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

July 17, 2015

Union Oil of California
Chevron Corp.
Attn.: Jillian Holloway
6101 Bollinger Canyon Road
San Ramon, CA 94583
(*Sent via E-mail to:*
JillianHolloway@chevron.com)

Phillips 66 Company
Attn: Ed Ralston
76 Broadway
Sacramento, CA 95818
(*Sent via E-mail to:*
Ed.C.Ralston@p66.com)

ConocoPhillips Co.
Attn: Bill Borgh
76 Broadway
Sacramento, CA 95818

Jagdish M. & Janki J. Moorjani Trust
2445 Castro Valley Blvd.
Castro Valley, CA 94546-5119

Jagdish M. Moorjani
Trustee of the Moorjani Family Trust
2445 Castro Valley Blvd.
Castro Valley, CA 94546-5119

Clover Trust 1997-1
(c/o: Tosco/Prop TX DC17)
PO Box 52085
Phoenix, AZ 85072

Suncor Holdings COP II LLC
(Attn: Keith Marks)
11601 Wilshire Blvd., Suite 700
Los Angeles, CA 90025

Subject: Case Closure for Fuel Leak Case No. RO0002968 and GeoTracker Global ID T0619794453, UNOCAL #3072 / ConocoPhillips, 2445 Castro Valley Blvd, Castro Valley, CA 94546

Dear Responsible Parties:

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 residual contamination, the site was closed with Site Management Requirements that limit future land use to the current commercial land use as an active fueling station. If a change in land use to any residential, commercial other than as a commercial fueling station, 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. ACEH will re-evaluate the site relative to the proposed redevelopment. Site Management Requirements are further described in Additional Information of the attached Case Closure Summary.

If you have any questions, please call Keith Nowell at (510) 567 - 6764. Thank you.

Sincerely,

Dilan Roe

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

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

Cc w/enc.:

Susan Hugo, Alameda County Environmental Health, 1131 Harbor Bay Parkway, Alameda, CA 94502 (*Sent via electronic mail to: susan.hugo@acgov.org*)

Alameda County Public Works, Building Inspection Division, 399 Elmhurst Street, Room 141, Hayward, CA 94544

Sandra Rivera, Alameda County Community Development Agency, Planning Department, 224 West Winton Avenue, Room 111, Hayward, CA 94544 (*Sent via E-mail to: sandra.rivera@acgov.org*)

Katherine Brandt, ARCADIS U.S., Inc., 2000 Powell Street, 7th Floor, Emeryville, CA 94608 (*Sent via E-mail to: Katherine.Brandt@arcadis-us.com*

Keith Nowell, ACEH, (sent via e-mail *keith.nowell@acgov.org*)

e-File, GeoTracker

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

July 17, 2015

Union Oil of California
Chevron Corp.
Attn.: Jillian Holloway
6101 Bollinger Canyon Road
San Ramon, CA 94583
(*Sent via E-mail to: JillianHolloway@chevron.com*)

Phillips 66 Company
Attn: Ed Ralston
76 Broadway
Sacramento, CA 95818
(*Sent via E-mail to: Ed.C.Ralston@p66.com*)

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Phoenix, AZ 85072

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Attn: Keith Marks
11601 Wilshire Blvd., Suite 700
Los Angeles, CA 90025

Subject: Case Closure for Fuel Leak Case No. RO0002968 and GeoTracker Global ID T0619794453, UNOCAL #3072 / ConocoPhillips, 2445 Castro Valley Blvd, Castro Valley, CA 94546

Dear Responsible Parties:

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,

Ronald Browder

Ronald Browder
Acting Director
Department of Environmental Health

UST Case Closure Summary Form

Agency Information

Date: July 15, 2015

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6764
Responsible Staff Person: Keith Nowell	Title: Hazardous Materials Specialist

Case Information

Site Facility Name: 76 Station No. 3072		
Site Facility Address: 2445 Castro Valley Boulevard, Castro Valley, CA 94546		
RB LUSTIS Case No: N/A	Local Case No.: ---	LOP Case No.: RO0002968
URF Filing Date: ----	Geotracker ID: T0619794453	
APN: 847-7-11-2	Current Land Use: Active Fueling Station	
Responsible Parties	Addresses	Phone Numbers
Union Oil Co. of California / Chevron Corp.	6101 Bollinger Canyon Road San Ramon, CA 94583	925 / 790 - 6463
Jagdish M & Janki Moorjani Trust	2445 Castro Valley Boulevard Castro Valley, CA 94546-5119	510 / 581 - 6700
Jagdish M Moorjani, Trustee of the Moorjani Family Trust	2445 Castro Valley Boulevard Castro Valley, CA 94546-5119	510 / 581 - 6700
Phillips 66	76 Broadway Sacramento, CA 95818	916 / 558 - 7633
ConocoPhillips Company	76 Broadway Sacramento, CA 95818	
Clover Trust 1997-1 c/o Tosco/Prop TX DC17)	PO Box 52085 Phoenix, AZ 85072	
Suncor Holdings COP II LLC	11601 Wilshire Blvd., Suite 700 Los Angeles, CA 90025	

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
	12,000	Gasoline	Active	----
	12,000	Gasoline	Active	----
	10,000	Diesel	Active	----
	550	Waste Oil	Active	----
Piping			Active	----

Conceptual Site Model (Attachment 1, 2 pages)

UST Case Closure Summary Form

Closure Criteria Met (Attachment 2, 2 pages)

LTCP Groundwater Specific Criteria (Attachment 3, 2 pages)

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

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

Optional Site Map(s) (Attachment 6, 13 pages)

Analytical Data (Attachment 7, 4 pages)

Additional Information:

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). Under the current land use as an active fueling station, the site is not required to meet media-specific criteria for vapor intrusion to indoor air. Therefore, case closure is granted for the current commercial land use as an active fueling station.

The case does not meet the Media-Specific Criteria: Direct Contact and Outdoor Air Exposure as no soil samples have been recovered in the 0- to 5-foot zone and naphthalene and PAHs are not analytes though the station operates a waste oil UST. However, based on the reported no to low concentrations of BTEX in the 5- to 10-foot zone, and the lack of evidence of a release associated with the waste oil UST, a determination has been made that residual benzene, ethyl benzene, naphthalene, and PAH concentrations would not be present at concentrations that would present a significant risk through the direct contact and outdoor air exposure pathway under the current land use as an active fueling station as the site is paved with minor landscaped areas near the site boundaries resulting in a low potential for direct contact exposure under the current land use.

If a change in land use to any residential, commercial other than as a commercial fueling station, 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. ACEH will re-evaluate the site relative to the proposed redevelopment.

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.

RWQCB Notification Notification Date: 3/19/2015

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist

Local Agency Representative

Prepared by: Keith Nowell	Title: Hazardous Materials Specialist
Signature: Keith Nowell	Date: 7/17/2015
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: Dilan Roe	Date: 7/17/2015

UST Case Closure Summary Form

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

UNOCAL #3072 / CONOCOPHILLIPS (T0619794453) - MAP THIS SITE *OPEN - ELIGIBLE FOR CLOSURE*

2445 CASTRO VALLEY BLVD.
CASTRO VALLEY , CA 94546
ALAMEDA COUNTY

ACTIVITIES REPORT
PUBLIC WEBPAGE

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002968*
CASEWORKER: *KEITH NOWELL* - ***SUPERVISOR:*** *DILAN ROE*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

CR Site ID #: NOT SPECIFIED

THERE ARE 1 OTHER CASES ASSOCIATED WITH THIS CASE - SHOW

THIS PROJECT WAS LAST MODIFIED BY ***KEITH NOWELL*** ON 7/17/2015 2:09:54 PM - HISTORY

THIS SITE HAS 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 SCUFIIS)

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	FIVE YEAR REVIEW INFORMATION: 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
UNOCAL #3072 / CONOCOPHILLIPS (Global ID: T0619794453) 2445 CASTRO VALLEY BLVD. CASTRO VALLEY, CA 94546	Open - Eligible for Closure	5/19/2015	3/17/2006	9	ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002968* ***CASEWORKER:*** *KEITH NOWELL* - ***SUPERVISOR:*** *DILAN ROE* SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA* ***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 more complete historic case file for this site is located on the Alameda County Environmental Health website at https://ehgis.acgov.org/dehpublic/dehpublic.jsp.

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SITE HISTORY
Three 10,000-gallon underground storage tanks (USTs) (two gasoline and one diesel) and one 550-gallon waste-oil UST were excavated and removed from the site between November 1989 and February 1990. The condition of the USTs was not described in the reports that are in the ACEH files.

Maximum petroleum hydrocarbon concentration of 1,900 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) was detected in initial sidewall soil samples collected during the tank removal, resulting in opening ACEH case file RO1008. Over excavation of the UST and dispenser area was performed. Three groundwater monitoring wells installed in January 1990 and two additional wells installed in August 1990. The wells were destroyed and the case closed in June, 1993.

A baseline site assessment conducted in 2005 for this active service station revealed maximum concentrations of 480 mg/kg TPHg and 0.11 mg/kg MTBE in soil, resulting in a re-opening of the case. Groundwater samples recovered from the shallow (<25 feet bgs) groundwater zone were reported to contain 87 ug/L MTBE, ethyl benzene at 0.77 ug/L and xylenes at 1.2 ug/L. TPHg, TPHd benzene and toluene concentrations were reported below the lab reporting limit.

A groundwater investigation was conducted in 2007 to evaluate the lateral and vertical extent of groundwater contamination. TPHd and MTBE were detected in groundwater in both shallow and deeper (51 & 55 feet bgs) water bearing zones at concentrations of up to 500 ug/L and 6.3 ug/L, respectively, in the shallow zone and 800 ug/L and 10 ug/L, respectively, in the deeper zone.

Based on LTCP Technical Justification for Groundwater Plume Length, Indicator Constituents, Concentrations, Buffer Distances (Separation Distances) to Receptors and off-site down gradient wells, a determination has been made the contaminant plume lengths for shallow and for deeper groundwater would not pose a significant risk to human health or the environment.

The case does not meet the Media-Specific Criteria: Direct Contact and Outdoor Air Exposure as no soil samples have been recovered in the 0- to 5-foot zone and naphthalene and PAHs are not analytes though the station operates a waste oil UST. However, based on the reported no to low concentrations of BTEX in the 5- to 10-foot zone, and the lack of evidence of a release associated with the waste oil UST, a determination has been made that residual benzene, ethyl benzene, naphthalene, and PAH concentrations would not be present at concentrations that would present a significant risk through the direct contact and outdoor air exposure pathway.

The case appears to meet the LTCP criteria as an Active Commercial Petroleum Fueling Facility.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL

BILL BORGH	CONOCOPHILLIPS COMPANY	76 BROADWAY	SACRAMENTO	
CLOVER TRUST	CLOVER TRUST 1997-1	P.O. BOX 52085	PHOENIX	
ED RALSTON	PHILIPS 66	76 BROADWAY	SACRAMENTO	ed.c.ralston@p66.com
JAGDISH M & JANKI J MOORJANI TRUST	NA	2445 CASTRO VALLEY BLVD	CASTRO VALLEY	
JAGDISH M. MOORJANI	JAGDISH M. MOORJANI, TRUSTEE OF THE MOORJANI FAMILY TRUST	2445 CASTRO VALLEY BLVD	CASTRO VALLEY	
JILLIAN HOLLOWAY	UNION OIL OF CALIFORNIA / CHEVRON EMC	6101 BOLLINGER CANYON ROAD, 5338B	SAN RAMON	jillianholloway@chevron.com
KEITH MARKS	SUNCOR HOLDINGS COP II LLC	11601 WILSHIRE BLVD #700	LOS ANGELES	

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION VIEW LTCP CHECKLIST VIEW PATH TO CLOSURE PLAN VIEW CASE REVIEWS

CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Diesel, MTBE / TBA / Other Fuel Oxygenates, Gasoline	Commercial	GW - Municipal and Domestic Supply		3/17/2006	Other Means	0

FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	EBMUD	6/25/2015	6/19/2015		12/23/2014	7/25/2014

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

NONE

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN
084A000701102

GW BASIN NAME

WATERSHED NAME
South Bay - East Bay Cities (204.20)

COUNTY
Alameda

PUBLIC WATER SYSTEM(S)
- **EAST BAY MUD** - 375 ELEVENTH STREET, OAKLAND, CA 94607

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - HIDE VIEW ESI SUBMITTALS

NO GROUNDWATER DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - HIDE VIEW ESI SUBMITTALS

NO SOIL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT GEO_WELL DATA - HIDE VIEW ESI SUBMITTALS

NO GEO_WELL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

LOGGED IN AS KNOWELL CONTACT GEOTRACKER HELP

ATTACHMENT 2

LTCP Checklist Go

UNOCAL #3072 / CONOCOPHILLIPS (T0619794453) - MAP THIS SITE

OPEN - ELIGIBLE FOR CLOSURE

2445 CASTRO VALLEY BLVD.
CASTRO VALLEY , CA 94546
ALAMEDA COUNTY

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT
PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002968*
CASEWORKER: KEITH NOWELL - *SUPERVISOR:* DILAN ROE
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA*
CASEWORKER: Cherie McCaulou - *SUPERVISOR:* Cheryl L. Prowell

CR Site ID #: NOT SPECIFIED

THERE ARE 1 OTHER CASES ASSOCIATED WITH THIS CASE - SHOW

THIS PROJECT WAS LAST MODIFIED BY *KEITH NOWELL* ON 7/17/2015 2:54:20 PM - 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 7/17/2015

CHECKLIST INITIATED ON 4/15/2013

CLOSURE POLICY HISTORY

General Criteria - *The site satisfies the policy general criteria* - CLEAR SECTION ANSWERS — **YES**

a. Is the unauthorized release located within the service area of a public water system?
Name of Water System: EBMUD — ◉ 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 — **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

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 — **NO**

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?

Explain:

The site does not meet the Media Specific- Ground Water criteria as the distance from the leading edge of the contaminant plume is to the nearest water supply well and to the nearest surface water body is less than 1,000 feet. A sensitive receptor survey, conducted in 2006, identified three water supply wells within a 0.5-mile radius of the site. Two of the wells are located near Eden Hospital, are presumed to be associated with the facility, and are located approximately 1,980 feet north-northeast of the site (down gradient). The first well is listed as a domestic well and the second as a cooling system return. The third well, also a domestic well, is located approximately 1,584 feet to the east of the site (down gradient).

The shallow groundwater zone maximum plume length, as identified in the TJP, is 855 feet for TPHd, using TPHg as a substitute for TPHd, and 1,046 feet for MTBE, as a substitute for TBA. The Mobil #04-344 / Jiffy Lube #606 site, located at 2492 Castro Valley Blvd., is located approximately 300 feet to the northeast and down gradient of the site. Groundwater monitoring wells at the Mobil #04-344 / Jiffy Lube #606 site did not detect the presence of TPHd and TBA in shallow groundwater above the laboratory reporting limits for the final groundwater monitoring event prior to case closure in 2011. Additionally, MTBE concentrations in the final monitoring event were reported at non-detect <0.50 ug/L for the down gradient monitoring wells MW-3 and MW-4. The reported TPHd and TBA concentrations indicate the TPHd and TBA plume lengths in shallow groundwater are less than 300 feet and the MTBE plume length is less than 360 feet.

The deeper groundwater zone maximum plume length, as identified in the TJP for TPHd, is 855 feet, using TPHg as a substitute for TPHd. The potential buffer distance from the leading edge of the plume to the nearest supply well is at least 729 feet, and is over 1,000 feet for the other two supply wells. Using the on- and off-site shallow groundwater TPHd concentrations as an example of TPHd attenuation, ACEH has made a determination the buffer distance of at least 729 feet is adequate for the protection of the domestic supply well.

The nearest surface water body is Chabot Creek. Chabot Creek is an urbanized concrete-lined channel located approximately 1,500 feet east-northeast and down gradient of the site. The separator distance is more than 1,000 feet based on the maximum plume lengths in shallow groundwater and more than 645 feet based on the maximum plume length in the deeper water bearing zone. It is unlikely the deeper groundwater zone daylights at the creek.

The case does not meet the Media-Specific Criteria: Direct Contact and Outdoor Air Exposure as no soil samples have been recovered in the 0- to 5-foot zone and naphthalene and PAHs are not analytes though the station operates a waste oil UST. However, based on the reported no to low concentrations of BTEX in the 5- to 10-foot zone, and the lack of evidence of a release associated with the waste oil UST, a determination has been made that residual benzene, ethyl benzene, naphthalene, and PAH concentrations would not be present at concentrations that would present a significant risk through the direct contact and outdoor air exposure pathway.

◉ YES ○ NO

Has this LTCP Checklist been updated for FY 14/15? ◉ YES ○ NO

SPELL CHECK

Save Form as Partially Completed | Save Form as Complete

LOGGED IN AS KNOWELL

CONTACT GEOTRACKER HELP

ATTACHMENT 3

ATTACHMENT 3

LTCP GROUNDWATER SPECIFIC CRITERIA

LTCP Groundwater Specific Scenario under which case was closed: This case should be closed in spite of not meeting the groundwater specific media criteria.

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3 Criteria	LTCP Scenario 4 Criteria
Plume Length	<1,000	<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	Shallow zone: > 1,000 ft. Deeper zone: < 1,000 ft.	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	Shallow zone: > 1,000 ft. Deeper zone: <1,000 ft. (>645 feet downgradient)	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (µg/L)	Current Site Maximum (µg/L)	LTCP Scenario 1 Criteria (µg/L)	LTCP Scenario 2 Criteria (µg/L)	LTCP Scenario 3 Criteria (µg/L)	LTCP Scenario 4 Criteria (µg/L)
Benzene	<0.50 (on 1/24/2005)	<0.50 (Shallow) <0.50 (Deep)	No criteria	<3,000	No criteria	<1,000
MTBE	87 (SB-1 on 1/24/2005)	6.3 (Shallow) 10 (Deep)	No criteria	<1,000	No criteria	<1,000
TPHd	500 (Shallow) 800 (Deep)	500 (Shallow) 800 (Deep)	No criteria	No criteria	No criteria	No criteria
TBA	54 (Shallow) <10 (Deep)	54 (Shallow) <10 (Deep)	No criteria	No criteria	No criteria	No criteria

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?	Yes

Attachment 3 Comments: Water Supply Wells in Vicinity: A sensitive receptor survey, conducted in 2006, identified three water supply wells within a 0.5-mile radius of the site. Two of the wells are located near Eden Hospital, are presumed to be associated with the facility, and are located approximately 1,980 feet north-northeast of the site (down gradient). The first well is listed as a domestic well and the second as a cooling system return. The third well, also a domestic well, is located approximately 1,584 feet to the east of the site (down gradient).

No groundwater monitoring wells were installed for the current case. However, the plume length has been delineated using off site wells and using maximum plume lengths identified in the SWRCBs LTCP *Technical Justification for Groundwater Plume Length, Indicator Constituents, Concentrations, Buffer Distances (Separation Distances) to Receptors* (LTCP Guidance; SWRCB 2012) (TJP). Two groundwater investigations were conducted. The most recent groundwater investigation, conducted in May 2007, identified a shallow (<37 feet) and a deeper

Attachment 3 Comments- continued

(51-55 feet) water bearing zones. The shallow groundwater zone was determined to be impacted with total petroleum hydrocarbons as diesel (TPHd) and tertiary butyl alcohol (TBA) at concentrations of up to 500 micrograms per liter (µg/L) and 54 µg/L, respectively, while the deeper zone was impacted with TPHd at a maximum concentration of 800 µg/L. The earlier groundwater investigation, conducted in January, 2005, revealed the presence of MTBE in the shallow groundwater zone at a concentration of 87 µg/L.

The shallow groundwater zone maximum plume length, as identified in the TJP, is 855 feet for TPHd, using TPHg as a substitute for TPHd, and 1,046 feet for MTBE, as a substitute for TBA. The Mobil #04-344 / Jiffy Lube #606 site, located at 2492 Castro Valley Blvd., is located approximately 300 feet to the northeast and down gradient of the site. Groundwater monitoring wells at the Mobil #04-344 / Jiffy Lube #606 site did not detect the presence of TPHd and TBA in shallow groundwater above the laboratory reporting limits for the final groundwater monitoring event prior to case closure in 2011. Additionally, MTBE concentrations in the final monitoring event were reported at non-detect <0.50 ug/L for the down gradient monitoring wells MW-3 and MW-4. The reported TPHd and TBA concentrations indicate the TPHd and TBA plume lengths are less than 300 feet and the MTBE plume length is less than 360 feet.

Based on these plume lengths in shallow groundwater, there is at least a 1,200-foot buffer between the leading edge of the plumes to the nearest water supply well.

The deeper groundwater zone maximum plume length, as identified in the TJP for TPHd, is 855 feet, using TPHg as a substitute for TPHd. The potential buffer distance from the leading edge of the plume to the nearest supply well is at least 729 feet, and is over 1,000 feet for the other two supply wells. Using the on- and off-site shallow groundwater TPHd concentrations as an example of TPHd attenuation, ACEH has made a determination the buffer distance of at least 729 feet is adequate for the protection of the domestic supply well.

The nearest surface water body is Chabot Creek. Chabot Creek is an urbanized concrete-lined channel located approximately 1,500 feet east-northeast and down gradient of the site. The separator distance is more than 1,000 feet based on the maximum plume lengths in shallow groundwater and more than 645 feet based on the maximum plume length in the deeper water bearing zone. It is unlikely the deeper groundwater zone daylights at the creek.

ACEH has made a determination that impacts to the supply wells and surface water body due to the contaminant plume would not be expected to pose a significant risk to human health or the environment.

ATTACHMENT 4

ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA

LTCP Vapor Specific Scenario under which case was closed: Active fueling station exempt from vapor specific criteria.

Active Fueling Station	Active as of 7/1/2015

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	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Soil in Bioattenuation Zone	> 100 mg/kg (480 mg/kg in SB-1 @ 8')	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg
Maximum Current Benzene Concentration in Groundwater	< 0.50 µg/L	No criteria	No criteria	<100 µg/L	≥100 and <1,000 µg/L	<1,000 µg/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	----	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/m³)	Current Maximum (µg/m³)	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?	----

Attachment 4 Comments: Under the current land use as an active fueling station, the site is not required to meet media-specific criteria for vapor intrusion to indoor air.

ATTACHMENT 5

ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: A determination has been made 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

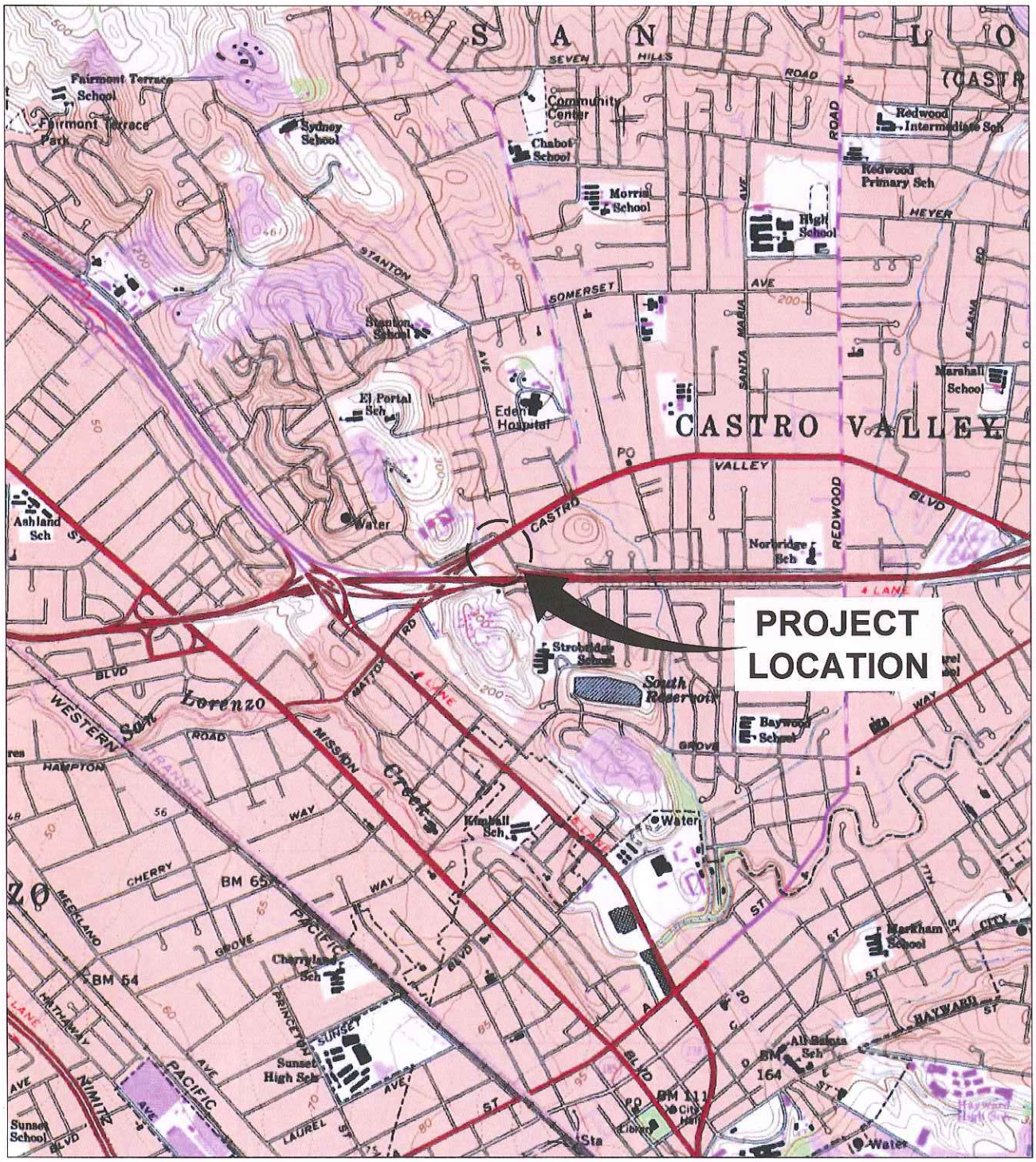
Are maximum concentrations less than those in Table 1 below?		See comments below on 0- to 5-foot interval				
Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs (mg/kg)
Site Maximum	Benzene	----	<0.50	----	<0.50	<0.50
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	----	1.1	----	1.1	1.1
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	----	----	----	----
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 site-specific risk assessment?		----				
If maximum concentrations are greater than those in Table 1, has a determination been made 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?		----				

Attachment 5 Comments: The case does not meet the Media-Specific Criteria: Direct Contact and Outdoor Air Exposure as no soil samples have been recovered in the 0- to 5-foot zone and naphthalene and PAHs are not analytes though the station operates a waste oil UST. However, based on the reported no to low concentrations of BTEX in the 5- to 10-foot zone, and the lack of evidence of a release associated with the waste oil UST, a determination has been made that residual benzene, ethyl benzene, naphthalene, and PAH concentrations would not be present at concentrations that would present a significant risk through the direct contact and outdoor air exposure pathway.

Additionally, under the current land use as an active fueling station, the site is paved with minor landscaped areas near the site boundaries resulting in a low potential for direct contact exposure under the current land use.

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.

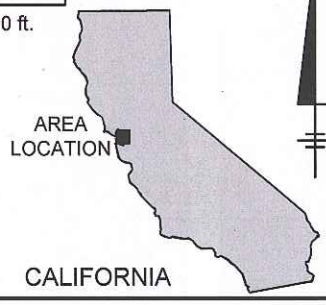
ATTACHMENT 6



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., HAYWARD, CALIFORNIA, 1959, PHOTOREVISED1980.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS LD:— PIC:— PM:— TM:— LYR:(Opt)ON=*;OFF=*REF*
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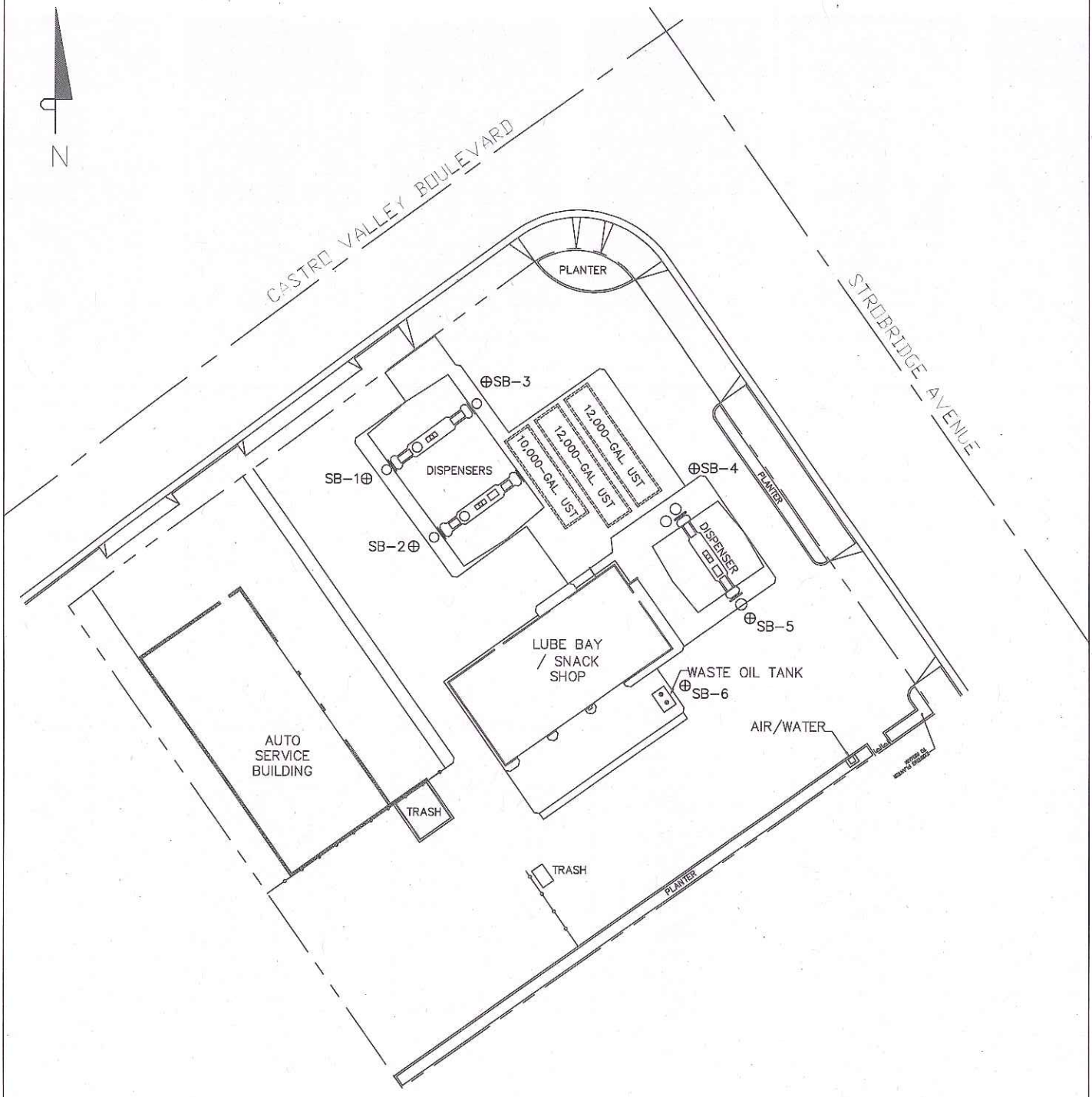
Hayward.jpg



APPROXIMATE SCALE (FEET)

0 40 80

LEGEND

Property Boundary

Fence

⊕ SB-4 Soil Boring

SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997.

SITE PLAN

76 Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

TRC

FIGURE 2

CITY: SAN RAFAEL, CA (PETALUMA) DIVGROUP: ENVCAD DB: J. HARRIS
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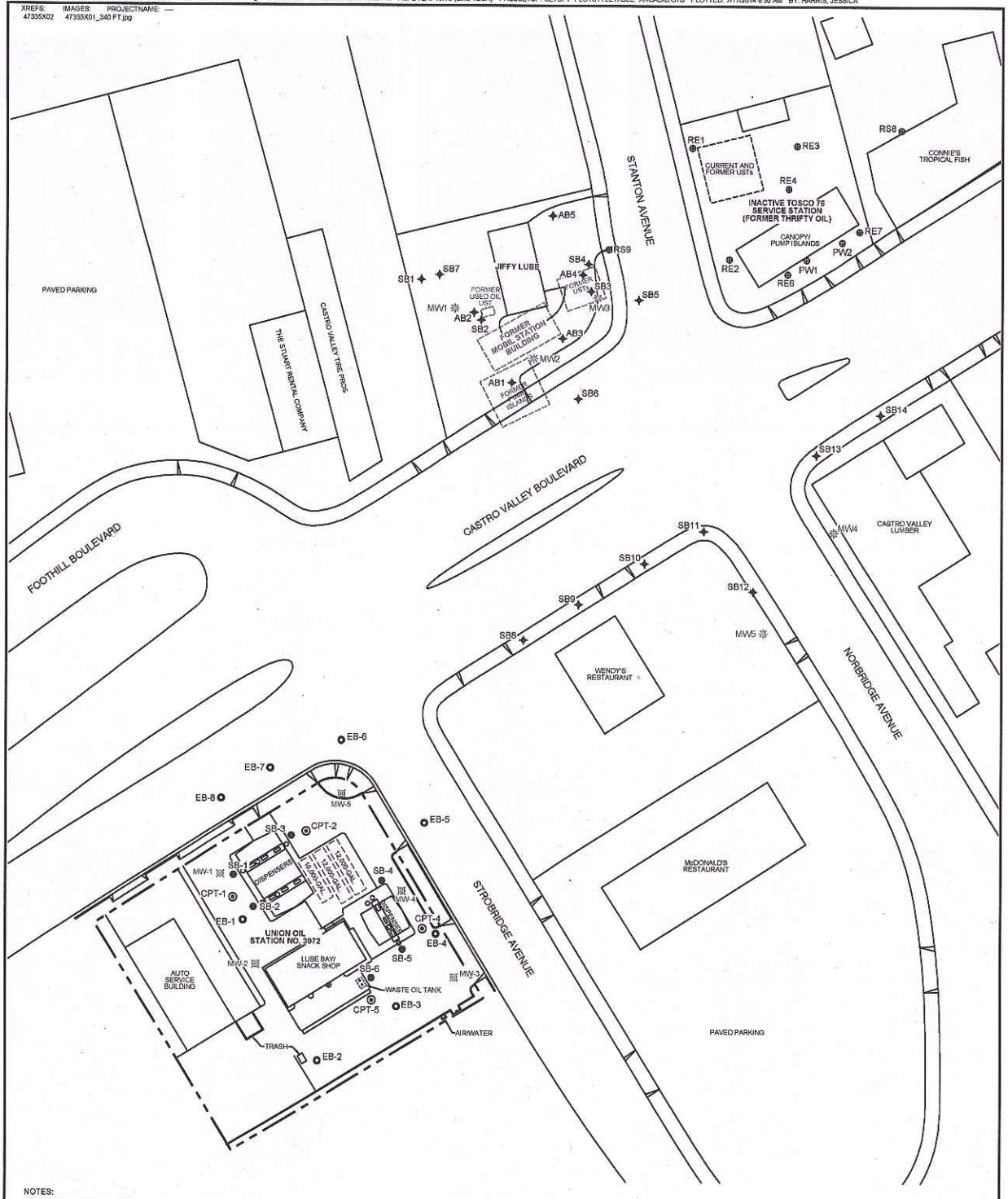
XREFS: IMAGES: PROJECTNAME: —
47335X02 47335X01_340 FT.jpg



NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH. IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)

0 60' 120'

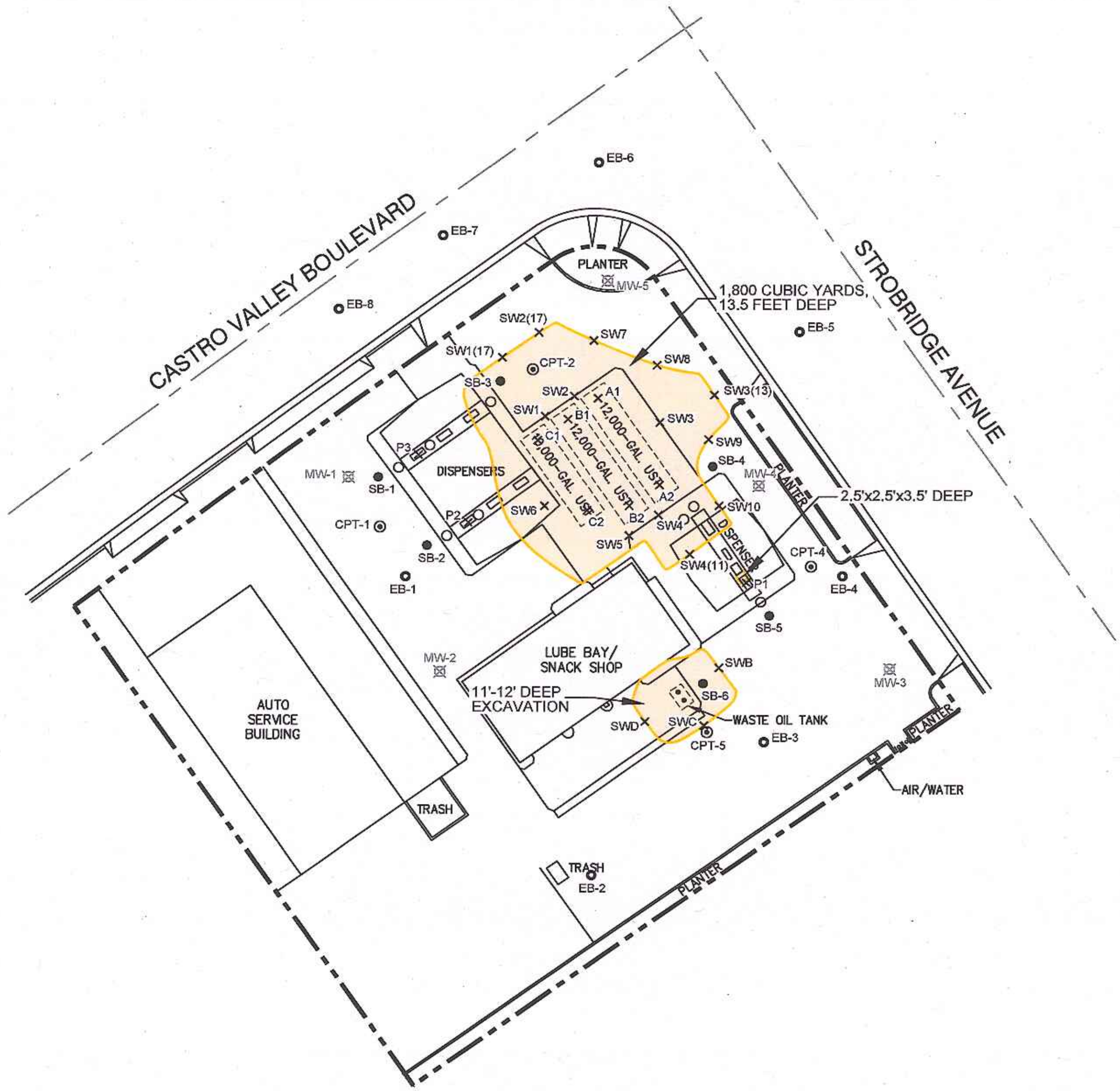
APPROXIMATE SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

SITE LAYOUT MAP

ARCADIS

FIGURE 2



LEGEND

- PROPERTY BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SW1 × SAMPLE POINT (KAPREALIAN 1990)
- EXCAVATION AREA

NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 30' 60'
GRAPHIC SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

SOIL SAMPLE LOCATIONS AND EXCAVATION AREAS

ARCADIS

FIGURE
3

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
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XREFS: IMAGES: PROJECTNAME: ----
47335X02 47335X01_340 FT.jpg

NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. 2007 GROUNDWATER SAMPLES COLLECTED AS GRAB GROUNDWATER IN MAY.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- 100 TOTAL PETROLEUM HYDROCARBONS AS DIESEL (TPH-d) ESL ISOCONCENTRATION CONTOURS, DASHED WHERE INFERRED. CONTOURS BASED ON 2005 AND 2007 DATA ONLY.
- 280 (2007) TPH-d CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)
- ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

TPH-d ISOCONCENTRATION MAP SHALLOW GROUNDWATER ZONE

ARCADIS

FIGURE 4a

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
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NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. 2007 GROUNDWATER SAMPLES COLLECTED AS GRAB GROUNDWATER IN MAY.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- 100 TOTAL PETROLEUM HYDROCARBONS AS DIESEL (TPH-d) ESL ISOCONCENTRATION CONTOURS, DASHED WHERE INFERRED. CONTOURS BASED ON 2005 AND 2007 DATA ONLY.
- 490 (2007) TPH-d CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)
- ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

0 60' 120'
APPROXIMATE SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

TPH-d ISOCONCENTRATION MAP DEEP GROUNDWATER ZONE

ARCADIS

FIGURE 4b

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
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NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. 2007 GROUNDWATER SAMPLES COLLECTED AS GRAB GROUNDWATER IN MAY.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)

5,900 (1990) TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPH-g) CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)

ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT

ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

0 60' 120'
APPROXIMATE SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

TPH-g ISOCONCENTRATION MAP SHALLOW GROUNDWATER ZONE

ARCADIS

FIGURE 5

CITY: SAN RAFAEL, CA (PETALUMA) DWGGROUP, ENVCAD DB: J. HARRIS
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1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. 2007 GROUNDWATER SAMPLES COLLECTED AS GRAB GROUNDWATER IN MAY.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- 12 TERT-BUTYL ALCOHOL (TBA) ESL ISOCONCENTRATION CONTOURS, DASHED WHERE INFERRED. CONTOURS BASED ON 2005 AND 2007 DATA ONLY.
- 54 (2007) TBA CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)
- ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

TBA ISOCONCENTRATION MAP SHALLOW GROUNDWATER ZONE

ARCADIS

FIGURE 6

CITY: SAN RAFAEL, CA (PETALUMA) DIVIGROUP: ENVCAD DB: J. HARRIS
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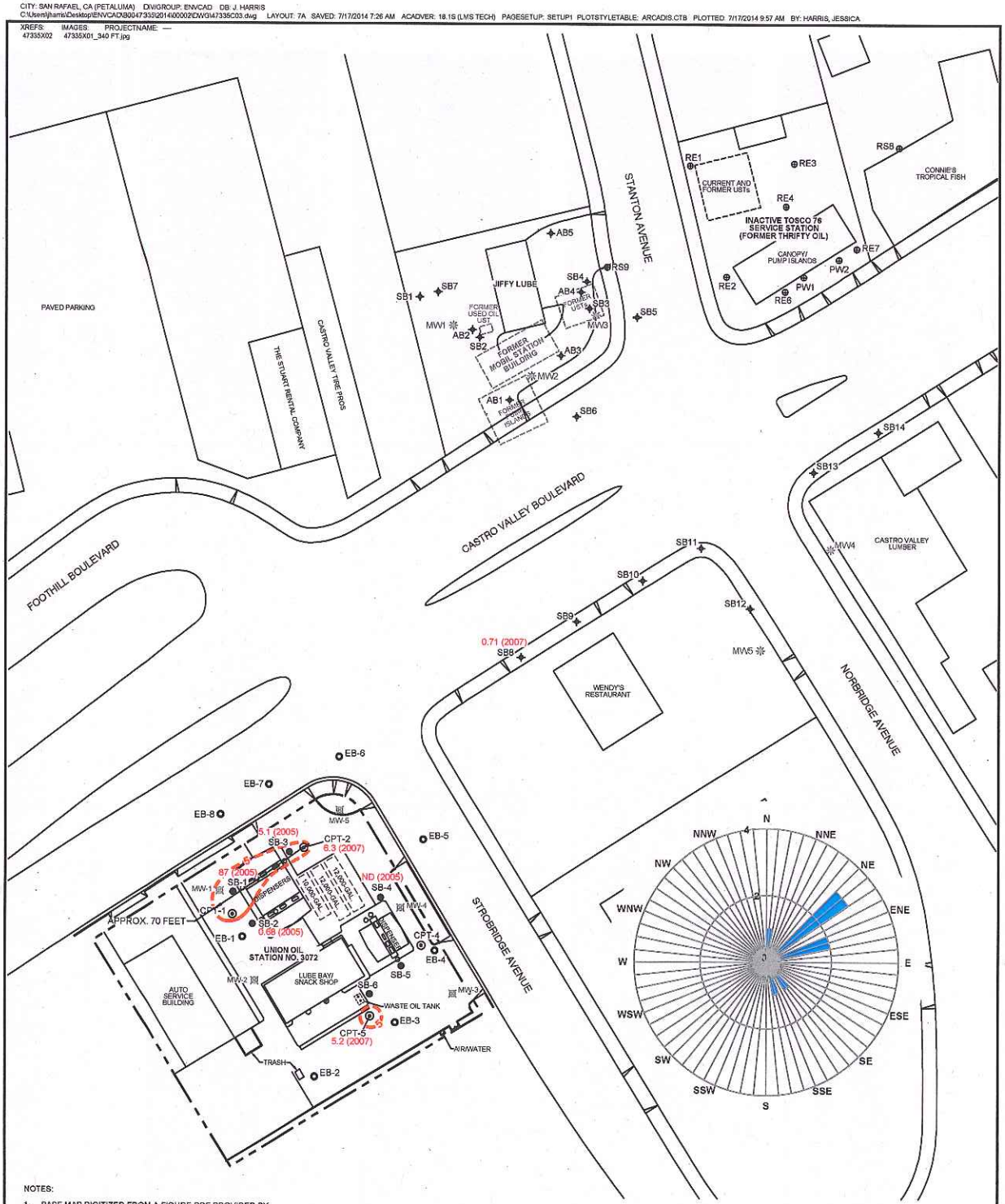
47335X02 47335X01_340 FT.jpg



NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. 2007 GROUNDWATER SAMPLES COLLECTED AS GRAB GROUNDWATER IN MAY.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- 5 METHYL TERTIARY BUTYL ETHER (MTBE) ESL ISOCONCENTRATION CONTOURS, DASHED WHERE INFERRED
- 6.3 (2007) MTBE CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)
- ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

MTBE ISOCONCENTRATION MAP SHALLOW GROUNDWATER ZONE

ARCADIS

FIGURE 7a

CITY: SAN RAFAEL, CA (PETALUMA) DIVGROUP: ENVCAD DB: J. HARRIS
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NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30', OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
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LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- 5 METHYL TERTIARY BUTYL ETHER (MTBE) ESL ISOCONCENTRATION CONTOURS, DASHED WHERE INFERRED
- 10 (2007) MTBE CONCENTRATION IN MICROGRAMS PER LITER (YEAR ANALYZED)
- ND NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- ESL ENVIRONMENTAL SCREENING LEVEL WHERE GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER, TABLE F-1a, FINAL GROUNDWATER SCREENING LEVEL, SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, DECEMBER 2013

0 60' 120'
APPROXIMATE SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

MTBE ISOCONCENTRATION MAP DEEP GROUNDWATER ZONE

ARCADIS

FIGURE 7b

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
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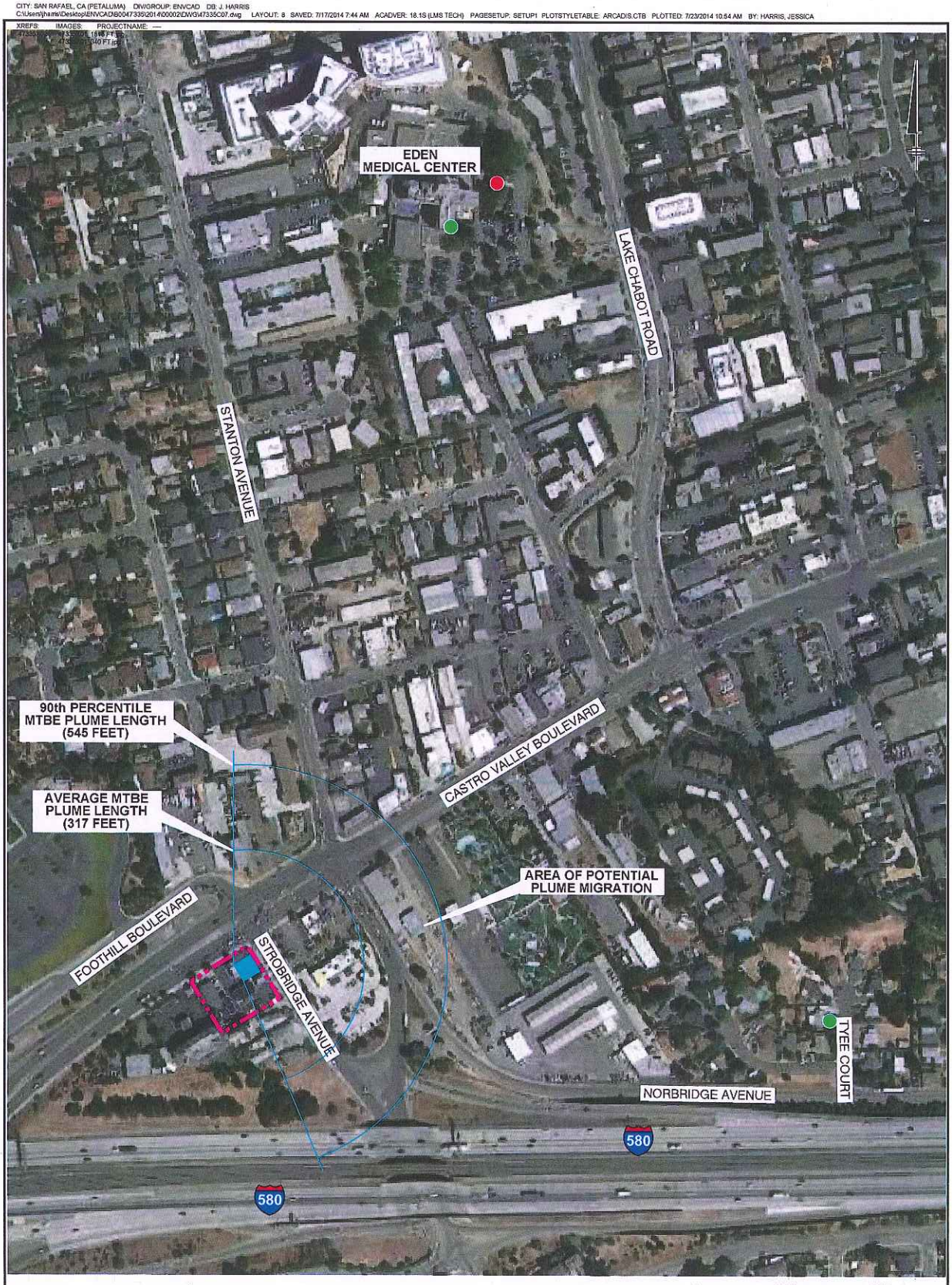

LEGEND

- SITE BOUNDARY
- DOMESTIC WELL
- COOLING SYSTEM RETURN
- SOURCE AREA
- MTBE METHYL TERTIARY BUTYL ETHER

NOTES:

1. AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. REFERENCE FOR PLUME LENGTH: STATE WATER RESOURCES CONTROL BOARD, 2012. *TECHNICAL JUSTIFICATION FOR GROUNDWATER MEDIA-SPECIFIC CRITERIA*, APRIL 24.

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

RESEARCH-BASED MTBE PLUME MIGRATION ANALYSIS

ARCADIS

FIGURE 8

CITY: SAN RAFAEL, CA (PETALUMA) DIVISION/GROUP: ENVCAD DB: J HARRIS
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NOTES:

1. BASE MAP DIGITIZED FROM A FIGURE PDF PROVIDED BY DELTA, DATED 01/14/09, AT A SCALE OF 1"=30'. OFF-SITE FEATURES DIGITIZED FROM A FIGURE PDF PROVIDED BY ETIC ENGINEERING, DATED 10/15/07, AT A SCALE OF 1"=40', AND FROM AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.

LEGEND

- SITE BOUNDARY
- MW-1 DESTROYED MONITORING WELL
- SB-1 SOIL BORING
- CPT-1 CPT BORING
- EB-1 EXPLORATORY BORING (KAPREALIAN 1990)
- SB1 SOIL BORING (FORMER MOBIL STATION)
- RS9 GROUNDWATER MONITORING WELL (FORMER THRIFTY OIL STATION)
- MW1 DESTROYED GROUNDWATER MONITORING WELL (FORMER MOBIL STATION)
- (5') APPROXIMATE DEPTH TO BEDROCK FROM HISTORICAL BORING LOGS (FT BGS)
- FT BGS FEET BELOW GROUND SURFACE
- * CLAYSTONE ENCOUNTERED AT THIS DEPTH, BEDROCK NOT INDICATED ON BORING LOG

0 60' 120'
APPROXIMATE SCALE

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

DEPTH TO BEDROCK MAP

ARCADIS

FIGURE 9

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
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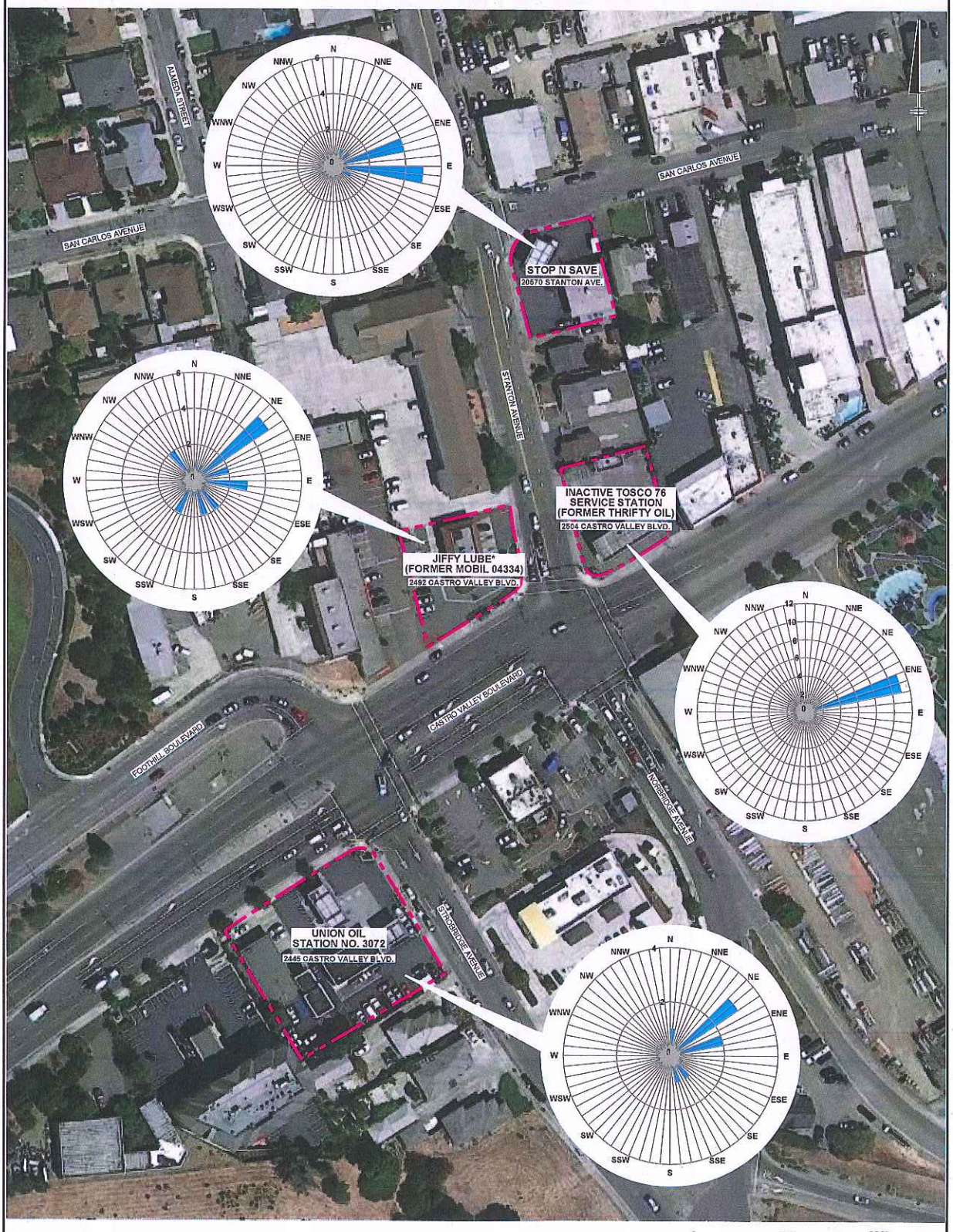

0 100' 200'

APPROXIMATE SCALE

LEGEND

PROPERTY BOUNDARY

* JIFFY LUBE MONITORING WELLS OFTEN HAD MINIMAL WATER OR WERE DRY. GROUNDWATER FLOW DIRECTIONS MAY NOT BE REPRESENTATIVE OF AMBIENT GROUNDWATER FLOWS.

NOTES:

1. AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

GROUNDWATER FLOW DIRECTIONS

ARCADIS

FIGURE 10

ATTACHMENT 7

Table 1

RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES
76 Station # 3072
2445 Castro Valley Blvd, Castro Valley, California

Sample Number	Sample Date	Depth (fbg)	TPH-D (mg/kg)	TPPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TBA (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1, 2-DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)	Total Lead (mg/kg)	Oil & Grease (mg/kg)
			EPA 8015	EPA 8260B	EPA Method 8260B												Method 6010B	Method 1664A
SB-1 @ 8'	1/24/2005	8.0	--	480	<0.50	<0.50	1.1	1.1	<2.5	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<25	--	--
SB-1 @ 25.5'	1/24/2005	25.5	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.013	0.074	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-2 @ 12'	1/24/2005	12.0	--	<1.0	<0.0050	<0.0050	0.043	0.021	0.014	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-2 @ 24'	1/24/2005	24.0	--	<1.0	<0.0050	<0.0050	<0.0050	0.011	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-3 @ 18'	1/25/2005	18.0	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	0.11	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-4 @ 8'	1/25/2005	8.0	25	470	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<25	--	--
SB-4 @ 50'	1/25/2005	50.0	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-5 @ 23'	1/31/2005	23.0	2.1	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	--	--
SB-6 @ 10'	1/31/2005	10.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	670
SB-6 @ 50'	1/31/2005	50.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.7	<50
Composite	1/25/2005	na	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.1	7.5	

Notes:
TPH-D = total petroleum hydrocarbon as diesel
TPPH = total purgeable petroleum hydrocarbons
TBA = tertiary butyl alcohol
MTBE = methyl tertiary butyl ether
DIPE = di-isopropyl ether
ETBE = ethyl tertiary butyl ether
TAME = tertiary amyl methyl ether
1,2 DCA = 1,2-dichloroethane
EDB = ethylene dibromide
fbg = feet below grade
mg/kg = milligrams per kilogram
-- = not analyzed, measured, or collected
na = not applicable

KEI-P89-1106.QR6
July 23, 1992

TABLE 1

SUMMARY OF MONITORING DATA

Well No.	Ground Water Elevation (feet)	Depth to Water (feet)	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on June 18, 1992)					
MW1	172.32	8.81	0	No	11
MW2	174.05	9.36	0	No	11
MW3	172.27	6.35	0	No	10
MW4	172.53	6.84	0	No	10
MW5	172.16	6.97	0	No	12
(Monitored on March 19, 1992)					
MW1	174.22	6.91	0	--	0
MW2	175.88	6.53	0	--	0
MW3	174.06	4.56	0	--	0
MW4	174.45	4.92	0	--	0
MW5	173.38	5.75	0	--	0
(Monitored on January 20, 1992)					
MW1	172.36	8.77	0	--	0
MW2	174.01	8.40	0	--	0
MW3	172.52	6.10	0	--	0
MW4	172.76	6.61	0	--	0
MW5	171.98	7.15	0	--	0

Well #	Surface Elevation* (feet)
MW1	181.13
MW2	182.41
MW3	178.62
MW4	179.37
MW5	179.13

-- Sheen determination was not performed.

* The elevations of the top of the well covers have been surveyed to Mean Sea Level, per Caltrans Monument "Stro-Nor" PK Nail.

Table 1
GRAB GROUNDWATER ANALYTICAL RESULTS
76 Service Station #3072
2445 Castro Valley Boulevard, Castro Valley, CA

Sample ID	Date Sampled	Sample Depth (fbg)	TPH-d	TPPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TAME	TBA	DIPE	EDB	ETBE	1,2-DCA	Ethanol
			EPA 8015	EPA Method 8260B												
			Concentrations in micrograms per liter (µg/L)													
Shallow Water-Bearing Zone																
CPT-2	5/3/2007	36	**500**	<50	<0.50	<0.50	<0.50	<0.50	**6.3**	<0.50	**54**	<0.50	<0.50	<0.50	<0.50	<250
CPT-5	5/3/2007	22	**280**	<50	<0.50	<0.50	<0.50	<0.50	**5.2**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
Deeper Water-Bearing Zone																
CPT-1	5/2/2007	55	**490**	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
CPT-4	5/2/2007	51	**800**	<50	<0.50	<0.50	<0.50	<0.50	**10**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250

Notes:

TPH-d = total petroleum hydrocarbons as diesel (C12-C24)
TPPH = total purgable petroleum hydrocarbons (C6-C12)
MTBE = methyl teriary butyl ether
TAME = tertiary amyl methyl ether
TBA = tertiary butyl alcohol
DIPE = di-isopropyl ether
EDB = 1,2-dibromoethane
ETBE = ethyl tertiary butyl ether
1,2-DCA = 1,2-dichloroethane
fbg = feet below grade
-- = not analysed
N/A = not applicable

Table 2

RESULTS OF LABORATORY ANALYSIS OF GROUNDWATER SAMPLES
76 Station # 3072
2445 Castro Valley Blvd, Castro Valley, California

Sample Number	Sample Date	Depth (fbg)	TPH-D (µg/L) EPA 8015	TPPH (µg/L) EPA 8260B	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1, 2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
					EPA Method 8260B											
SB-1	1/24/2005	na	--	<50	<0.50	<0.50	**0.77**	<1.0	<5.0	**87**	<0.50	<0.50	<0.50	<0.50	<0.50	<50
SB-2	1/24/2005	na	--	<50	<0.50	<0.50	<0.50	**1.2**	<5.0	**0.68**	<0.50	<0.50	<0.50	<0.50	<0.50	<50
SB-3	1/25/2005	na	<50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	**5.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<50
SB-4	1/25/2005	na	--	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50

Notes:

TPH-D = total petroleum hydrocarbon as diesel
TPPH = total purgeable petroleum hydrocarbons
TBA = tertiary butyl alcohol
MTBE = methyl tertiary butyl ether
DIPE = di-isopropyl ether
ETBE = ethyl tertiary butyl ether
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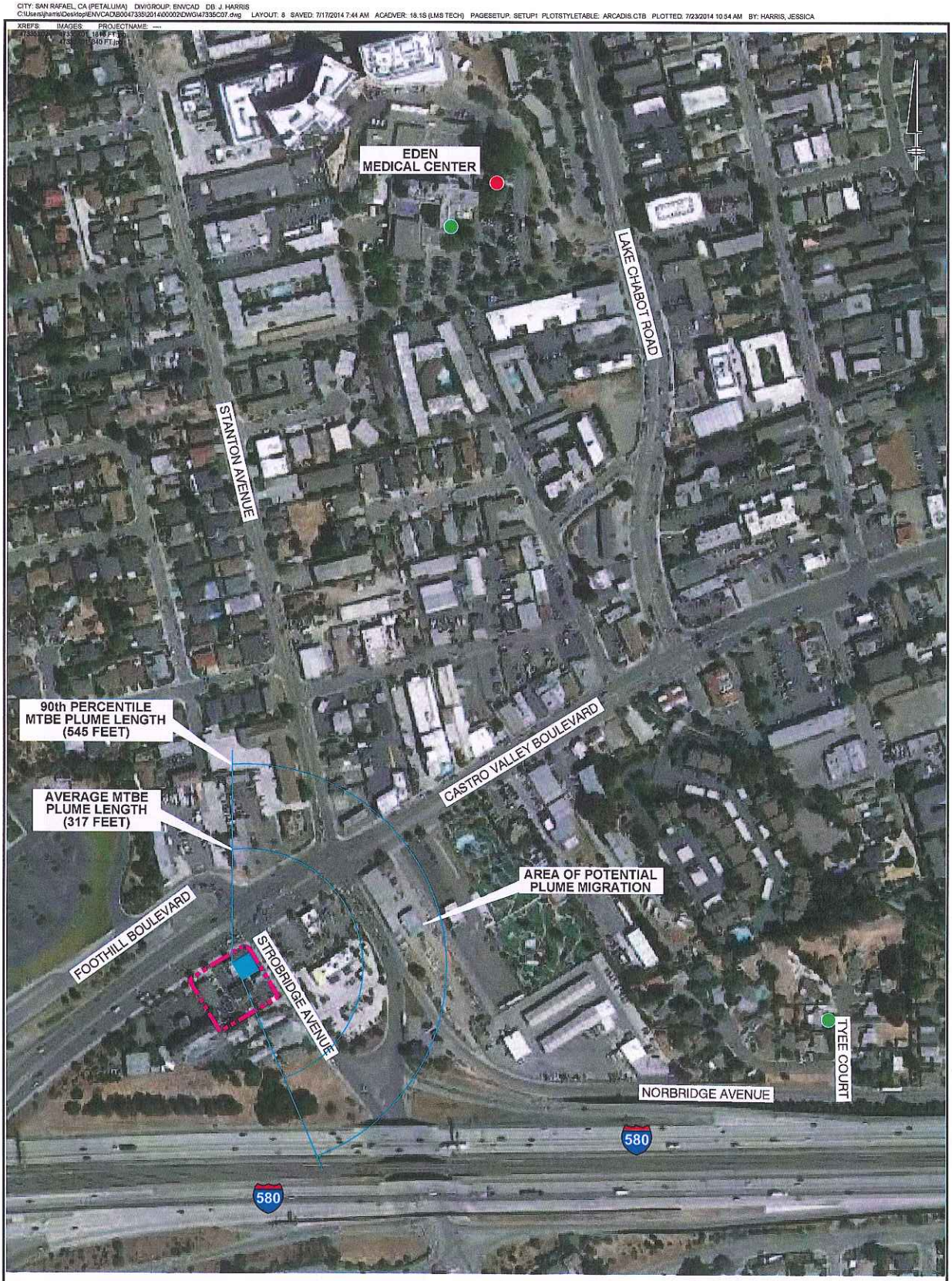

0 250' 500'

APPROXIMATE SCALE

LEGEND

- SITE BOUNDARY
- DOMESTIC WELL
- COOLING SYSTEM RETURN
- SOURCE AREA

MTBE METHYL TERTIARY BUTYL ETHER

NOTES:

1. AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH, IMAGE DATE 8/28/12.
2. ALL MAP FEATURES AND LOCATIONS ARE APPROXIMATE.
3. REFERENCE FOR PLUME LENGTH: STATE WATER RESOURCES CONTROL BOARD, 2012. *TECHNICAL JUSTIFICATION FOR GROUNDWATER MEDIA-SPECIFIC CRITERIA*. APRIL 24.

UNION OIL
STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

RESEARCH-BASED MTBE PLUME MIGRATION ANALYSIS

ARCADIS

FIGURE 8