feet bgs Unknown

Soil Concentrations of Benzene :

> 1.9 mg/kg and ≤ 2.8 mg/kg > 2.8 mg/kg and ≤ 8.2 mg/kg > 8.2 mg/kg and ≤ 12 mg/kg > 12 mg/kg and ≤ 14 mg/kg > 14 mg/kg Unknown

Soil Concentrations of EthylBenzene :

> 21 mg/kg and ≤ 32 mg/kg > 32 mg/kg and ≤ 89 mg/kg > 89 mg/kg and ≤ 134 mg/kg > 134 mg/kg and ≤ 314 mg/kg > 314 mg/kg Unknown

Soil Concentrations of Naphthalene :

> 9.7 mg/kg and ≤ 45 mg/kg > 45 mg/kg and ≤ 219 mg/kg > 219 mg/kg Unknown

Soil Concentrations of PAH :

> 0.063 mg/kg and ≤ 0.68 mg/kg > 0.68 mg/kg and ≤ 4.5 mg/kg > 4.5 mg/kg Unknown

Area of Impacted Soil :

Area of Impacted Soil > 82 by 82 Feet Unknown

Additional Information

Should this case be closed in spite of NOT meeting policy criteria? YES NO

[SPELL CHECK](#)

ATTACHMENT B

**Table 4-1
Site Conceptual Model**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Regional	<p>As described by URS (2004), the lithology encountered in the subsurface beneath the Site during drilling activities consisted predominantly of a brown to greenish-gray silty clay with sand and gravel. The primary stratigraphic units at the Site are listed below, with the approximate ranges of depth (bgs) each unit was encountered across the Site:</p> <ul style="list-style-type: none"> • 0 to 5 feet bgs: The surface soil typically consisted of very dark-brown clay to dark-gray gravel fill, depending on whether the boring was in the vacant vegetated parcel (dark-brown clay), at 3860 MLK Jr. Way; or beneath the asphalt and concrete surfaces at the Lucky's Auto Body parcel at 3884 MLK Jr. Way (gravel fill). • 5 to 20 feet bgs: very dark-brown silty clay grades to a greenish-gray silty clay and brown silty clay and gravelly clay. <p>Groundwater was encountered in direct-push boreholes at an average depth of 17.2 feet bgs, with depths ranging from 16.2 to 19.6 feet bgs. This groundwater depth is not considered a stabilized groundwater depth, because it was not measured from appropriately constructed monitoring wells.</p>	None	NA

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	Regional groundwater in the Oakland area generally follows topography, from areas of higher elevation in the east toward lower elevation in the west and southwest. The groundwater flow direction in the vicinity of the Site is to the west towards San Francisco Bay (Arcadis, 2012). URS reviewed groundwater investigation reports from the ARCO #4931 station at 731 West MacArthur Boulevard, approximately 1,000 feet southwest of the Site (Arcadis, 2012). The depth to water in the groundwater monitoring wells at the ARCO site ranged from approximately 3.2 to 10.8 feet bgs (approximately 52.2 to 43 feet elevation).	1. There are no monitoring wells on site so that the local groundwater flow direction and gradient is not known.	Five groundwater wells are to be installed at the site.
Surface Water Bodies		The closest surface water body is the San Francisco Bay, which is 1.5 miles west of the site.		
Nearby Wells		The State Water Resource Quality Control Board (RWQCB) Geotracker GAMA website provides the locations of water supply wells proximal to the site. The nearest supply well is located approximately 2 miles southwest of the site. There are multiple monitoring wells in the vicinity of the site including those at the Arco services station at 781 West MacArthur Blvd., and Dollar Cleaners, 4860 – 4868 Telegraph Avenue, Oakland.	2.	NA
Release Source and Volume		The three prior gasoline USTs (two 650-gallon and one 500-gallon) are considered the main source of the release of fuel hydrocarbons that have been detected in soil and groundwater beneath the Site. Tanks #1 and #2 were both observed to have one or more holes from corrosion at the time of removal. Although no holes were observed in Tank #3 during removal, the integrity of the tank was questionable as it split into two pieces along the weld during removal. Soil surrounding the tanks was stained green and was noted to have strong petroleum hydrocarbon odors. The release from the Tanks at the Site was discovered on January 5, 1995 during tank removal activities. The volume of the release is not known.	5. & 6. Additional soil and groundwater data is required in the source areas.	See data gaps table. Additional soil borings will be advanced in the source areas. Groundwater monitoring wells will be installed.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		The area around the ramps and pit in the southern area of the site is considered a potential source area.		
LNAPL		There are currently no groundwater monitoring wells located at the Site. Although light non-aqueous phase liquids were not observed during grab groundwater sampling activities, concentrations of TPH-g in sample G2 (22,000 µg/L), located near former Tank #3, and sample GP3 (79,800 µg/L), located adjacent to former Tank #1 may indicate the potential for the presence of light non-aqueous phase liquid (LNAPL) to be present.	1. Need monitoring wells at the site.	Monitoring wells (5) to be installed.
Source Removal Activities		Soil that was excavated from the UST pits during tank removal activities was returned to the excavation after the collection of soil samples for chemical analysis. There is no information regarding the quality of the soil that was placed back in the UST excavations. As such, with the exception of the removal of the USTs themselves, there have been no other source removal activities conducted at the Site.	2., 5.,6. Soil contamination at depth (12-foot bgs and deeper) is not well characterized. Since the site is to be excavated to approximately 12 feet bgs for the construction of a parking garage, additional shallow soil sampling is not required.	Ten soil borings are proposed, as discussed in the data gaps table.
Contaminants of Concern		Based on the historical investigations conducted at the Site, BTEX, cis-1,2-dichloroethene (cis-1,2-DCE), 1,2-dichloroethane (1,2-DCA) and TPH-g are present in groundwater above their respective MCLs and/or ESLs. However, based on correspondence from the ACEHSD, the contaminants of concern (COCs) for the site are BTEX, and TPH-g. These COCs are present above the screening levels primarily in the northern corner of the Site, near the location of the former USTs. Benzene and TPH-g are also present in groundwater above their MCLs and ESLs in the southern portion of the Site in the vicinity of the truck ramp and pit adjacent to the	4.	

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		former shop building, and in the northwestern area of the Site.		
Petroleum Hydrocarbons in Soil		<p>Of the 58 samples analyzed from the two investigations, eight samples from seven borings exceeded their respective screening criteria. These samples were typically the deepest sample from the boring, ranging from 8.0 to 14.0 feet bgs. This is consistent with releases from a UST as opposed to a surface spill or release. Based on the historical investigation data, BTEX and TPH-g are the contaminants present in soil at concentrations exceeding their respective screening criteria. The contaminants are present mainly in soil at the location of former Tanks #1 through #3, and to a lesser extent, near the former fuel pump island in the northern corner of the Site.</p> <p>The lateral extent of contamination exceeding the screening criteria appears to be limited to the area around the former USTs. Soil concentration in all the samples from boring GP3 and S10, located in the sidewalk by Martin Luther King Jr. Way near former Tank #1 and Tank #2 are below their respective screening criteria. There is no additional data from around former Tank #3. Given the nature of the petroleum hydrocarbon (mainly light fraction gasoline), the vertical extent of contamination beneath and in close proximity to the former tanks is likely limited to the lowest level of groundwater fluctuation.</p>	4. & 7. Additional soil sampling is required to better define the vertical extent of contamination. Redevelopment will include excavation of the entire site to a depth of 12 feet bgs for the construction of an underground parking garage.	Additional soil borings to be advanced, as described in the data gaps table.
Petroleum Hydrocarbons in Groundwater		<p>During the two subsurface investigations conducted at the Site, a total of 15 grab groundwater samples were collected and analyzed for TPH-g and BTEX. The results of the analyses are summarized in Table 2-2. Concentration of TPH-g and/or BTEX exceeded their respective screening criteria in ten of the 15 samples analyzed. Similar to the soil sampling results, the highest concentrations were detected beneath or in close proximity to the former USTs. However, TPH-g and benzene were detected in one Site boring (G7) exceeding their respective screening criteria near the southern corner of the Site. There are no permanent monitoring wells located at the Site. As such, the groundwater flow direction across</p>	8. There are no monitoring wells on site.	Five monitoring wells will be installed, as described in the data gaps table and in the work plan.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>the Site cannot be evaluated. This has been defined as a significant data gap. The scope of work presented in this work plan includes the installation of four groundwater monitoring wells at the Site.</p>		
Risk Evaluation		<p>The Site is a former auto body and car wash facility. The Site is currently vacant, and with the exception of a billboard located in the northwest corner of the Site, has no structures and is covered with either asphalt or concrete foundations from former buildings located at the Site. The Site is zoned for residential and current plans are to redevelop the Site for residential use. However, there may be some commercial use on the ground level. This preliminary CSM assumes that development would consist of an underground parking garage; store fronts and residential units at ground level; and second story residential units.</p> <p>The CSM identifies the primary source; impacted media; release mechanism(s); secondary source(s); exposure route; potential receptors (residential, commercial/industrial worker, and construction worker), and an assessment of whether the exposure route/pathway is potentially complete, incomplete, or insignificant. Potential exposure routes that have been evaluated include incidental ingestion, dermal contact, dust inhalation, and vapor inhalation.</p> <p>For direct contact with contaminated soil, the exposure route for incidental ingestion, dermal contact, and dust inhalation for a residential and commercial/industrial worker are considered incomplete. These exposure routes for the construction worker are considered a potentially complete pathway, depending on the nature of the work. For volatilization from soil to outdoor air, vapor inhalation is the potential exposure pathway. Given dilution effects that take place outdoors, this exposure pathway is considered incomplete for all three potential receptors. For indoor air, this exposure pathway is considered potentially complete for all three potential receptors.</p>		

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>For leaching of contaminants from soil to groundwater, the ingestion and dermal pathways for groundwater are considered incomplete, except for the construction worker, as shallow groundwater is not utilized as a drinking water source at the Site. For the construction worker, incidental ingestion and dermal contact is a potentially complete pathway. For volatilization from groundwater to outdoor air, the exposure pathway is considered insignificant due to dilution effects that take place outdoors. For indoor air, volatilization from groundwater to indoor air is considered a potentially complete pathway.</p>		

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
2	<p>The soil data set does not adequately characterize the contamination (if any) that may remain on site after the excavation to approximately 11 to 12 feet bgs for the underground parking structure. The current soil data sets are 7 and 9 years old and may not be representative of current site conditions. Lithology below is not adequately characterized.</p>	<p>Ten soil borings will be drilled to a total depth of 20 feet bgs. Soil samples will be collected at 12 feet, 15 feet, and 20 feet bgs from soil borings SB-4 through SB-10. Soil samples will not be collected from soil borings SB-1, SB-2, and SB-3 which are located across MLK north of the site, as there is no reason to suspect an off-site soil contamination source in this area. Borings will be logged using the Unified Soil Classification System. Grab groundwater samples will be collected from the first encountered groundwater at each soil boring.</p>	<p>Soil samples will be collected starting at 12 feet bgs. Shallow soil on site is to be excavated for disposal during the construction of the underground parking garage. Excavation will be conducted to a depth of about 12 feet bgs. Soil borings will be located as shown in the work plan figure: Source area borings: At the former locations of USTs 1, 2 and 3. One boring north of the site on the side walk of MLK Way. One boring between USTs 1 and 2 and the pump island (potential leakage from conveyance piping). One boring at the approximate location of UST 3 (in addition to the soil samples to be collected from the monitoring well to be installed at this location). One boring in the vicinity of the ramps and pit in the southern portion of the site (in addition to soil samples to be collected from the monitoring well in this area). Step out borings: Step out boring SB-5 to be completed proximal to the UST #3 source area. GP4 Area: Benzene was previously detected at 25,000 µg/kg at location GP4 (Carver, 2006). Two step-out borings will be completed in this area to further characterize soils at depth.</p>	<p>TPH-g, BTEX, EDB, EDC.</p> <p>Boring SB-4 (on sidewalk of MLK near UST 1): PAHs</p>

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
3	There is no data on the presence and usage of wells in the vicinity of the site.	Obtain a well survey.	Identify irrigation and other wells in the site vicinity.	N/A
4	PAHs are potential COCs at the northern boundary of the site.	See soil borings – Item 2. PAHs will be analyzed at select locations as described in Item 2.	Item 2	Item 2
5	There is a potential source area in the vicinity of the ramps and pit.	A monitoring well will be installed in this area. It will also serve as the upgradient well for the site. See Item 2. A soil boring will also be completed in this area.	Item 2	Item 2
6	Determine size and contents of the three USTs that were removed from the site	Review prior reports.	Tanks #1 and #2 were identified as 650-gallon gasoline tanks. Tank #3 was a 500-gallon gasoline tank [Tank Removal Report – 1995]. Tanks #2 and #3 were observed to be badly deteriorated with holes due to corrosion.	NA
7	Confirm whether TPH-g and BTEX were detected during construction of the adjacent residential unit	Review prior reports.	The URS site investigation conducted in 2004 found no detections of TPH-g [$<1,000 \mu\text{g}/\text{kg}$] or BTEX [$<5.0 \mu\text{g}/\text{kg}$] in the borings completed to 14 feet bgs.	NA

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
8	Review data from the nearby service stations (Arco)	Review prior reports.	The former Arco station (731 West MacArthur Blvd.) is about 0.5 miles crossgradient of the 3884 MLK site. The BTEX levels are lower than those at the subject site; the Arco site does not appear to be contributing to on site TPH or BTEX contamination. Groundwater elevation data from this site was used to calculate groundwater flow direction, since there are currently no wells at the 3884 MLK site.	NA

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	REVISION DATE: July 25, 2012
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single Portable Document Format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to .loptoxic@acgov.org
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <://alcoftp1.acgov.org>
 - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to .loptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.