

ALAMEDA COUNTY
**HEALTH CARE SERVICES
AGENCY**

ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

October 17, 2014

Mr. Gopal Nair
City of Oakland
250 Frank Ogawa Plaza, Suite 501
Oakland, CA 94612
(Sent via electronic mail to: GNair@oaklandnet.com)

Subject: Case Closure for Fuel Leak Case No. RO0000141 and Global ID T0600100469, City of Oakland Corporation
Yard, 5921 Shepherd Canyon Road, Oakland, CA 94611

Dear Mr. Nair:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Please be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,


Ariu Levi
Director

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

October 17, 2014

Mr. Gopal Nair
City of Oakland
250 Frank Ogawa Plaza, Suite 501
Oakland, CA 94612
(Sent via electronic mail to: GNair@oaklandnet.com)

Subject: Case Closure for Fuel Leak Case No. RO0000141 and Global ID T0600100469, City of Oakland Corporation Yard, 5921 Shepherd Canyon Road, Oakland, CA 94611

Dear Responsible Party:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.waterboards.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

Due to the potential for residual contamination, the site was closed with Site Management Requirements that limit future land use to the current land use. Site Management Requirements are further described in section IV of the attached Case Closure Summary.

If you have any questions, please call Mark Detterman at (510) 567-6876. Thank you.

Sincerely,

Dilan Roe, P.E.
LOP and SCP Program Manager

Enclosures: 1. Remedial Action Completion Certification
2. Case Closure Summary

Cc w/enc.: James Helge, Fugro Consultants, Inc., 1000 Broadway, Suite 440, Oakland, CA 94607 (sent via e-mail to jhelge@fugro.com)

Jerriann Alexander, Fugro Consultants, Inc., 1000 Broadway, Suite 440, Oakland, CA 94607 (sent via e-mail to jalexander@fugro.com)

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3354, Oakland, CA 94612 (sent via e-mail to lgriffin@oaklandnet.com)

Cherie McCaulou, San Francisco Bay Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612 (sent via e-mail to cmccaulou@waterboards.ca.gov)

Mark Detterman; (sent via electronic mail to mark.detterman@acgov.org)
e-File, GeoTracker

UST Case Closure Summary Form

Agency Information

Date: October 17, 2014

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: 510-567-6876
Staff Person: Mark Detterman	Title: Senior Hazardous Materials Specialist

Case Information

Facility Name: City of Oakland Corporation Yard		
Facility Address: 5921 Shepherd Canyon Road, Oakland, CA 94611		
RB LUSTIS Case No: ----	Local Case No.: STID 3675	LOP Case No.: RO0000141
URF Filing Date: ----	GeoTracker Global ID: T0600100469	
APN: 48E-7350-5-2	Current Land Use: Commercial	
Responsible Party(s):	Address:	Phone:
City of Oakland c/o: Mr. Gopal Nair	City of Oakland 250 Frank H. Ogawa Plaza Suite 501 Oakland, CA 94612	510-238-6361

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
1	2000	Gasoline	Removed	May 3, 1990
2	550	Diesel	Removed	May 3, 1990

Conceptual Site Model (Attachment 1, 2 pages)

Closure Criteria Met (Attachment 2, 1 page)

LTCP Groundwater Specific Criteria (Attachment 3, 1 page)

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5, 1 page)

Site maps (Attachment 6, 5 pages)

Analytical Data (Attachment 7, 8 pages)

UST Case Closure Summary Form

Additional Information:

Water Supply Wells in Vicinity:

According to data supplied by the Alameda County Public Works Agency (ACPWA) there are no water supply wells within 2,000 feet of the site. A well of unknown usage is located approximately 1,950 feet west of the subject site and is considered to be crossgradient. The nearest cathodic protection well, as a potential vertical migration preferential pathway, is located approximately 1,560 feet southeast and is considered to be down- to crossgradient. Each well is not considered to be a receptor for the subject site based on direction to the well, the well screen intervals, and the distance to the well.

According to the GeoTracker Groundwater Ambient Monitoring & Assessment (GAMA) site, there are no California Dept. of Public Health (CDPH), State Water Resources Control Board (SWRCB) Domestic, Dept. of Pesticide Regulation (DPR), Dept. of Water Resources (DWR) or United States Geological Society (USGS) supply wells within a 2,000 foot radius of the site.

Groundwater flow direction is likely toward the southeast based on topography (sloping south-southeast toward Shepherd Creek at a distance of 270 feet south).

Site Management Requirements:

This fuel leak case has been evaluated for closure consistent with the State Water Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). The site is currently used as city of Oakland corporation yard. As used and constructed, the site appears to meet media-specific criteria for vapor intrusion to indoor air; however, four USTs were understood to have been installed at the site and were permitted for removal; however, only two USTs were located and removed. Therefore, if a change in land use to any residential or conservative land use, or if any redevelopment occurs, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. Due to the potential for vapor intrusion to indoor air for future buildings, ACEH will re-evaluate the case upon receipt of approved development/construction plans.

Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.

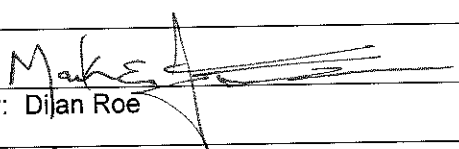
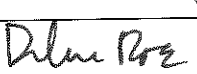
UST Case Closure Summary Form

RWQCB Notification

Notification Date: June 6, 2014

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist
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Local Agency Representative

Prepared by: Mark Detterman	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 10/17/2014
Approved by: Dijan Roë	Title: LOP and SCP Program Manager
Signature: 	Date: 10/17/2014

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions. The Conceptual Site Model may not contain all available data. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (<http://www.acgov.org/aceh/lop/ust.htm>) or the State of California Water Resources Control Board GeoTracker website (<http://geotracker.waterboards.ca.gov>). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

ATTACHMENT 1

CSM Report Go [GEOTRACKER HOME](#) | [MANAGE PROJECTS](#) | [REPORTS](#) | [SEARCH](#) | [LOGOUT](#)

CITY OF OAKLAND COPORATION YARD (T0600100469) - [MAP THIS SITE](#) OPEN - ELIGIBLE FOR CLOSURE

5921 SHEPHERD CANYON ROAD
OAKLAND, CA 94611
ALAMEDA COUNTY

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

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000141
CASEWORKER: [MARK DETTERMAN](#) - SUPERVISOR: [DILAN ROE](#)
SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0515
CASEWORKER: [Cherie McCaulou](#) - SUPERVISOR: [Cheryl L. Prowell](#)

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

THIS PROJECT WAS LAST MODIFIED BY [MARK DETTERMAN](#) ON 6/16/2014 3:55:56 PM - [HISTORY](#)

THIS SITE HAS UNAPPROVED SUBMITTALS. [CLICK HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CSM REPORT - [VIEW PUBLIC NOTICING VERSION OF THIS REPORT](#)

UST CLEANUP FUND CLAIM INFORMATION (DATA PULLED FROM SCUFIS)

FIVE YEAR REVIEW INFORMATION

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	REVIEW NUM	REVIEWER	FUND RECOMMENDATION	TO OVERSIGHT DATE	TO CLAIMANT DATE

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
CITY OF OAKLAND COPORATION YARD (Global ID: T0600100469) 5921 SHEPHERD CANYON ROAD OAKLAND, CA 94611	Open - Eligible for Closure	6/15/2014	5/4/1990	24	ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000141 CASEWORKER: MARK DETTERMAN - SUPERVISOR: DILAN ROE SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0515 CASEWORKER: Cherie McCaulou - SUPERVISOR: Cheryl L. Prowell

STAFF NOTES (INTERNAL)

Not all historic documents for the fuel leak case may be available on GeoTracker. A complete case file for this site is located on the Alameda County Environmental Health website at: <http://ehgis.acgov.org/dehpublic/dehpublic.jsp>.

Results of the 2011 soil and groundwater investigation did not detect significant contamination in the two borings advanced or in the existing monitoring well, however no site conceptual model has been prepared for the site evaluating the hydrogeology, subsurface contaminant transport and potential receptors.

SITE HISTORY

Not all historic documents for the fuel leak case may be available on GeoTracker. A complete case file for this site is located on the Alameda County Environmental Health website at: <http://ehgis.acgov.org/dehpublic/dehpublic.jsp>.

The site is currently used by the City of Oakland as a corporation yard. The case file and 1990 tank removal permit documents include maps showing plans for removing four fuel USTs (one 2,000 gallon regular fuel, one 300 gallon diesel, and two other older and smaller tanks with unknown contents), a pump house with fuel dispensers inside, and a kerosene building and installation of above ground tanks. However, tank removal inspection forms dated May 1990 indicate that two tanks were observed in separate excavations in the tank hold area (one 2,000 gallon gasoline and one 550-gallon diesel). The tanks were reportedly tar coated and had no holes. Samples were reportedly collected from 3 to 4 feet beneath each of the tanks (due to deep sand backfill) and beneath pipelines and no groundwater was encountered in either UST excavation. Native material is reported as a coarse-grained mixture of clay, silt and cobbles. Soil in one end of the gas UST pit was reported to be black and had a noticeable odor of aged gasoline. Two samples were reportedly collected from beneath the gas UST and one sample was collected beneath the diesel UST. The notes report that the diesel tank pit appeared to be backfilled on top of bedrock (shale) and the sample collected was mostly sand. The notes also report that pipelines were pulled out and samples taken from beneath each.

The case file does not contain a tank removal report however does contain analytical data which indicates that 12 depth discrete sample and 4 composite sample were collected and submitted for laboratory analysis during the tank removal in May 1990, however there are no maps in the file showing the location of the samples or rationale for selected sample location or analysis. 2 samples (1A1 and 1A2) were collected at a depth of 11 feet bgs and analyzed for TPH and BTEX, 1 sample (1A3) was collected at a depth of 8 feet bgs and analyzed for TPHd and TPH-O&G, 2 samples were collected at a depth of 7.5 feet bgs (1B1 and 1B2) and analyzed for TPHd, 2 samples were collected from a depth of 9.5 feet bgs (1B3 and 1B4) and analyzed for TPHd, 2 samples (1C1 and 1C2) were collected at a depth of 8 feet bgs and analyzed for TPH and BTEX, 1 sample collected at a depth of 3 feet bgs (1A5) was analyzed for TPH, 1 sample collected at a depth of 3 feet bgs (1A4) was analyzed for TPHd and TPH-O&G, 1 sample collected at a depth of 2 feet bgs was analyzed for TPH and BTEX, one composite sample (Composite A) was analyzed for TPH, one composite sample (Composite B) was analyzed for TPHd and TPH-O&G, one composite sample (C) was analyzed for TPH and BTEX) and one composite sample (1C4-Comp) was analyzed for TPH, TPHd, and BTEX.

TPH was detected above the method detection limit of 10 mg/kg in six samples including the two samples (1A1 and 1A2) collected at 11 feet bgs, sample 1A3 collected at 8 feet bgs, sample 1A4 collected at 3 feet bgs, and two composite samples (Composite B and Composite C) at concentrations ranging from 24 mg/kg to 2200 mg/kg. TPHd was detected above the method detection limit of 10 mg/kg in 7 samples including sample 1A3 collected at 8 feet bgs, 1A4, 1B1 and 1B2 collected at 7.5 feet bgs, and composite samples (Composite B and 1C4 Comp) at concentrations ranging from 62 mg/kg to 1400 mg/kg. TPH-O&G was detected above the method

detection limit of 10 mg/kg in 3 samples including sample 1A3 collected at 8 feet bgs, 1A4 collected at 3 feet bgs, and Composite B at concentrations ranging from 24 mg/kg to 2200 mg/kg. BTEX compounds were detected above the method detection limit of 1 mg/kg in 4 samples including samples 1A1 and 1A2 collected at 11 feet bgs, and composite samples (Composite C and 1C4-Comp) at concentrations ranging from 6 to 27 mg/kg benzene, 4.2 to 86 mg/kg toluene, 2.4 to 16 ethylbenzene, and 12 to 150 mg/kg xylenes.

The UST Unauthorized Release form in the file indicates the source of the release was from tank overfilling and a pipe leak at the dispenser however there is no additional information in the case files. In April 1999, a magnetometer survey was conducted in the vicinity of the former USTs to confirm that no other USTs were present, which detected no anomalies. In March 1999, a boring (SC1) was installed to a depth of approximately 23 feet bgs in the vicinity of the in the vicinity of the gasoline UST excavation. Results of a grab groundwater sample collected from the boring indicated that the shallow groundwater was impacted with low concentrations of petroleum hydrocarbons (140 ug/L TPHg, 150 ug/L TPHd, 12 ug/L benzene, 1.8 ug/l toluene, 4.0 ug/l ethylbenzene, 6.9 ug/l xylenes, <2 ug/l MTBE). TPHd and TPHmo were detected in samples collected from the boring at depths of 13.5 and 19 feet bgs at concentrations of 21 mg/kg and 15 mg/kg, respectively. Between Aril and November 1999, a monitoring well (MW-1) was reportedly installed within 10 feet of the former UST location. Fractured siltstone bedrock was encountered in at approximately 8 to 19 feet bgs in the borehole MW-1 and SC-2, respectively. The depth to groundwater in MW-1 ranged from 14 to 19 feet bgs.

In January 2011 two borings were advanced to 25 feet bgs (B-1) and 38 feet bgs (B-2) at locations reported as topographically downgradient of the UST pits. Groundwater was encountered in boring B-1 at a depth of approximately 23 feet bgs; no groundwater was encountered in boring B-2. Soil samples collected form 9.5 feet bgs in B-1 and 24 feet bgs in B-2, and a grab groundwater sample collected from B-1 were analyzed for TPHg, TPHd, TPHmo, BTEX, MTBE, naphthalene, and lead scavengers. With the exception of 4.2 mg/kg TPHd in B-1, no other analytes were detected in the soil and groundwater samples above the laboratory reporting limits. The depth to water in well MW-1 was approximately 14 feet bgs. With the exception of 0.66 ug/L benzene, no other analytes were detected above laboratory reporting limits (MTBE RL = 20 ug/L) in a sample collected from well MW-1.

Not all historic documents for the fuel leak case may be available on GeoTracker. A complete case file for this site is located on the Alameda County Environmental Health website at: <http://ehgis.acgov.org/dehpublic/dehpublic.jsp>.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
MARK GOMEZ	CITY OF OAKLAND	250 FRANK OGAWA PLAZA STE #5301	OAKLAND	

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION		VIEW LTCP CHECKLIST	VIEW PATH TO CLOSURE PLAN	VIEW CASE REVIEWS			
<u>CONTAMINANTS OF CONCERN</u>	<u>CURRENT LAND USE</u>	<u>BENEFICIAL USE</u>	<u>DISCHARGE SOURCE</u>	<u>DATE REPORTED</u>	<u>STOP METHOD</u>	<u>NEARBY / IMPACTED WELLS</u>	
Diesel, Gasoline	Commercial	GW - Municipal and Domestic Supply	Dispenser, Tank	5/4/1990	Close and Replace Tank	0	
<u>FREE PRODUCT</u>	<u>OTHER CONSTITUENTS</u>	<u>NAME OF WATER SYSTEM</u>	<u>LAST REGULATORY ACTIVITY</u>	<u>LAST ESI UPLOAD</u>	<u>LAST EDF UPLOAD</u>	<u>EXPECTED CLOSURE DATE</u>	<u>MOST RECENT CLOSURE REQUEST</u>
NO	NO	EBMUD	6/16/2014	9/23/2014	3/21/2011		

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

NONE

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
048E735000502		South Bay - East Bay Cities (20420)
COUNTY	PUBLIC WATER SYSTEM(S)	
Alameda	EAST BAY MUD - 375 ELEVENTH STREET, OAKLAND, CA 94607	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - HIDE

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
B-1	1/28/2011		ND	ND	ND		ND	
MW-1	1/27/2011		0.66 UG/L	ND	ND		ND	

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - HIDE

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
B-1 @ 9.5	1/27/2011		ND	ND	ND		ND	
B-2 @ 24	1/27/2011		ND	ND	ND		ND	

MOST RECENT GEO_WELL DATA - HIDE

[VIEW ESI SUBMITTALS](#)

FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)
MW-1	12/14/2010	14.37	N	

ATTACHMENT 2

LTCP Checklist GEOTRACKER HOME | MANAGE PROJECTS | REPORTS | SEARCH | LOGOUT

CITY OF OAKLAND COPORATION YARD (T0600100469) - [MAP THIS SITE](#) OPEN - ELIGIBLE FOR CLOSURE

5921 SHEPHERD CANYON ROAD
 OAKLAND, CA 94611
 ALAMEDA COUNTY

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

CLEANUP OVERSIGHT AGENCIES
 ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000141
 CASEWORKER: [MARK DETTERMAN](#) - SUPERVISOR: [DILAN ROE](#)
 SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-0515
 CASEWORKER: [Cherie McCandou](#) - SUPERVISOR: [Cheryl L. Prowell](#)

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

THIS PROJECT WAS LAST MODIFIED BY [MARK DETTERMAN](#) ON 8/16/2014 3:55:66 PM - [HISTORY](#)

THIS SITE HAS UNAPPROVED SUBMITTALS. [CLICK HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY **THIS VERSION IS FINAL AS OF 6/15/2014** CHECKLIST INITIATED ON 8/10/2013 [CLOSURE POLICY HISTORY](#)

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

- a. Is the unauthorized release located within the service area of a public water system?
 YES NO
- 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
- 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](#)

- 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
- 1.1 - The contaminant plume that exceeds water quality objectives is <100 feet in length. There is no free product. The nearest existing water supply well or surface water body is >250 feet from the defined plume boundary. YES NO

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
- 2a - Scenario 3 [\(example\)](#): Dissolved Phase Benzene Concentrations Only in Groundwater (Low concentration groundwater scenarios with or without O2 measurements must satisfy one i, ii, or iii):
- i. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are <100 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building; and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone. YES NO
 - ii. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are >100 µg/L but <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase benzene and the foundation of existing or potential building; and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone. YES NO
 - iii. For bioattenuation zone with oxygen ≥ 4% and benzene concentration are <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building; and contain total TPH <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](#)

- 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
- 3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table [\(LINK\)](#) for the specified depth below ground surface. YES NO

Additional Information

- This case should be kept OPEN in spite of meeting policy criteria. YES NO
- Has this LTCP Checklist been updated for FY 14/15? YES NO

[SPELL CHECK](#)

**ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA**

LTCP Groundwater Specific Scenario under which case was closed: **Scenario 1**

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3 Criteria	LTCP Scenario 4 Criteria
Plume Length	<100 feet	<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product	No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	Decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	> 1,950 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	270 feet southeast; Shepherd Creek	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable for groundwater specific criteria.	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (ug/L)	Current Site Maximum (ug/L)	LTCP Scenario 1 Criteria (ug/L)	LTCP Scenario 2 Criteria (ug/L)	LTCP Scenario 3 Criteria (ug/L)	LTCP Scenario 4 Criteria (ug/L)
Benzene	1,300	0.66	No criteria	3,000	No criteria	1,000
MTBE	<40	<0.5	No criteria	1,000	No criteria	1,000

Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?

COMMENTS:

Except for 0.66 micrograms per liter (µg/l) of benzene, all contaminants of concern (COCs) in well MW-1 that exceeded the San Francisco Regional Water Quality Control Board's (RWQCB) Environmental Screening Levels (ESLs) in 1999, had decreased to below laboratory reporting limits by January 2011. This includes total petroleum hydrocarbon as gasoline (TPHg), TPH as diesel (TPHd), and benzene, toluene, ethylbenzene, xylenes (BTEX). Downgradient grab-groundwater sample B-1, located ten feet downgradient of well MW-1 and 20 feet downgradient of former underground storage tank (UST) area, was non-detectable for all COCs in January 2011.

**ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA**

LTCP Vapor Specific Scenario under which case was closed: **Scenario 3A**

Active Fueling Station Active as of: Not applicable

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered LNAPL	No LNAPL	LNAPL in groundwater	LNAPL in soil	No LNAPL	No LNAPL	No LNAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	≥5 feet ^a	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Soil in Bioattenuation Zone	<100 mg/kg ^b	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg
Maximum Current Benzene Concentration in Groundwater	0.66 ug/L	No criteria	No criteria	<100 ug/L	≥100 and <1,000 ug/L	<1,000 ug/L	No criteria
Oxygen Data within Bioattenuation Zone	No oxygen data	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	N/A	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS

Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum (µg/m ³)	Current Maximum (µg/m ³)	Residential	Commercial	Residential	Commercial
Benzene	----	----	<85	<280	<85,000	<280,000
Ethylbenzene	----	----	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	----	----	<93	<310	<93,000	<310,000

If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected? ----

If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health? ----

COMMENTS:

^a Depth to water (DTW) at the site lies between 14 feet below ground surface (bgs; well MW-1 in January 2011) to 23 feet bgs (boring B-1 in January 2011).

^b Soil TPHg and TPHd concentrations beneath the diesel and gasoline USTs and related piping at 3 feet bgs do not exceed their respective laboratory RLs (a maximum of < 10 milligrams per kilogram [mg/kg]). Beneath the USTs, excavation of soil that contained up to 1,400 mg/kg TPHd at a depth of 7.5 feet bgs appears to have been conducted. A concentration of up to 560 mg/kg TPHd was documented at a depth of 9.5 feet beneath the diesel UST. Residual contamination at a depth of 11 feet bgs contained up to 790 mg/kg TPHg, 27 mg/kg benzene, and 16 mg/kg ethylbenzene. These data appear to indicate that a bioattenuation zone thickness of at least 5 feet is present in the source area. The collection of additional analytical data at bores SCI-1 and B-1 appear to define the vertical and lateral extent of contamination in soil.

**ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA**

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed:
Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below.

Are maximum concentrations less than those in Table 1 below?		Yes				
Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs (mg/kg)
Site Maximum	Benzene	<1	<0.0054	<1	<0.0054	<0.0054
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	<1	<0.0054	<1	<0.0054	<0.0054
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene ^a	---	---	---	---	---
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	---	---	---	---	---
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5
If maximum concentrations are greater than those in Table 1, are they less than levels from a <u>site-specific risk assessment</u> ?				---		
If maximum concentrations are greater than those in Table 1, <u>has a determination been made</u> that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?				---		

COMMENTS:

^a Naphthalene was not analyzed in soil. According to the California Leaking Underground Fuel Tank Manual (LUFT; 2012), the composition of fresh gasoline contains an average of 2.0% and a maximum of 2.5% benzene, and contains an average of 0.25% and a maximum of 0.36% naphthalene. Using the maximum benzene concentration (27 mg/kg at 1A2) as a surrogate, the theoretical maximum naphthalene concentration would be 3.9 mg/kg. This concentration is below the Table 1 criteria.

The maximum concentration of diesel at the site is reported to be 1,400 mg/kg, and appears to have been removed by overexcavation. The LUFT manual indicates that naphthalene is present at an average of 0.26% and a maximum of 0.8% in fresh diesel product. This indicates that naphthalene may have been present at up to 11.2 mg/kg in this sample. Although apparently excavated, this is below the Table 1 criteria.

Naphthalene was analyzed in groundwater at well MW-1 and boring B-1 in January 2011. Naphthalene concentrations were not detected above laboratory RL of 2.0 ug/L.

ATTACHMENT 6



Google earth



2000

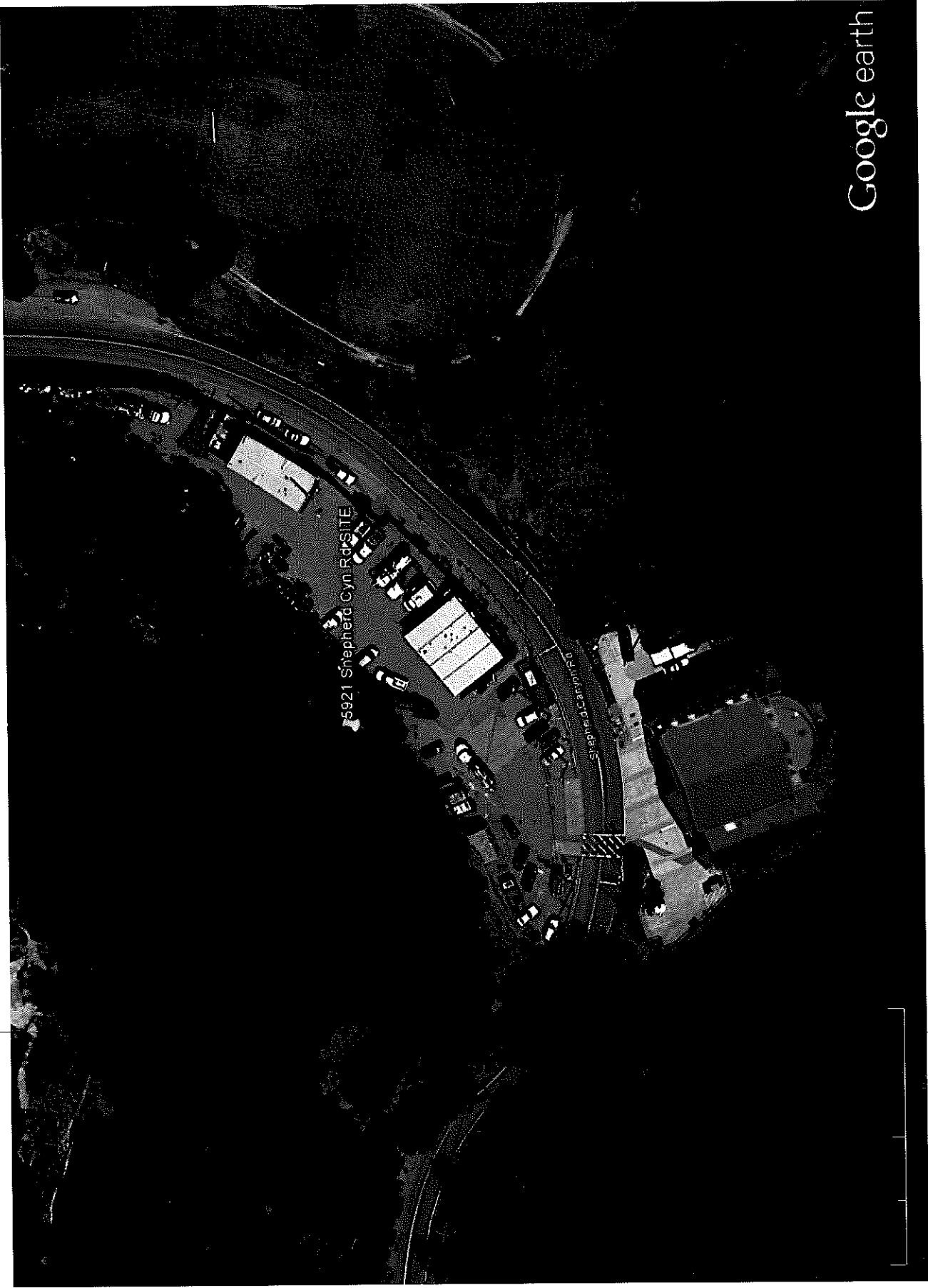


feet
meters

700

Google earth

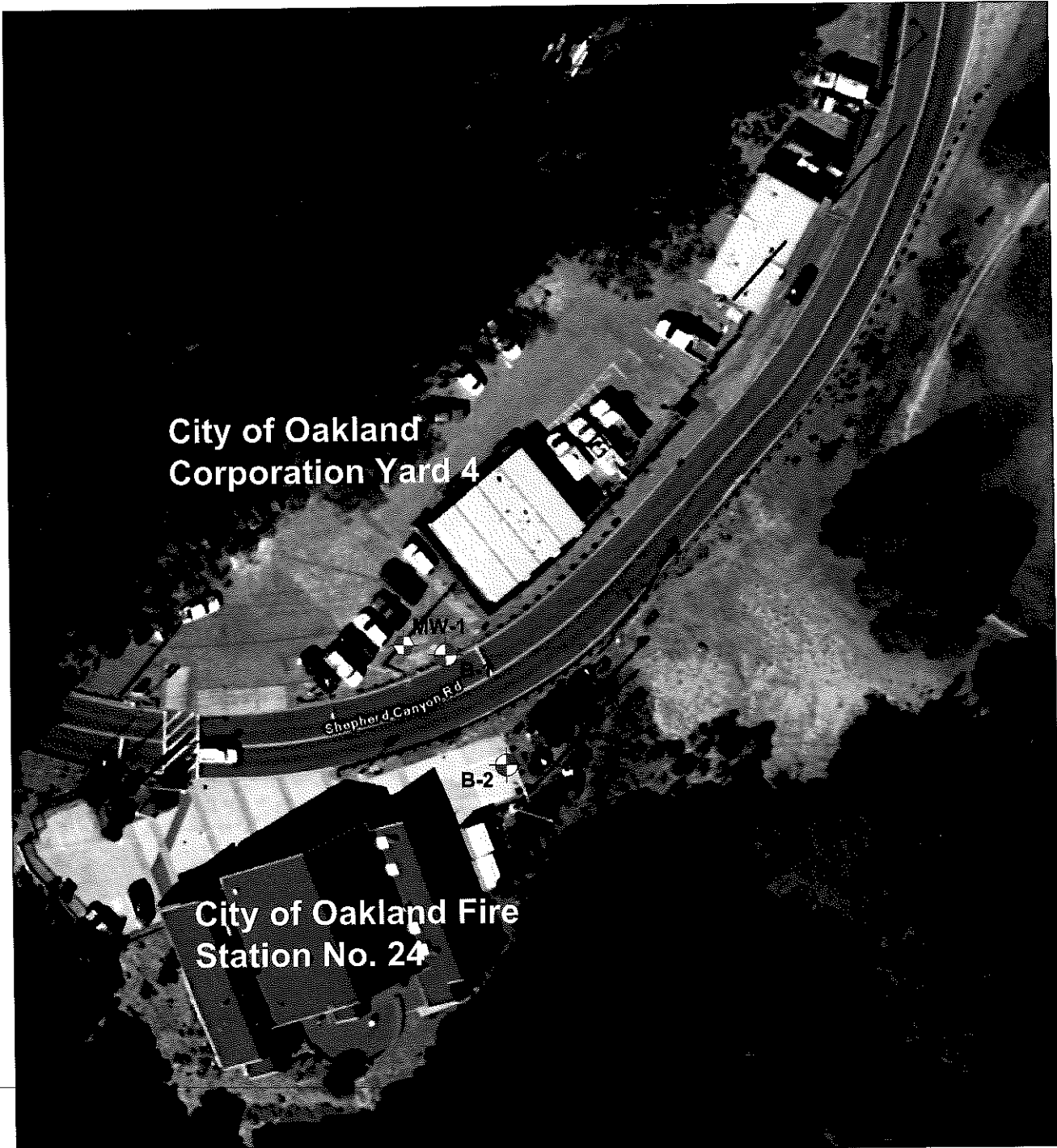
Image date 4/21/2014



Google earth





Google earth

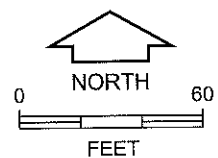


M:\Drafting\JOBFILES\2010\04_74100012\Drawings\A04_74100012-02_site.dwg 11-23-2010 - 1:56pm

BASE MAP SOURCE: Aerial photograph from Google Earth Pro 2010.





LEGEND

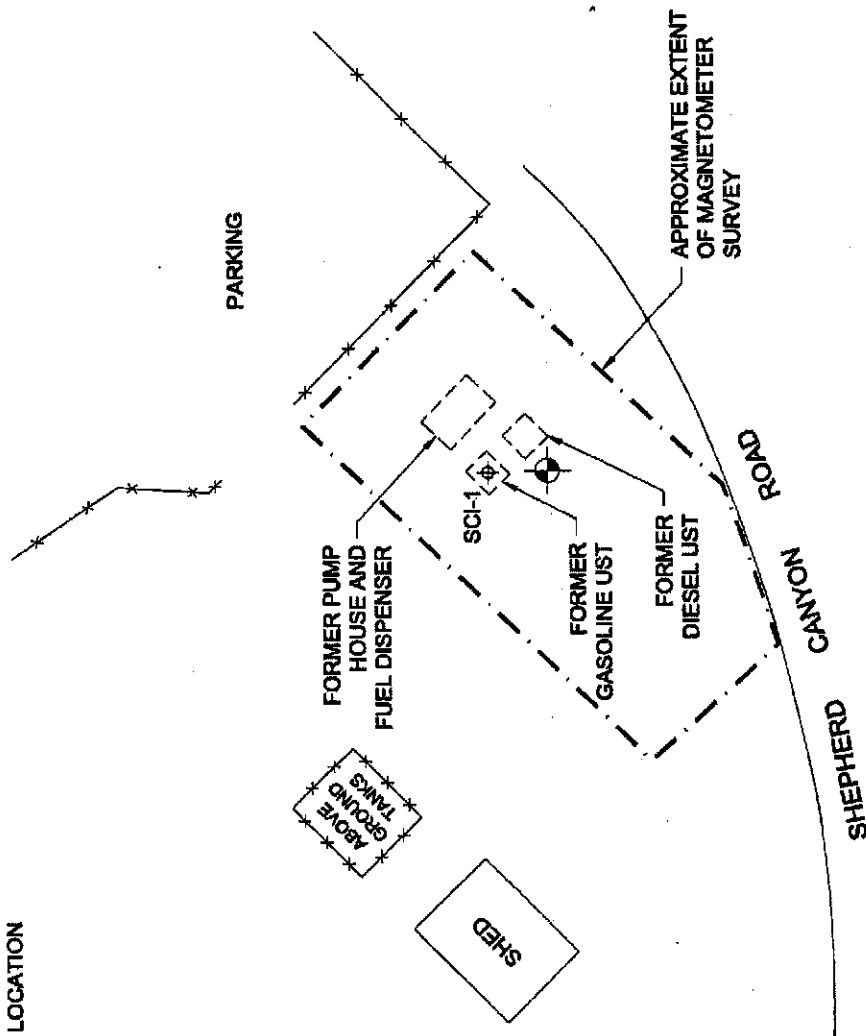
-  **MW-1** Location of Monitoring Well
-  **B-2** Location of Boring



SITE PLAN
5921 Shepherd Canyon Road
Oakland, California

EXPLANATION

- MW-1  PROPOSED MONITORING WELL LOCATION
- SCI-1  BORING LOCATION
-  FORMER SITE FEATURE
-  FENCE

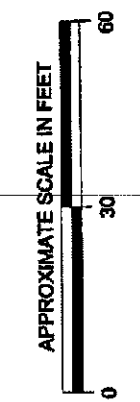


SITE PLAN

JOB NUMBER 272.037	DATE 04/99	APPROVED
	OAKLAND CORPORATION YARD NO. 4 5921 SHEPHERD CANYON ROAD OAKLAND, CALIFORNIA	
PLATE 2		SITE DWG

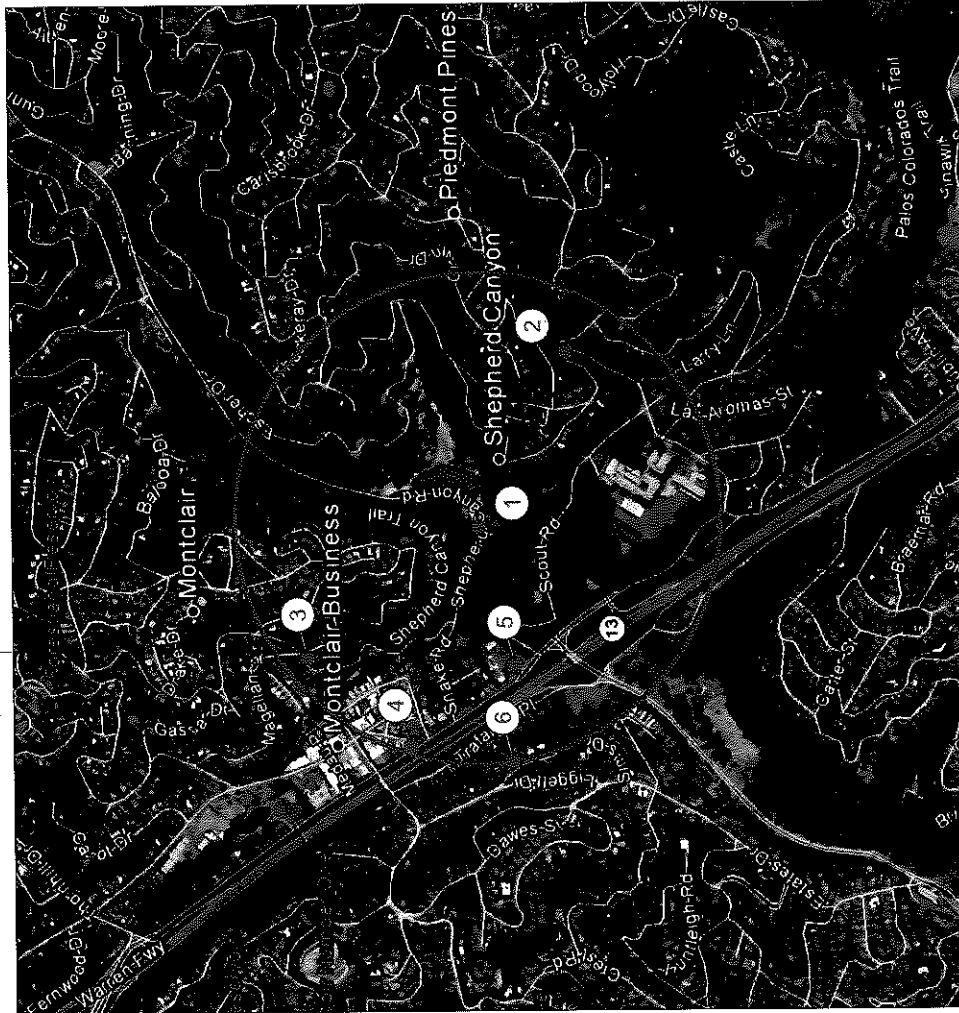


Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers





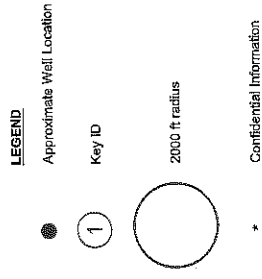
City of Oakland
Project No. 04-72140008



BASE MAP SOURCE: Google Earth Pro (2013), Aerial photograph.

Table 1
Summary of Registered Wells and Uses
City of Oakland Corporation Yard No. 4
Oakland, California

Key ID	Address	No. of Wells	Reported Use	Depth, Screen Interval	Comments
1	5921 Shepherd Canyon Rd., Oakland	1	Monitoring	25 ft, screened between 15-25ft	Site
2	*	1	Cathodic Protection	120 ft, screened between 95-120ft	1,563 ft SE, Downgradient
3	*	1	Cathodic Protection	120 ft, screened between 95-120ft	1770 ft NW, Upgradient
4	*	4	Monitoring	Varies, screened between 5-25ft & 5-30ft	Site Closed, Wells Destroyed
5	*	4	Monitoring	Varies, screened between 11-51ft & 30-50ft	Site Closed, Wells Destroyed
6	*	1	Unknown	32 ft, unknown screen interval	1,980 ft W, Cross gradient



ATTACHMENT 7

Table 1
Summary of Analytical Results - Soil
City of Oakland Corporation Yard #4
5921 Shepherd Canyon Road
Oakland, California

Analyte	Units	Sample ID										Regulatory Screening Criteria		
		IA1	IA2	IA5	IA6	IA3	IA4	SCH-1@13.5'	SCH-1@19'	B-1 @ 9.5'	B-2 @ 24'	Tier 1	Commercial/Industrial Land Use	
Sample Depth	feet	11	11	3.0	3.0	8.0	3.0	13.5	19	9.5	24	24		
Sample Date		5/3/1990	5/3/1990	5/3/1990	5/3/1990	5/3/1990	5/3/1990	3/5/1999	3/5/1999	1/27/2011	2/4/2011	2/4/2011		
Sample Location		Below Gasoline UST	Below Gasoline UST	Below Gasoline Piping	Below Diesel Piping	Below Diesel UST	Below Diesel Piping	UST Excavation Area	UST Excavation Area	20 DG of UST Area	70' DG of UST Area	70' DG of UST Area		(Groundwater is a Current Potential Drinking Water Resource)
Hydrocarbons														
TPH _g	mg/kg	60	780	ND	ND	ND	ND	<1.0	<1.0	<1.1	<1.1	<1.1	100	500
TPH _d	mg/kg	-	-	-	-	62	21	21	15	4.2 Y	<0.59	<0.5	100	110
TPH _m	mg/kg	-	-	-	-	ND	24	14	15	<5.0	<5.0	<5.0	100	500
Volatiles Organic Compounds														
MTBE	µg/kg	-	-	-	-	-	-	<20	<20	<22	<21	<21	23	23
Benzene	µg/kg	6.0	27	ND	ND	-	-	<5.0	<5.0	<5.4	<5.3	<5.3	44	44
Toluene	µg/kg	11	86	ND	ND	-	-	<5.0	<5.0	<5.4	<5.3	<5.3	2,900	2,900
Ethylbenzene	µg/kg	2.4	16	ND	ND	-	-	<5.0	<5.0	<5.4	<5.3	<5.3	3,800	3,800
Total Xylenes	µg/kg	12	150	ND	ND	-	-	<5.0	<5.0	<5.4	<5.3	<5.3	2,300	2,300

mg/kg NOT µg/kg
See attached lab report.

Notes:
TPH_g = Total Petroleum Hydrocarbons as gasoline
TPH_d = Total Petroleum Hydrocarbons as diesel
TPH_m = Total Petroleum Hydrocarbons as motor oil
DG = Downgradient
µg/kg = Micrograms per kilogram
mg/kg = Milligrams per kilogram
Detected Concentrations shown in Bold
< = Not detected above laboratory detection limit
ND = Not Detected
- = Not Analyzed
Y = Sample exhibits chromatographic pattern which does not resemble standard
EST = Environmental Screening Level, San Francisco Bay Regional Water Quality Control Board, Users Guide: Derivation and Application of Environmental Screening Levels, Interim Final December 2013
User's Guide: Derivation and Application of Environmental Screening Levels, Interim Final December 2013
Exceeds Tier 1 ESL





GTEL
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Client: R.S. Egan & Co.
Project Number: SFB-762-0087.72
Work Order Number: ML579001
Location: Corporate Yard #4
Oakland, CA

Table 1
TEST RESULTS
BTEX/Total Petroleum Hydrocarbons
Modified EPA Method 8015/8020/5030
Matrix: Soil

Date Sampled: May 3, 1990
Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons	Benzene	Toluene	Ethylbenzene	Xylenes
1A1	11	60	6	11	2.4	12
1A2	11	790	27	86	16	150
1A5	3	ND	ND	ND	ND	ND
Composite A	NA	ND	ND	ND	ND	ND
Composite C	NA	500	5.5	31	12	79

CA Certification Number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit; TPH 10ppm; Benzene 1ppm; Toluene 1ppm; Ethylbenzene 1ppm; Xylenes 1ppm.

NA = Not Applicable
ND = None Detected

Client: R.S. Eagan & Co.
Project Number: SFB-762-0087.72
Work Order Number: ML579001
Location: Corporate Yard #4
Oakland, CA

Table 2
TEST RESULTS

Total Petroleum Hydrocarbons as Diesel
Modified EPA Method 8015 (GC/FID)/5030
Matrix: Soil

Date Sampled: May 3, 1990

Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons as Diesel	Remarks
1A3	8	62	NA
1A4	3	<MDL	NA
Composite B	NA	920	NA

CA Certification number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit: 10 mg/Kg (ppm)

NA = Not Applicable
ND = None Detected

Client: R.S. Eagan & Co.
Project Number: SFB-762-0087.72
Work Order Number: ML579001
Location: Corporate Yard #4
Oakland, CA

Table 3
TEST RESULTS

Total Petroleum Hydrocarbons
EPA Method 3550/APHA SM 503E/IR
Matrix: Soil

Date Sampled: May 3, 1990
Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons	Remarks
1A3	8	190	T.P.H. as Oil and Grease
1A4	3	24	T.P.H. as Oil and Grease
Composite B	NA	2200	T.P.H. as Oil and Grease

CA Certification number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit: 10 mg/Kg (ppm)

NA = Not Applicable
ND = None Detected

Emma P. Poppek / A0113

Emma P. Poppek,
Laboratory Director

Client: R.S. Egan & Co.
Project Number: SFB-762-0087.72
Location: Firestation #14

Table 1
TEST RESULTS

Total Petroleum Hydrocarbons as Diesel
Modified EPA Method 8015 (GC/FID)
Matrix: Soil

Date Sampled: May 3, 1990
Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons as Diesel	Remarks
1B1	7.5	1400	NA
1B2	7.5	1200	NA
1B3	9.5	560	NA
1B4	9.5	110	NA

CA Certification number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit: 10 mg/Kg (ppm)

NA = Not Applicable
ND = None Detected

Emma P. Popek /RMB
Emma P. Popek,
Laboratory Director

Client: R.S. Eagan & Co.
Project Number: SFB-762-0087.72
Location: Firestation #23

Table 1
TEST RESULTS

BTEX/Total Petroleum Hydrocarbons
Modified EPA Method 8015/8020/5030
Matrix: Soil

Date Sampled: May 3, 1990

Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons	Benzene	Toluene	Ethylbenzene	Xylenes
1C1	8	ND	ND	ND	ND	ND
1C2	8	<MDL	ND	ND	ND	<MDL
1C3	2	<MDL	ND	ND	ND	ND
1C4-Comp.	NA	250	ND	4.2	3.4	22

CA Certification Number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit; TPH 10ppm; Benzene 1ppm; Toluene 1ppm; Ethylbenzene 1ppm; Xylenes 1ppm.

ND = Not Detected

Client: R.S. Eagan & Co.
Project Number: SFB-762-0087.72
Location: Firestation #23

Table 1
TEST RESULTS

Total Petroleum Hydrocarbons as Diesel
Modified EPA Method 8015 (GC/FID)
Matrix: Soil

Date Sampled: May 3, 1990
Date Analyzed: May 3, 1990

Sample ID	Depth (ft)	Total Petroleum Hydrocarbons as Diesel	Remarks
1C4 Comp.	NA	200	NA

CA Certification number: E628

MDL = Method detection limit; compound below this level would not be detected.
Results rounded to two significant figures.

Method detection limit: 10 mg/Kg (ppm)

NA = Not Applicable
ND = None Detected

Emma P. Popek / RMB
Emma P. Popek,
Laboratory Director



Table 2
Summary of Analytical Results - Groundwater
City of Oakland Corporation Yard #4
5921 Shepherd Canyon Road
Oakland, California

Analyte	Units	Sample ID					Screening Criteria	
		SCI-1	MW-1	MW-1	MW-1	B-1	Tier 1	Commercial/Industrial Land Use
Petroleum Hydrocarbons								
Date		3/5/1999	6/10/1999	9/10/1999	1/27/2011	1/27/2011		
Sample Type		Grab	Well	Well	Well	Grab		
Sample Location		UST Excavation Area	10' DG of UST Area	10' DG of UST Area	10' DG of UST Area	20' DG of UST Area		
								(Evaluation of Potential Vapor Intrusion)
TPHg	µg/L	140	8,000	210	<50	<50	100	NE
TPHd	µg/L	150	1,100	360	<50	<50	100	NE
TPHmo	µg/L	<310	<300	<280	<300	<300	100	NE
Volatile Organic Compounds								
MTBE	µg/L	<2.0	<40	<0.5	<0.5	<0.5	5.0	100,000
Benzene	µg/L	12	1,300	110	0.66	<0.5	1.0	270
Toluene	µg/L	1.8	2,000	8.8	<0.5	<0.5	40	NE
Ethylbenzene	µg/L	4.0	240	32	<0.5	<0.5	30	3,100
Total Xylenes	µg/L	6.9	1,350	5.8	<1.0	<1.0	20	NE
Naphthalene	µg/L	--	--	--	<2.0	<2.0	6.1	1,600
Lead Scavengers								
1,2-Dichloroethane	µg/L	--	--	--	<0.5	<0.5	0.5	1,000
1,2-Dibromoethane	µg/L	--	--	--	<0.5	<0.5	0.05	770

Notes:
 TPHg = Total Petroleum Hydrocarbons as gasoline
 TPHd = Total Petroleum Hydrocarbons as diesel
 TPHmo = Total Petroleum Hydrocarbons as motor oil
 MTBE = Methyl tert Butyl Ether
 DG = Downgradient
 µg/L = micrograms per liter
 Detected Concentrations shown in **Bold**
 < = Not detected above laboratory detection limit
 ND = Not Detected
 -- = Not Analyzed
 NE = Not established
 ESL = Environmental Screening Level, San Francisco Bay Regional Water Quality Control Board
 User's Guide: Derivation and Application of Environmental Screening Levels, Interim Final December 2013
 Exceeds Tier 1 ESL