ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
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October 10, 2013

Mr. Geoffrey A Ferrar (*Sent via E-mail to:* jeff@main-main.com)
George P Harrison Trust et al
P.O. Box 1701
Chico, CA 95927

Mr. Fred Bertetta
c/o Janet Heikel (*Sent via E-mail to:* janeth@ogpinc.net)
Olympian Oil
1300 Industrial Rd, Suite 2
San Carlos, CA 94070

Subject: Fuel Leak Case No. RO00000193; GeoTracker Global ID T0600100766, Olympian #112, 1435 Webster Street, Alameda, CA 94501

Dear Ladies and Gentlemen:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *2011 Oxidizer Injection Pilot Test and Second Semi-Annual Groundwater Monitoring Report* dated January 30, 2012, and the September 6, 2013 *Third Quarter 2013 Groundwater Monitoring Report,* prepared by Technology, Engineering & Construction, Inc. (TEC) on your behalf. 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 e Site Conceptual Model (SCM), the Media-Specific Criteria for Groundwater, Media-Specific Criteria Direct Contact and Outdoor Air Exposure, and Media-Specific Criteria for Vapor Intrusion to Indoor Air. A copy of the LTCP is included in Attachment A. ACEH's determination is based on insufficient onsite shallow soil delineation to determine vapor intrusion to occupants of future site development and offsite groundwater plume delineation and stability.

Based on the discussions during the meeting on September 25, 2013 with representatives from ACEH, Olympian Oil, and Mr. Jeff Ferrar, the property owner, to advance your case to site closure, ACEH requests that you prepare a Data Gap Investigation Work Plan that is supported by a focused SCM to address the Technical Comments provided below.

TECHNICAL COMMENTS

1. **LTCP Media Specific Criteria for Groundwater –** To satisfy the media-specific criteria for groundwater, the contaminant plume length 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 insufficient data and analysis has been presented to support the requisite characteristics of plume stability or plume classification as follows:

- The downgradient methyl tert butyl ether (MTBE) and benzene extent in groundwater has not been defined. The August 27, 2009 Rose Diagram indicates that groundwater gradient has varied from the southeast to the southwest. Although offsite borings B-1 through B-4 and B-10 through B-18 delineate the contaminant plume southeast of the site, no borings have been advanced to delineate the plume southwest of the site along Taylor Street. Specifically, it appears there the plume has not been delineated between wells MW-2 and MW-4 and downgradient of MW-8 and boring I-C1/A-4 where high concentrations of benzene and MTBE have been detected groundwater monitoring well samples and grab groundwater samples.

- A review of the data for well MW-8 indicates persistent fluctuating concentrations of benzene and MTBE in groundwater samples. Specifically, during the time period from September 10, 2008 to July 11, 2013, benzene in groundwater ranged from 299 to 260 micrograms per liter (µg/l) while the maximum concentration during that period was 1,100 µg/l benzene. In MW-8 during the time period from April 19, 2011 to July 11, 2013, MTBE in groundwater ranged from 20 to 80 µg/l while the maximum concentration during that period was 10,000 µg/l MTBE. Sufficient data has not been collected to determine whether the recent in-situ chemical oxidation (ISCO) injection pilot test conducted in October 2011 has resulted in a consistent downward concentration trend in groundwater.

Consequently, these lines of evidence indicate that there may be potential impacts to offsite downgradient water supply wells and potential vapor intrusion to indoor air. Therefore, at this juncture please present a strategy in the Data Gap Investigation Work Plan described in Technical Comment 4 to collect sufficient data to delineate the stability of the plume (i.e., as described in the LTCP, where the contaminant mass has expanded to its maximum extent which is the distance from the release where attenuation exceeds migration) and the distal end of the plume (i.e., which is the maximum extent from the point of release of any petroleum related constituent in groundwater that exceeds the water quality objectives). Additionally, please continue to monitor groundwater at the site on a semi-annual basis to collect sufficient seasonal data to demonstrate plume stability.

Alternatively, please provide justification of how existing site data satisfies this criterion in a focused SCM that demonstrates both benzene and MTBE offsite plume definition and stability.

2. **LTCP Media Specific Direct Contact and Outdoor Air Exposure -** The LTCP describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized 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 below grade surface (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.

Our review of the case files indicates that the site data and analysis fail to support the requisite characteristics of one of the four scenarios. Specifically, ACEH's review indicates that although approximately 50 percent of the shallow soil (0 – 10 feet below ground surface (bgs)) has been excavated in association with UST and dispenser excavation in 1991 and 2007, residual contamination potentially remains in shallow soil at three areas on-site: the waste oil underground storage tank (UST), the northern gasoline dispenser island, and the southeast corner of the site.

Please present a strategy in the Data Gap Investigation Work Plan described in Technical Comment 4 to define lateral and vertical contamination in the vicinity of the former waste oil UST, the northern gasoline dispenser island, and the southeast corner of the site waste oil. Additionally, please

summarize all soil and soil vapor data by area, indicating soil that remains at the site today and soil that has been removed.

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

3. **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 indicates that the site data and analysis do not support the requisite characteristics of any of the four scenarios. Specifically, the site does not have adequate characterization of a bioattenuation zone due to the presence of TPH concentrations in the upper 10 feet of soil:

   - Five permanent nested vapor monitoring points (VMP-1 to VMP-5) were installed onsite with sample port depths of four feet and eight feet each. Depending on the future site redevelopment plans, vapor sample depths of 4' and 8' may not provide soil vapor measurements at a minimum of 5' below the bottom of the future building foundation;

   - Future development plans will determine if additional permanent vapor monitoring points are warranted. Additionally, collection of soil vapor data on a quarterly basis to reveal temporal and/or seasonal trends in soil vapor concentrations may be warranted.

   Therefore, please present a description of the type of future construction, including use areas, building footprint, subgrade structures, foundation type, and/or other potential exposure points that will be critical when managing residual contamination at the site. Based on the future construction, please also present a strategy in the Data Gap Investigation Work Plan described in Technical Comment 4 to collect additional data to satisfy the bioattenuation zone characteristics of Scenarios 1, 2 or 3, or to collect gas data to satisfy Scenario 4. 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.

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

4. **Data Gap Investigation Work Plan and Focused 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 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.

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". Please sequence activities in the proposed Data Gap Investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

5. **Path to Closure Project Schedule -** The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a "Path to Closure Plan" by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates tied to calendar quarters which will achieve site cleanup and case closure in a timely and efficient manner and minimizes the cost of corrective action. Therefore, by the date listed below please prepare a Path to Closure Schedule for your site that incorporates the items identified by ACEH in the Technical Comments above as impediments to closure (further detailed in Attachment C). Additionally, please evaluate the site against the LTCP criteria and incorporate additional data collection activities in the Path to Closure Schedule and Data Gap Investigation Work Plan to address other impediments to closure under the policy not identified by ACEH. ACEH staff utilizes a Data Gap Identification Tool (DGIT) while reviewing cases for compliance with the LTCP criteria and identification of impediments to closure. We encourage you to also utilize the DGIT to (1) evaluate your site and develop an efficient path to site closure by focusing data collection efforts, if necessary, on the LTCP criteria, and (2) assist and expedite ACEH staff review of work plans and request for closures. ACEH will provide the DGIT as a PDF form via e-mail upon request. ACEH will review the schedule to ensure that all key elements are included.

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 Attachment 1 and the following specified file naming convention and schedule:

- **December 12, 2013 –** Data Gap Investigation Plan and Focused Site Conceptual Model
  File to be named: RO193_WP_R_yyyy-mm-dd

- **December 12, 2013 –** Path to Closure Schedule
  File to be named: RO193_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.

If you have any questions, please call me at (510) 567-6708 or send me an electronic mail message at karel.detterman@acgov.org.

Sincerely,

Digitally signed by Karel Detterman
DN: cn=Karel Detterman, o, ou, email=karel.detterman@acgov.org, c=US
Date: 2013.10.10 10:59:43 -07'00'

Karel Detterman, PG
Hazardous Materials Specialist

Enclosures:

Attachment 1 – Responsible Party (ies) Legal Requirements/Obligations and Electronic Report Upload (ftp) Instructions

Attachment A – Geotracker LTCP Checklist
Attachment B – Site Conceptual Model Requisite Elements
Attachment C – Path to Closure Project Schedule Requisite Elements

cc: Paul Dotson, TEC Environmental, (*Sent via E-mail to*: pdotson@tecaccutite.com)
Edward Firestone, (*Sent via E-mail to: efirestone@aol.com)*

Dilan Roe (*sent via E-mail to:* dilan.roe@acgov.org)
Donna Drogos (*sent via E-mail to:* donna.drogos@acgov.org)
Karel Detterman (*sent via E-mail to:* karel.detterman@acgov.org)
Electronic File, GeoTracker

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 deh.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 ftp://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 deh.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.

ATTACHMENT A

Geotracker LTCP Checklist

OLYMPIAN #112 (T0600100766) - MAP THIS SITE

OPEN - ASSESSMENT & INTERIM REMEDIAL ACTION

1435 WEBSTER
ALAMEDA , CA 94501
ALAMEDA COUNTY

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT

PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0000193*
CASEWORKER: *KAREL DETTERMAN* - ***SUPERVISOR:*** *DONNA DROGOS*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-0832*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *MARY ROSE CASSA*

CUF Claim #: 1904 **CUF Priority Assigned:** C **CUF Amount Paid:** $634,285

THIS PROJECT WAS LAST MODIFIED BY ***PAT G. CULLEN*** ON 4/25/2013 8:32:45 AM - HISTORY

THIS SITE HAS SUBMITTALS. CLICK HERE TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 3/26/2013

CHECKLIST INITIATED ON 3/26/2013

CLOSURE POLICY HISTORY

ONLY CLEAN UP FUND USERS MAY MAKE CHANGES TO THIS FORM FOR THIS CASE

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? — ◉ YES ○ NO

Name of Water System : East Bay Municipal Utilities District

b. The unauthorized release consists only of petroleum (info). — ◉ YES ○ NO

c. The unauthorized ("primary") release from the UST system has been stopped. — ◉ YES ○ NO

d. Free product has been removed to the maximum extent practicable (info). — ◉ FP Not Encountered ○ YES ○ NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed (info). — ○ YES ◉ NO

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 -**

f. Secondary source has been removed to the extent practicable (info). — ◉ 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 :
○ ≥ 1,000 µg/l ◉ Unknown

Nearest Supply Well (From Plume Boundary) :
○ ≤ 250 Feet ○ > 250 Feet and ≤ 1,000 Feet ○ Unknown

Nearest Surface Water Body (From Plume Boundary) :

○ ≤ 250 Feet ○ > 250 Feet and ≤ 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 — **YES**

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**
2a - Scenario 2 (example): Unweathered LNAPL in Soil - The bioattenuation zone is a continuous zone that provides a separation of at least 30 feet both laterally and vertically between the LNAPL in soil and the foundation of existing or potential buildings, and total TPH are <100 mg/kg throughout the entire depth of the bioattenuation zone.	◉ YES	○ NO

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 — **YES**

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**
3.2 - A site specific risk assessment demonstrates the maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health (i.e., "passes")	◉ YES	○ NO

Additional Information

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

SPELL CHECK

LOGGED IN AS KDETTERMAN

CONTACT GEOTRACKER HELP

ATTACHMENT B

Site Conceptual Model Requisite Elements

ATTACHMENT B

Site Conceptual Model Requisite Elements

The site conceptual model (SCM) is an essential decision-making and communication tool for all interested parties during the site characterization, remediation planning and implementation, and closure process. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors.

The SCM is initially used to characterize the site and identify data gaps. As the investigation proceeds and the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened until it is said to be "validated". At this point, the focus of the SCM shifts from site characterization towards remedial technology evaluation and selection, and later remedy optimization, and forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

For ease of review, Alameda County Environmental Health (ACEH) requests utilization of tabular formats to (1) highlight the major SCM elements and their associated data gaps which need to be addressed to progress the site to case closure (see Table 1 of attached example), and (2) highlight the identified data gaps and proposed investigation activities (see Table 2 of the attached example). ACEH requests that the tables presenting the SCM elements, data gaps, and proposed investigation activities be updated as appropriate at each stage of the project and submitted with work plans, feasibility studies, corrective action plans, and requests for closures to support proposed work, conclusions, and/or recommendations.

The SCM should incorporate, but is not limited to, the topics listed below. Please support the SCM with the use of large-scaled maps and graphics, tables, and conceptual diagrams to illustrate key points. Please include an extended site map(s) utilizing an aerial photographic base map with sufficient resolution to show the facility, delineation of streets and property boundaries within the adjacent neighborhood, downgradient irrigation wells, and proposed locations of transects, monitoring wells, and soil vapor probes.

a. Regional and local (on-site and off-site) geology and hydrogeology. Include a discussion of the surface geology (e.g., soil types, soil parameters, outcrops, faulting), subsurface geology (e.g., stratigraphy, continuity, and connectivity), and hydrogeology (e.g., water-bearing zones, hydrologic parameters, impermeable strata). Please include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s), cross sections, soil boring and monitoring well logs and locations, and copies of regional geologic maps.

b. Analysis of the hydraulic flow system in the vicinity of the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on groundwater elevation contour maps and updated in all future reports submitted for your site. Please address changes due to seasonal precipitation and groundwater pumping, and evaluate the potential interconnection between shallow and deep aquifers. Please include an analysis of vertical hydraulic gradients, and effects of pumping rates on hydraulic head from nearby water supply wells, if appropriate. Include hydraulic head in the different water bearing zones and hydrographs of all monitoring wells.

c. Release history, including potential source(s) of releases, potential contaminants of concern (COC) associated with each potential release, confirmed source locations, confirmed release locations, and existing delineation of release areas. Address primary leak source(s) (e.g., a tank, sump, pipeline, etc.) and secondary sources (e.g., high-

ATTACHMENT B

Site Conceptual Model Requisite Elements (continued)

concentration contaminants in low-permeability lithologic soil units that sustain groundwater or vapor plumes). Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).

d. Plume (soil gas and groundwater) development and dynamics including aging of source(s), phase distribution (NAPL, dissolved, vapor, residual), diving plumes, attenuation mechanisms, migration routes, preferential pathways (geologic and anthropogenic), magnitude of chemicals of concern and spatial and temporal changes in concentrations, and contaminant fate and transport. Please include three-dimensional plume maps for groundwater and two-dimensional soil vapor plume plan view maps to provide an accurate depiction of the contaminant distribution of each COC.

e. Summary tables of chemical concentrations in different media (i.e., soil, groundwater, and soil vapor). Please include applicable environmental screening levels on all tables. Include graphs of contaminant concentrations versus time.

f. Current and historic facility structures (e.g., buildings, drain systems, sewer systems, underground utilities, etc.) and physical features including topographical features (e.g., hills, gradients, surface vegetation, or pavement) and surface water features (e.g. routes of drainage ditches, links to water bodies). Please include current and historic site maps.

g. Current and historic site operations/processes (e.g., parts cleaning, chemical storage areas, manufacturing, etc.).

h. Other contaminant release sites in the vicinity of the site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for the SCM. Include a summary of work and technical findings from nearby release sites, including the two adjacent closed LUFT sites, (i.e., Montgomery Ward site and the Quest Laboratory site).

i. Land uses and exposure scenarios on the facility and adjacent properties. Include beneficial resources (e.g., groundwater classification, wetlands, natural resources, etc.), resource use locations (e.g., water supply wells, surface water intakes), subpopulation types and locations (e.g., schools, hospitals, day care centers, etc.), exposure scenarios (e.g. residential, industrial, recreational, farming), and exposure pathways, and potential threat to sensitive receptors. Include an analysis of the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e., vapor pathway). Please include copies of Sanborn maps and aerial photographs, as appropriate.

j. Identification and listing of specific data gaps that require further investigation during subsequent phases of work. Proposed activities to investigate and fill data gaps identified.

ATTACHMENT C

Path to Closure Project Schedule Requisite Elements

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Path to Closure Project Schedule Requisite Elements

The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 which requires development of a "Path to Closure Plan" by December 31, 2013 that addresses the impediments to closure for the site. Please prepare a Path to Closure Schedule that has milestone dates tied to calendar quarters which will achieve site cleanup and case closure in a timely and efficient manner and minimizes the cost of corrective action. The complexity of the Path to Closure Schedule should be commensurate with the complexity of the site and tasks required to achieve case closure. ACEH will review the schedule to ensure appropriate key elements are included.

The Path to Closure Schedule should the following key environmental elements and milestones as appropriate:

- Preferential Pathway Study
- Soil, Groundwater, and Soil Vapor Investigations
- Initial, Updated, and Final/Validated SCMs
- Interim Remedial Actions
- Feasibility Study/Corrective Action Plan
- Pilot Tests
- Remedial Actions
- Soil Vapor and Groundwater Monitoring Well Installation and Monitoring
- Public Participation Program (Fact Sheet Preparation/Distribution/Public Comment Period, Community Meetings, etc.)
- Case Closure Tasks (Request for closure documents, ACEH Case Closure Summary Preparation and Review, Site Management Plan, Institutional Controls, Public Participation, Landowner Notification, Well Decommissioning, Waste Removal, and Reporting.)

Please include time for regulatory and RP in house review, permitting, off-site access agreements, and utility connections, etc.

For complex projects (i.e., redevelopment projects, etc.), please use a critical path methodology/tool to construct a schedule with sufficient detail to support a realistic and achievable Path to Closure Schedule. The schedule is to include at a minimum:

- Defined work breakdown structure including summary tasks required to accomplish the project objectives and required deliverables
- Summary task decomposition into smaller more manageable components that can be scheduled, monitored, and controlled
- Sequencing of activities to identify and document relationships among the project activities using logical relationships
- Identification of critical paths, linkages, predecessor and successor activities, leads and lags, and key milestones
- Identification of entity responsible for executing work
- Estimated activity durations (60-day ACEH review times are based on calendar days)