CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: February 6, 2012

REFERENCE NO.: 311973

PROJECT NAME: Chevron 90121

TO: Mr. Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

ACEH RO#0284

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other

Sent via:
- ☐ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other Alameda County FTP Upload and GeoTracker

QUANTITY	DESCRIPTION
1	Data Gap Investigation Work Plan and Focused Site Conceptual Model

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:
Please contact Nathan Lee at (925)849-1003 or nlee@craworld.com with any questions or comments regarding the contents of this report.

Copy to: Mrs. Alexis Coulter (Chevron)
Diocese of Oakland
Michael E. Delehunt Foley & Lardner
William Spencer, FWS Highland LLC
Nissian Saidian

Completed by: Nathan Lee [Please Print]

Signed: Nathan Lee

Filing: **Correspondence File**

Alexis Coulter
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6441
acoulter@chevron.com

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Service Station No. 90121
3026 Lakeshore Avenue
Oakland, CA

I have reviewed the attached report entitled *Data Gap Investigation Work Plan and Focused Conceptual Model*.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Alexis Coulter
Project Manager

Attachment: *Data Gap Investigation Work Plan and Focused Conceptual Model*

DATA GAP INVESTIGATION WORK PLAN AND FOCUSED SITE CONCEPTUAL MODEL

Prepared for:

Mr. Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Prepared by:
Conestoga-Rovers & Associates

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

Office: (510) 420-0700
Fax: (510) 420-9170

web: http://www.CRAworld.com

FEBRUARY 6, 2015
REF. NO. 311973 (22)

DATA GAP INVESTIGATION WORK PLAN AND FOCUSED SITE CONCEPTUAL MODEL

FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA
ACEH CASE RO# 0284

Nathan S. Lee, PG 8684

Prepared by:
Conestoga-Rovers & Associates

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

Office: (510) 420-0700
Fax: (510) 420-9170

web: http://www.CRAworld.com

FEBRUARY 6, 2015
REF. NO. 311973 (22)

Table of Contents

List of Figures
(Following Text)

List of Tables
(Following Text)

List of Appendices

Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) is submitting this *Data Gap Investigation Work Plan* (Work Plan) *and Focused Site Conceptual Model* for the site referenced above (Figure 1) on behalf of Chevron Environmental Management Company (EMC) in response to Alameda County Environmental Health Services (ACEH) letter dated April 4, 2014 (Appendix A). ACEH identified several data gaps and requested a focused site conceptual model and work plan to address the data gaps in the letter dated April 4, 2014. This report includes site back ground, site geology, CRA responses to ACEH's request for data validation, CRA's response to ACEH's technical comments, and a data gap work plan.

Section 2.0 Site Background

2.1 Site Description

The site is currently a vacant lot on the southern corner of Lakeshore Avenue and MacArthur Boulevard in Oakland, California (Figure 1) utilized by the current owner as a parking lot. A retail gasoline service station operated onsite from 1933 to 2009. The service station was demolished in August 2010, removing all site facilities, including one building, one kiosk, three dispenser islands, four 10,000-gallon gasoline underground storage tanks (USTs), and product piping (Figure 2). The property was sold to FWS Highland LLC (FWS) in 2011. Surrounding land use is a mixture of commercial and residential.

A review of Sanborn Maps and city records produced by Environmental Data Resources Inc (EDR) indicates that a service station and automobile repair shop were formerly located at 3000 Lakeshore Avenue, which is at the corner of Lakeshore Avenue and Beacon Street (Figure 2). The service station operated from approximately 1933 to 1957 when the service station was replaced by an office building.

2.2 Previous Environmental Work

The site has been an open environmental case since 1990 under ACEH jurisdiction (Fuel Leak Case Number RO0000284 and GeoTracker Global ID T0600100328). A total of twenty-two monitoring wells (thirteen of which have been destroyed), three sub-slab vapor probes, and sixteen soil borings have been installed/advanced (Figure 2). Remedial activities have consisted of at least five fueling facility upgrades, some of which included remedial excavations and light non-aqueous phase liquid (LNAPL) recovery. A summary of previous environmental investigation and remediation is included in Appendix B.

2.3 Site Geology

The site is approximately 7 feet above mean sea level (ft-amsl) with relatively flat topography and located in a valley adjacent to hilly terrain to the southeast. The site is located within the Oakland

sub-area of the East Bay Plain groundwater basin.[1] This basin encompasses approximately 115 square miles and is bounded by San Pablo Bay to the north, northern boundary of the Alameda County Water District to the south, the Hayward Fault to the east, and the San Francisco Bay to the west. Sediments in the vicinity consist of Holocene-age estuarine deposits comprised of organic clay and silty clay (Bay Mud); overlying Holocene-age alluvial sand and silt, and Pleistocene-age interbedded clay, silt, sand, and gravel.[2] Locally, the site is underlain primarily by clays interbedded with silt, silty sand, fine sand, and gravel layers to the total depth explored of 35 feet below grade (fbg).

2.4 Site Hydrogeology

The site is located in the Santa Clara Valley Groundwater Basin, East Bay Plain Sub Basin, Oakland sub-area. Groundwater in this region has been designated for potential beneficial agricultural, municipal, and industrial uses.[3] The average historical groundwater elevation has ranged from approximately 2 to 14 feet below grade (fbg) and flows predominantly to the southwest. The nearest surface water body is Lake Merritt, approximately 900 feet to the southwest.

Section 3.0 Data Validation

Below is a summary of ACEH technical comments and their concerns regarding data validation issues and CRA's response to those comments.

3.1 Data Validation Request

ACEH noted that CRA's February 14, 2014 Subsurface Investigation Report "contains soil and grab groundwater analytical data that contains a significant number of footnote qualifiers indicating that data is poorly collected, and is potentially unusable to characterize the site," and ACEH requested the validation of analytical data.

CRA contacted Eurofins Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania in regards to the samples being outside of the hold time. According to a Lancaster representative, it is their understanding "that the data may be accurate as is" and provided hold time guidance, referencing information from the United States Environmental Protection Agency (EPA). However, the Lancaster representative also noted that "acceptability of the data will be determined by the regulator receiving the data". Correspondence with the Lancaster representative is presented in Appendix C.

---

1 *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, Alameda and Contra Costa Counties, CA prepared by the California Regional Water Quality Control Board San Francisco Bay, August 4, 1999

2 *California's Groundwater Bulletin 118;* The State of California Department of Water Resources Agency, February 27, 2004

3 Table 2-2 *Existing and Potential Beneficial Uses in Groundwater in Identified Basins, Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basins*; California Regional Water Quality Control Board – San Francisco Bay Region, January 18, 2007.

CRA also contacted Lancaster regarding the footnote qualifiers for the soil samples collected. Lancaster provided an explanation as to why the laboratory results are valid results (Appendix C).

ACEH's note that the indoor air sampling suggests that there is no difference between indoor and outdoor air, that they are equilibrated, which could suggest that windows and doors may have been open during the sampling event or the HVAC unit was on.

While CRA was present the back door at 3008 Lakeshore Avenue would open as people would come in and out of the building. All other doors and windows were closed at 3008 Lakeshore Avenue while CRA was onsite.

ACEH questioned if Indoor air sample IA-4 was located in the basement.

Indoor Air Sample IA-4 was placed in the basement to collect an indoor air sample.

ACEH stated that the report mentioned that the atmosphere within the shroud during vapor sampling had a helium concentration of approximately 40%; however, there are no helium concentration reports for the shroud either as meter readings or through laboratory analysis to validate the statement.

Field sheets are presented in Appendix D documenting the highest and lowest helium concentrations within the shroud during sampling.

3.2 Soil Bore Log Descriptions

ACEH noted that a discrepancy exists between descriptions of Light Non-Aqueous Phase Liquids (LNAPL) included in the text of the report and descriptions contained on bore log B-7.

The boring log for B-7 has been updated to note that LNAPL was observed, and is included as Appendix E.

Section 4.0. Response to ACEH Technical Comments

4.1 Low Treat Closure Policy Media Specific Criteria for Groundwater

ACEH stated that the downgradient and lateral extent of the groundwater plume has not been adequately defined.

CRA concurs and proposes to install three monitoring wells, two wells on the northern side of Lakeshore Avenue and one well west of Beacon Street on the southern side of Lakeshore Avene. These wells will

further delineate the downgradient and lateral extents of the dissolved hydrocarbon plume. The most recent groundwater elevations and hydrocarbon concentrations are shown on Figure 3 and the groundwater monitoring and sampling data is presented in Table 1. Additional details of this proposed scope of work are presented below in the Data Gap Work Plan (DGWP) section.

4.2 Preferential Pathway and Sensitive Receptor Survey

ACEH expressed concerns that the storm drain that runs along the southern edge of the site could be a preferential pathway.

CRA proposes the advancement of two borings in close proximity to the storm drain to determine if the storm drain is a preferential path way. Additional details of this proposed scope of work are presented below in the DGWP section.

ACEH requested a further evaluation of sensitive receptors, particularly buildings with basement sumps as the current down-or lateral gradient plume extent is undefined.

The wells proposed by CRA in Section 4.1 would assist in defining the downgradient and lateral extent of dissolved hydrocarbons. CRA will evaluate whether an additional sensitive receptor survey is needed after the three proposed monitoring wells are incorporated into the monitoring well network.

4.3 Historic Data Quality Review of MW-3/MW-3A

ACEH requested a review of groundwater analytical data from MW-3 and MW-3A to determine if the longer screen interval of MW-3A may allow dilution of hydrocarbons and ensure the hydrocarbon source is not located near the storm drain line.

Although MW-3A has a 15 foot screen and MW-3 had a 10 foot screen, both wells have the same total depth of 18 fbg. The well construction details are presented as Appendix F. The additional 5 feet of screen above the groundwater surface in MW -3A, has no dilution effect on the groundwater samples collected from MW-3A. This based on the fact that average depth to groundwater is at 8 fbg and the well is purged three well volumes prior to sampling. Furthermore, the proposed borings outlined in Section 4.2 will provide additional data to determine if the storm drain line is a preferential pathway.

4.4 Low Treat Closure Policy
Media Specific Criteria for Vapor Intrusion to Indoor Air

ACEH recommended conducting an additional round of crawl space, indoor and outdoor air, and sub-slab vapor sampling.

CRA conducted an additional sampling round on October 6 and 7, 2014 and the results were outlined in CRA's *Crawl Space, Indoor and Outdoor ambient Air, and Sub-Slab Soil Gas Investigation Report* dated December 12, 2014.

4.5 Low Treat Closure Policy
Media Specific Criteria for Direct Contact and Outdoor Air Criteria

ACEH stated that the presence of total petroleum hydrocarbons as motor oil (TPHmo) suggest the presence of an undocumented waste oil UST. ACEH also stated that the lateral extent of vertical excavations during tank and product line removals has not been defined and residual contamination has not been confirmed.

To address this concern, CRA is proposing the advancement of three soil borings in the former dispenser area to further assess remaining hydrocarbons. These borings will be placed near former sample locations P-8, P-12, P-14 and P15 (Figures 4 through 7) which exceed the direct contact exposure criterion for benzene. These borings will also define the vertical hydrocarbon extent. Cumulative soil concentrations are presented as Table 2. Additional details of this proposed scope of work are presented below in the DGWP section.

4.6 Missing Investigation Report and Associated Data

ACEH requested a copy of the report summarizing the work and analytical data in regards to soil borings SB-1 through SB-7 that were completed in August 2006.

The *Baseline Site Assessment*, dated October 5, 2006, was uploaded to the ACEH ftp site on April 28, 2014.

4.7 Future Site Plans

ACEH requested information regarding future plans or intensions for the site.

To CRA's knowledge the site will remain a parking lot for the foreseeable future.

4.8 Sump Management Plan

EMC is in communications with the Roman Catholic Diocese of Oakland about the sump that is located in the basement at the at 3014 Lakeshore Avenue, Oakland property.

Section 5.0 Data Gap Work Plan

CRA proposes to complete an additional investigation to evaluate the data gaps identified above. The scope of the investigation is summarized in the bulleted list below and the proposed drilling locations are presented on Figure 8.

- Install three offsite monitoring wells to further delineate the downgradient and lateral extent of the dissolved hydrocarbon plume.
- Advance two soil borings adjacent to the storm sewer line located at the site's southern edge to determine if the storm sewer is a preferential pathway.
- Advance three soil borings in the former dispenser area to further delineate hydrocarbons in that area.

5.1 Permits and Inspection

CRA will obtain the necessary permits from the City of Oakland and Alameda County Public Works (ACPW).

5.2 Site Specific Health and Safety Plan

CRA will prepare a site-specific health and safety plan to protect site workers. The plan will be reviewed and signed by all site workers and visitors and remain onsite during all field activities.

5.3 Utility Location and Clearance

CRA will contact Underground Service Alert (USA) to coordinate location of subsurface utilities no less than 48 hours prior to the start of field activities. CRA will subcontract a licensed geophysicist to confirm the locations of underground utilities. In accordance with EMC and CRA safety standards, a hand auger will be utilized to clear the locations to a depth of 8 fbg.

5.4 Soil Boring Advancement

A total of five soil borings are proposed to evaluate the data gaps (Figure 8) as discussed above. Two borings will be advanced in proximity to the storm sewer line on the southern site edge to approximately 10 fbg using a hand auger. The other three borings will be advanced in the former dispenser area to approximately 15 fbg, using direct push technology. After completion, the soil borings

will be tremie grouted to ground surface. CRA's standard field procedures for soil boring advancement are presented in Appendix G.

5.5 Groundwater Monitoring Well Installations

The three offsite monitoring wells will be installed with a 10 foot screen interval to approximately 20 fbg; however based on field conditions the depth and screen interval may be modified. CRA proposes using 8-inch outside diameter hollow-stem augers to install the monitoring wells. The monitoring wells will be constructed using 2-inch diameter Schedule 40 PVC with a 0.020-inch slotted screen. The well screen will be surrounded by a sand pack consisting of #2/12 sand to approximately 2 feet above the top of the screened interval. Approximately 2 feet of hydrated bentonite will be placed above the sand pack. Portland II/V cement will be placed above the bentonite to approximately 1 fbg. A traffic rated well vault will be placed on the surface and will match the existing grade. CRA's standard field procedures for monitoring well installation are presented as Appendix G.

5.6 Soil Sampling

CRA will collect soil samples at 3 fbg and at 5 fbg and at 5 foot intervals afterwards to the borings total depth. The exception is the samples collected in the vicinity of the storm sewer line, samples there will be collected at 3, 5, 8, and 10 feet. Soil samples will also be taken at the soil/groundwater interface, at obvious changes in soil types, and where hydrocarbon indications are observed to the total depth explored. Soils will be logged using the ASTM D2488-06 Unified Soil Classification System. The 3, 5 and 8 foot samples will be collected using a slide hammer lined with clean stainless steel sleeves. Soil samples below 8 fbg will either be collected by using a slide hammer, a modified California split-spoon sampler lined with three 6-inch brass sleeves or an acetate lined direct push sampler. Soil samples will be screened using a photo-ionization detector (PID) and all PID measurements will be recorded on the boring log. Samples will be sealed, labeled, logged on a chain-of-custody, placed on ice, and transported to a Chevron and California State-approved laboratory for analysis.

5.7 Groundwater Sampling

CRA will collect grab-groundwater samples from the two proposed soil borings located in close proximity to the storm sewer. The grab-groundwater samples will be collected either using a hydro punch sampler or collected from the open borehole using a bailer. The samples will be placed in laboratory-supplied sample containers. Samples will be labeled, logged on a chain-of-custody form, preserved on ice, and transported to a Chevron and California State-approved laboratory for analysis.

5.8 Well Development and Sampling

The monitoring wells will be developed using standard surge agitation and pumping. The wells will be developed no sooner than 72 hours after installation. The groundwater monitoring wells will be

sampled in conjunction with the scheduled groundwater monitoring and sampling event for the site, but for the first year after installation the wells will be sampled quarterly.

5.9 Chemical Analysis

Select soil and grab groundwater samples will be analyzed for the following:

- Total petroleum hydrocarbons (TPH) as motor oil (mo) by Environmental Protection Agency (EPA) Method 8015M
- TPH as diesel (TPHd) by EPA Method 8015M
- TPH as gasoline (TPHg) by EPA Method 8015M
- Benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary butyl ether (MTBE) and naphthalene by EPA Method 8260B.

If during the investigation a source of TPHmo is discovered then the samples will also be analyzed for:

- Polycyclic aromatic hydrocarbons (PAHs) by EPA 8270

5.10 Waste Disposal

Soil cuttings and rinsate water generated will be placed in Department of Transportation (DOT) approved drums, labeled appropriately, and temporarily stored onsite. The waste will be transported by licensed waste haulers to a Chevron-approved and licensed disposal facility following receiving the analytical profile

5.11 Reporting

Upon completion of field activities and review of the analytical results, CRA will prepare a report incorporating all available data that, at a minimum, will contain:

- Description of the drilling and sampling
- Soil boring and well logs
- Tabulated soil and grab-groundwater analytical results
- Well construction table
- Analytical reports and chain-of-custody forms
- Waste disposal details
- An evaluation of the extent of hydrocarbon in the subsurface
- Update of the Conceptual Site Model
- Conclusions and recommendations based on site conditions

Section 6.0 Closing

CRA will proceed with the proposed scope of work upon receipt of written approval from ACEH. CRA will then obtain all required drilling permits, access approvals, and schedule the subcontractors at their earliest availability.

Figures

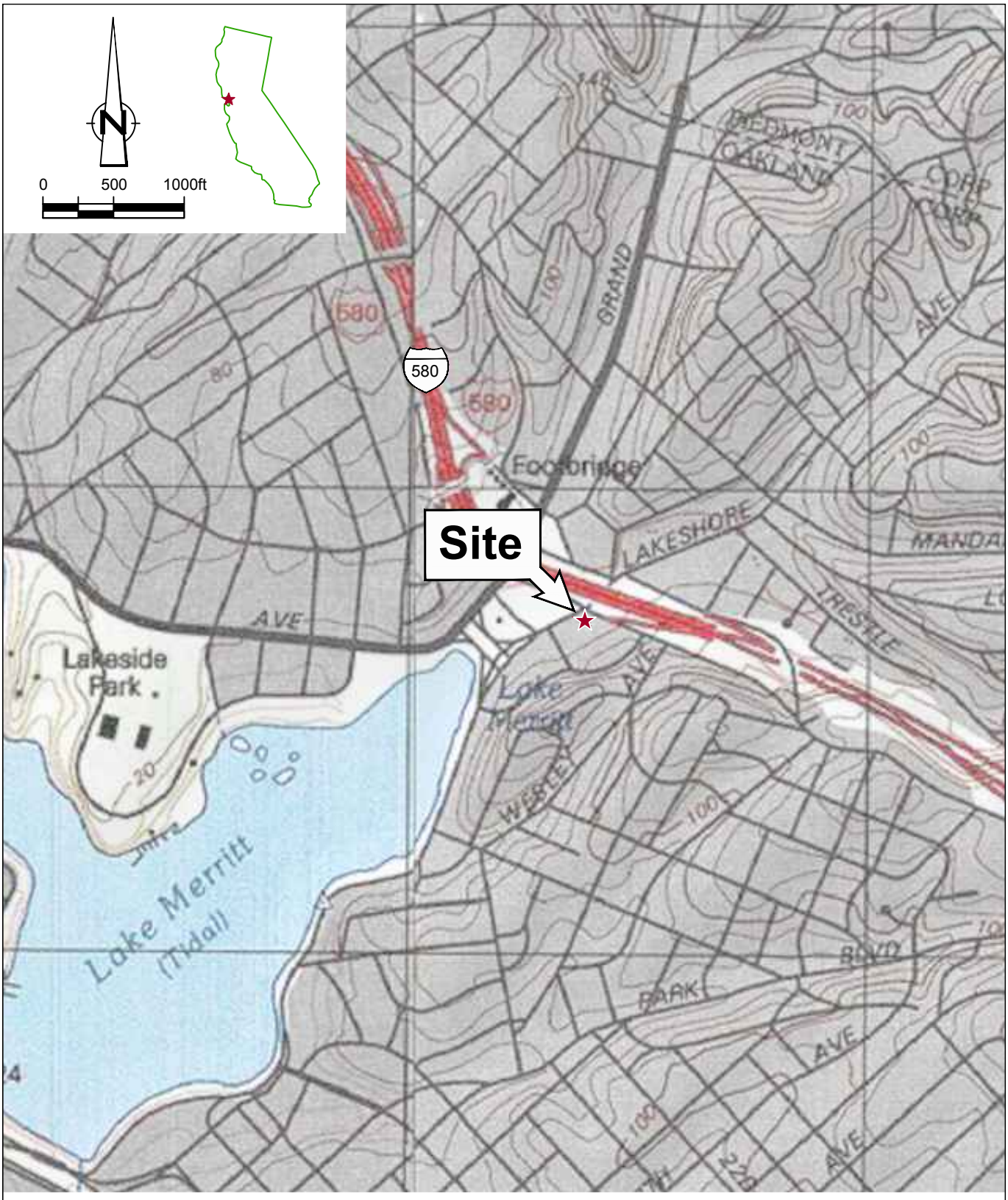
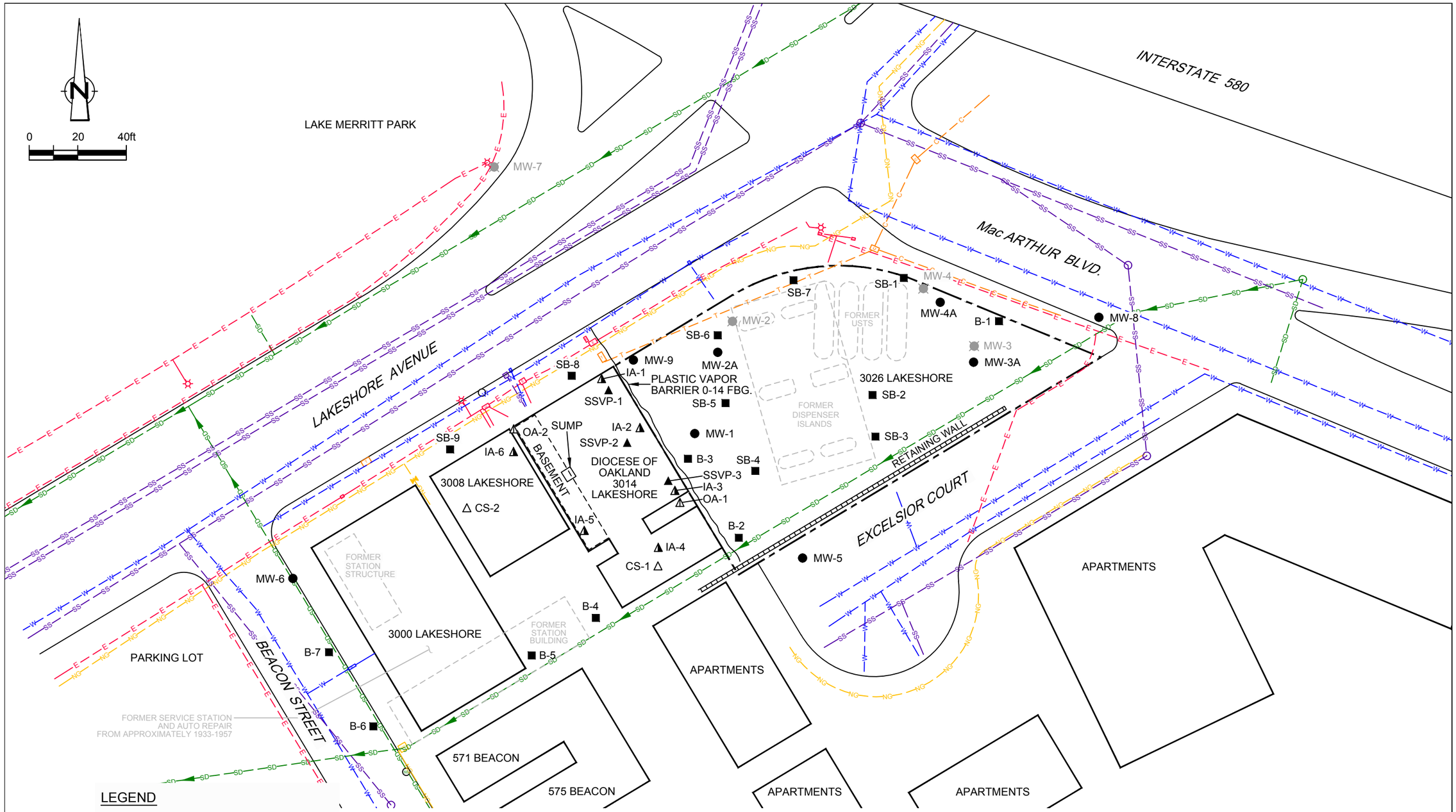


Figure 1

VICINITY MAP
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2014(022)GN-EM001 NOV 5/2014



LEGEND

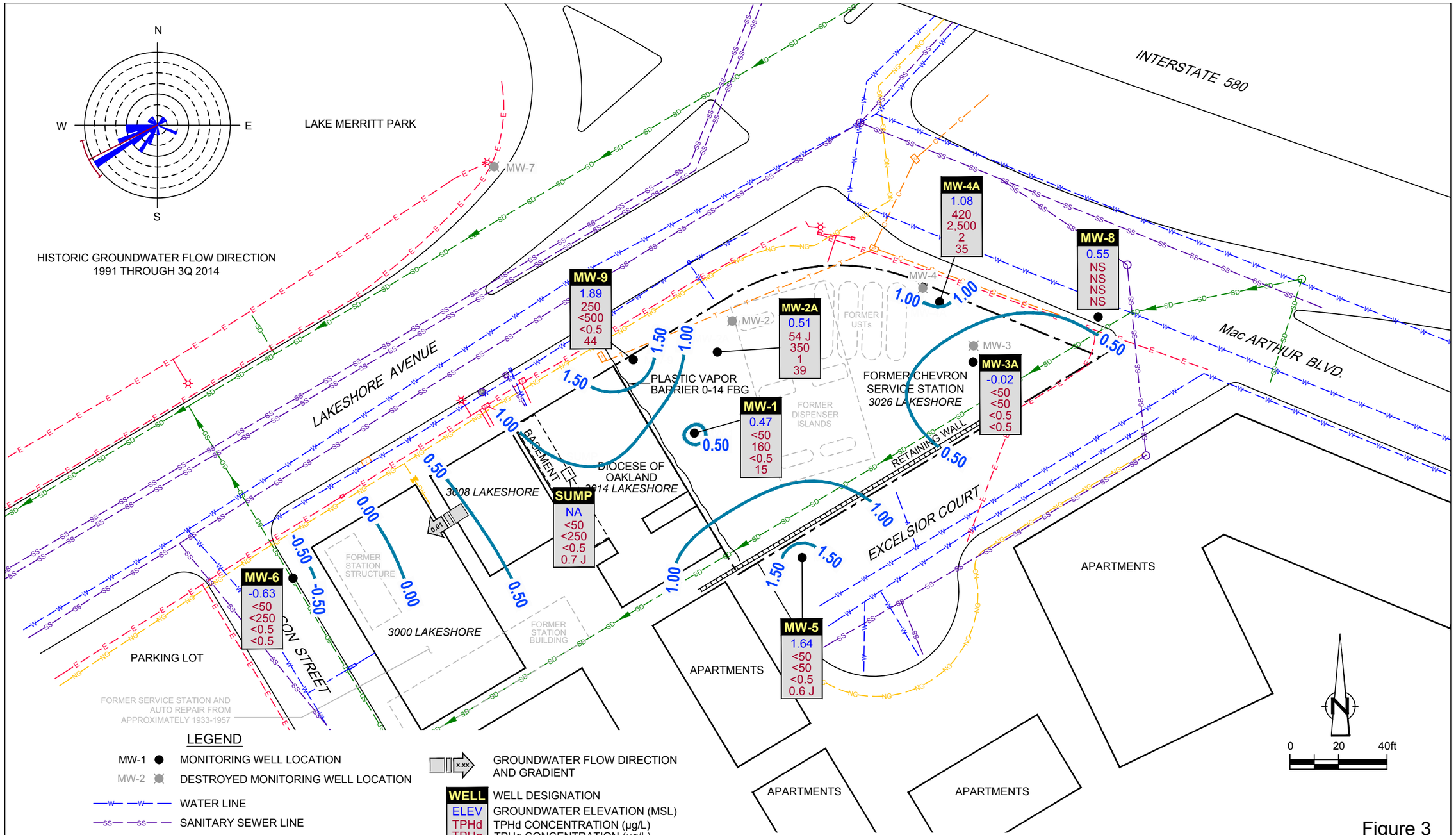
MW-1	●	MONITORING WELL LOCATION
MW-2	✹	DESTROYED MONITORING WELL LOCATION
SB-1	■	SOIL BORING LOCATION
	▲	SUB-SLAB VAPOR POINT LOCATION
	◮	INDOOR AIR SAMPLE LOCATION
	△	CRAWL SPACE AIR SAMPLE LOCATION
	◬	OUTDOOR AIR SAMPLE LOCATION

W	WATER LINE
SS	SANITARY SEWER LINE
E	ELECTRICAL LINE
C	COMMUNICATIONS LINE
NG	NATURAL GAS LINE
SD	STORM DRAIN LINE

Figure 2

SITE PLAN
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2014(22)GN-EM002 JAN 30/2015



LEGEND

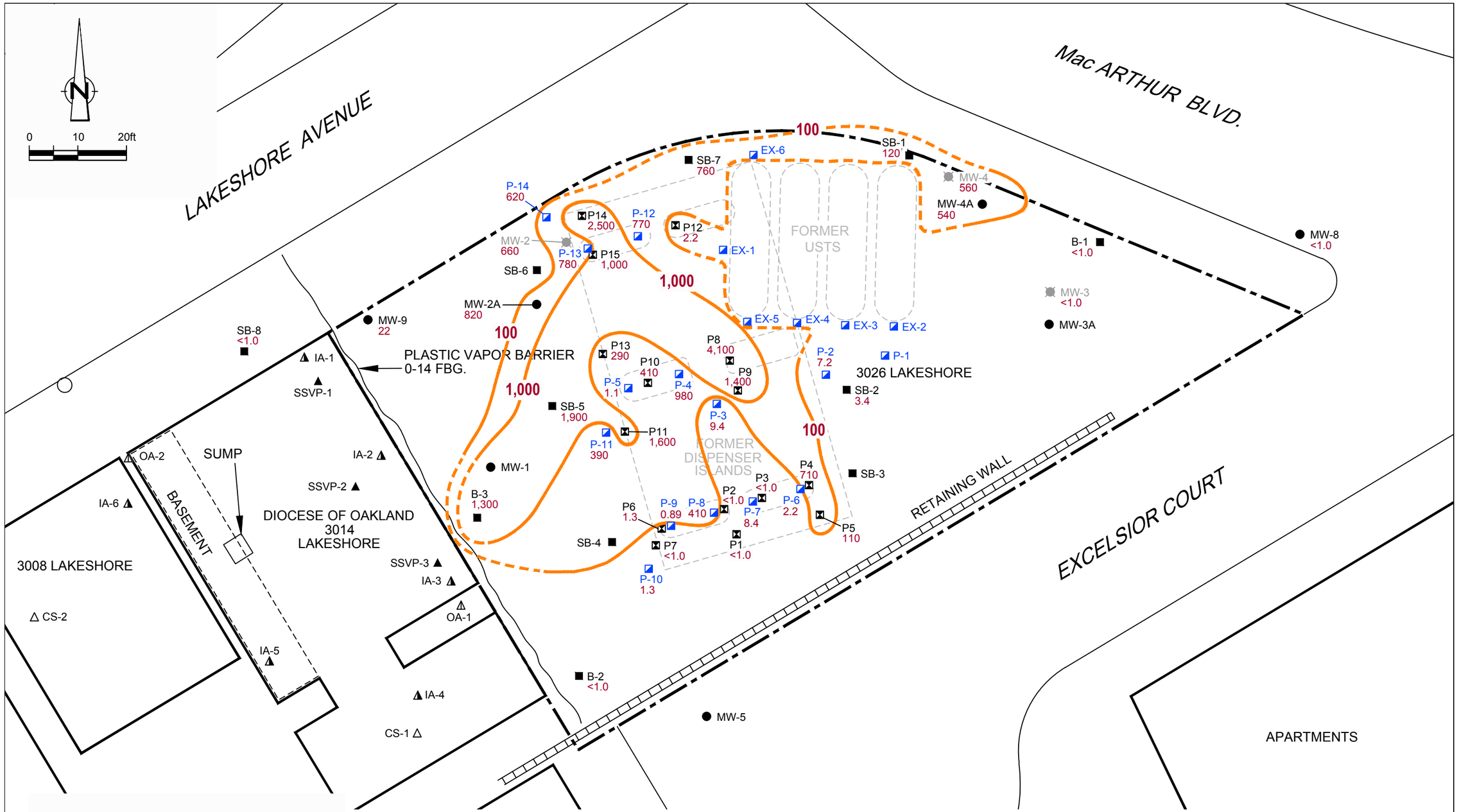
- MW-1 ● MONITORING WELL LOCATION
- MW-2 ✱ DESTROYED MONITORING WELL LOCATION
- WATER LINE
- SANITARY SEWER LINE
- ELECTRICAL LINE
- COMMUNICATIONS LINE
- NATURAL GAS LINE
- STORM DRAIN LINE
- 1.00 GROUNDWATER ELEVATION CONTOUR, IN FEET ABOVE MEAN SEA LEVEL (MSL), DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION AND GRADIENT

WELL	WELL DESIGNATION
ELEV	GROUNDWATER ELEVATION (MSL)
TPHd	TPHd CONCENTRATION (µg/L)
TPHg	TPHg CONCENTRATION (µg/L)
BENZ.	BENZENE CONCENTRATION (µg/L)
MTBE	MTBE CONCENTRATION (µg/L)
J	ESTIMATED VALUE BETWEEN METHOD DETECTION LIMIT AND LABORATORY REPORTING LIMIT
NA	NOT AVAILABLE; SAMPLE POINT NOT SURVEYED
NS	NOT SAMPLED

Figure 3

GROUNDWATER ELEVATION AND HYDROCARBON CONCENTRATION MAP
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California
September 25, 2014

311973-2014(022)GN-EM003 JAN 30/2015



LEGEND

- MONITORING WELL LOCATION
- DESTROYED MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PRODUCT PIPING SAMPLE LOCATION (2010)
- PRODUCT PIPING SAMPLE LOCATION (1996)
- SUB-SLAB VAPOR POINT LOCATION
- INDOOR AIR SAMPLE LOCATION
- CRAWL SPACE AIR SAMPLE LOCATION
- OUTDOOR AIR SAMPLE LOCATION
- 1,000 TPHG CONCENTRATION IN SOIL, IN MILLIGRAMS PER KILOGRAM (mg/kg)
- 100 TPHG CONCENTRATION CONTOUR LINE DASHED WHERE INFERRED

Figure 4

MAXIMUM TPHG CONCENTRATIONS IN SOIL (0 TO 5 FBG)
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2015(22)GN-EM004 FEB 4/2015

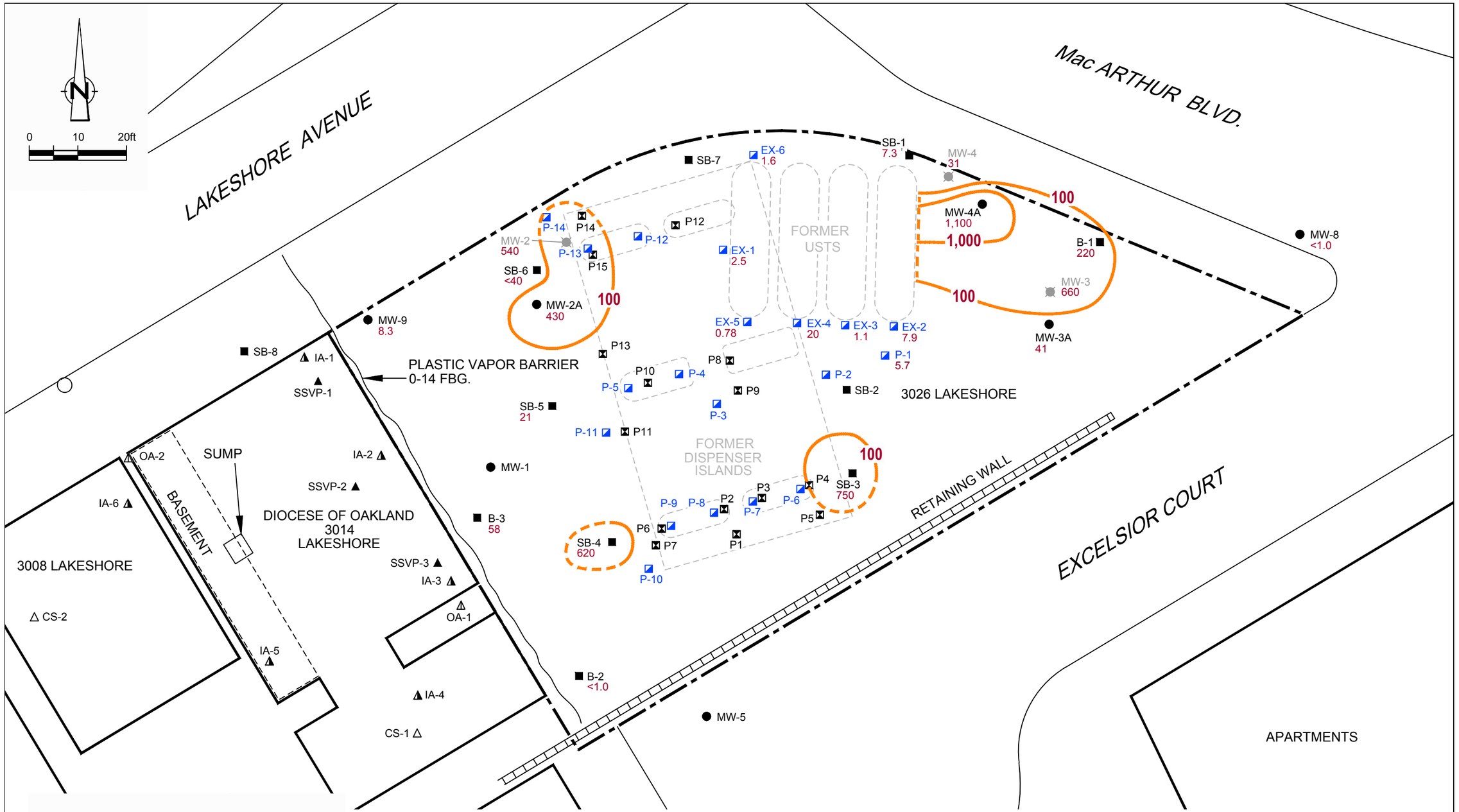


Figure 5

MAXIMUM TPHG CONCENTRATIONS IN SOIL (>5 TO 10 FBG)
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2015(22)GN-EM005 FEB 4/2015

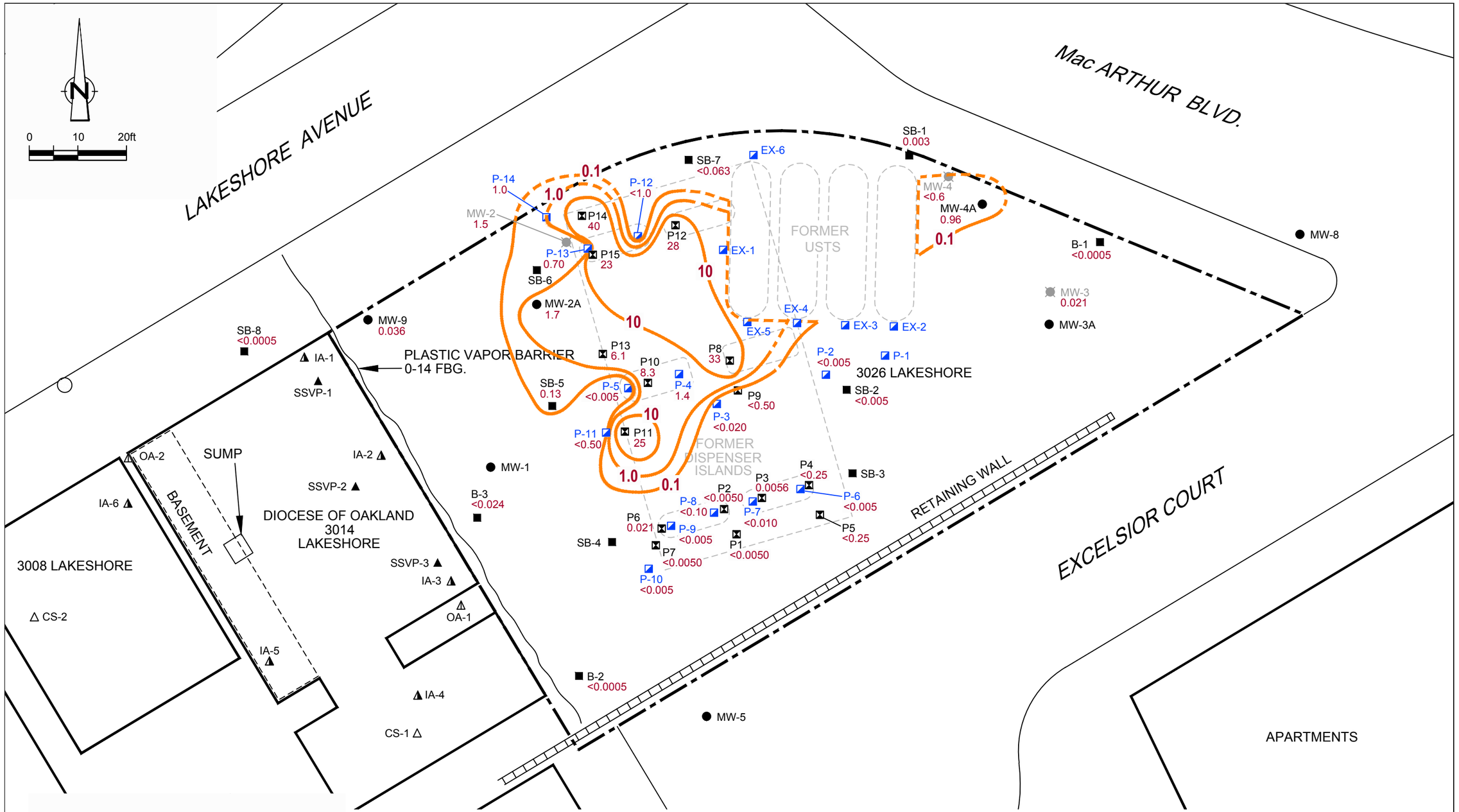
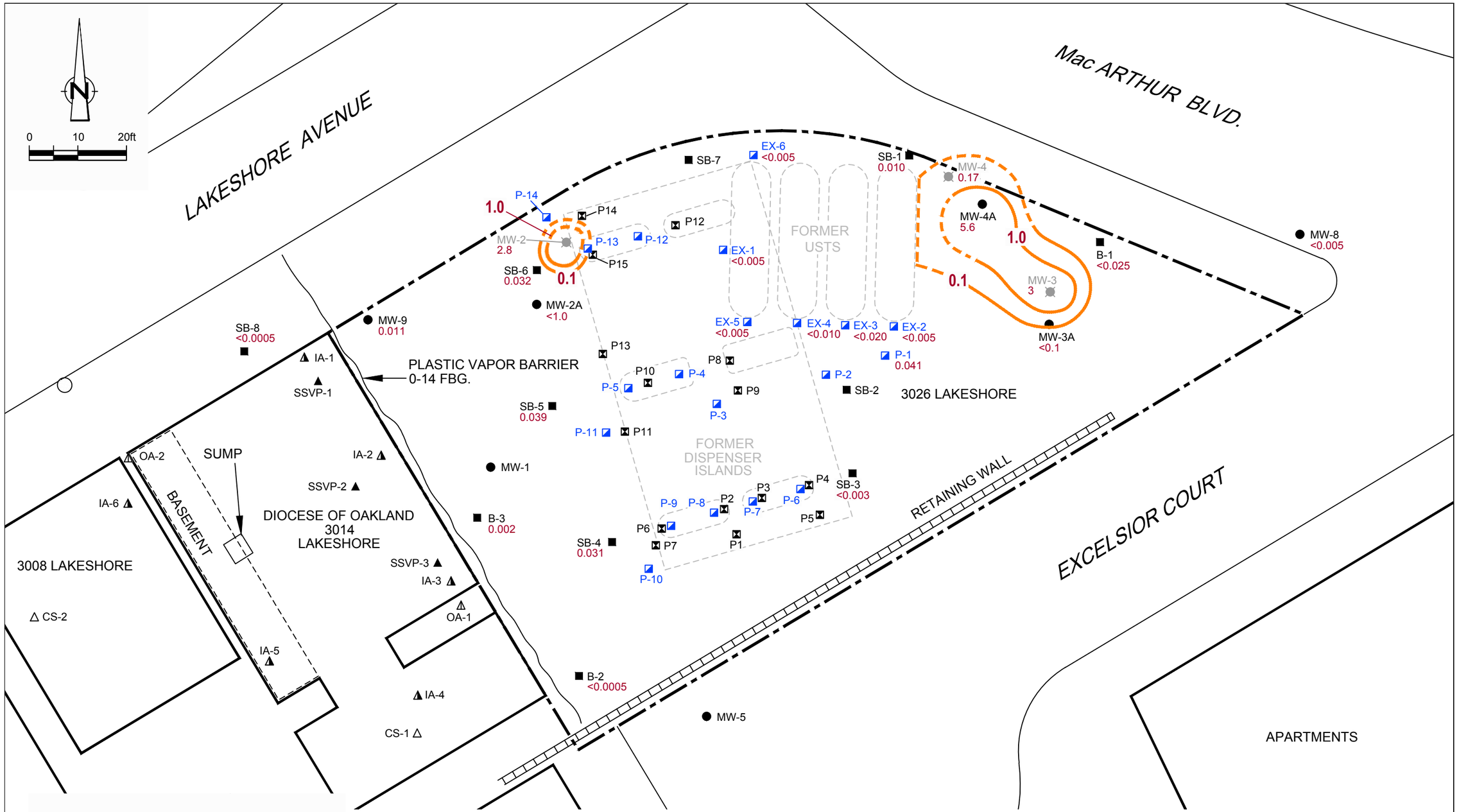


Figure 6

MAXIMUM BENZENE CONCENTRATIONS IN SOIL (0 TO 5 FBG)
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2015(22)GN-EM006 FEB 4/2015



LEGEND

- MONITORING WELL LOCATION
- DESTROYED MONITORING WELL LOCATION
- SOIL BORING LOCATION
- PRODUCT PIPING SAMPLE LOCATION (2010)
- PRODUCT PIPING SAMPLE LOCATION (1996)
- SUB-SLAB VAPOR POINT LOCATION
- INDOOR AIR SAMPLE LOCATION
- CRAWL SPACE AIR SAMPLE LOCATION
- OUTDOOR AIR SAMPLE LOCATION
- 5.6 BENZENE CONCENTRATION IN SOIL, IN MILLIGRAMS PER KILOGRAM (mg/kg)
- 1.0 BENZENE CONCENTRATION CONTOUR LINE DASHED WHERE INFERRED

Figure 7

MAXIMUM BENZENE CONCENTRATIONS IN SOIL (>5 TO 10 FBG)
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2015(22)GN-EM007 FEB 4/2015

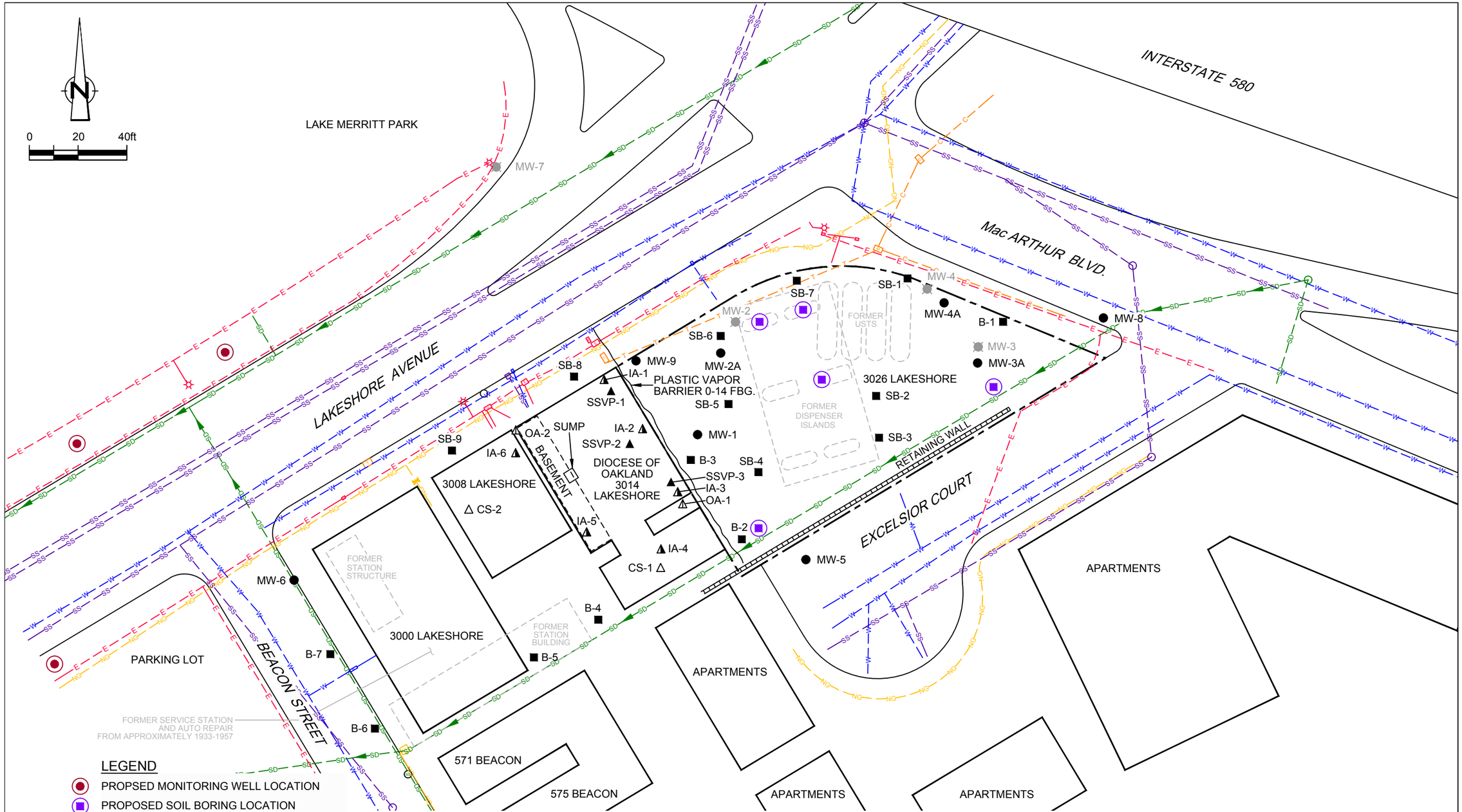


Figure 8

SITE PLAN with PROPOSED SOIL BORING AND MONITORING WELL LOCATIONS
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
Oakland, California

311973-2014(22)GN-EM008 FEB 4/2015

Tables

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	08/20/1991	6.82	5.20	1.62	0.00	0.00	-	-	260	-	5,100	1,700	21	220	34	-	-	-	-	-	-	-
MW-1	09/30/1991	6.82	5.67	1.15	Sheen	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	10/28/1991	6.82	5.30	1.50	0.03	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	01/08/1992	6.82	5.15	1.67	Sheen	0.00	-	-	4,400	-	5,400	770	13	95	31	-	-	-	-	-	-	-
MW-1	01/13/1992	6.82	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	06/23/1992	6.89	5.41	1.48	0.00	0.00	-	-	2,000	-	7,700	1,500	40	230	100	-	-	-	-	-	-	-
MW-1	08/24/1992	6.89	5.77	1.12	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	09/21/1992	6.89	5.89	1.00	0.00	0.00	-	-	<50	-	3,500	1,700	28	190	78	-	-	-	-	-	-	-
MW-1	10/26/1992	6.89	5.94	0.95	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/23/1992	6.89	4.71	2.18	0.00	0.00	-	-	5,500	-	60,000	7,100	240	2,000	1,300	-	-	-	-	-	-	-
MW-1	01/08/1993	6.89	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	03/25/1993	6.89	4.72	2.17	0.00	0.00	-	-	<10	-	530	1,100	41	67	79	-	-	-	-	-	-	-
MW-1	06/11/1993	6.89	5.07	5.37	0.00	0.00	-	-	-	-	7,000	1,900	33	120	69	9,600	-	-	-	-	-	840
MW-1	09/29/1993	6.89	5.76	1.13	0.00	0.00	-	-	<10	-	6,600	1,600	28	43	74	-	-	-	-	-	-	-
MW-1	12/20/1993	6.89	5.15	1.74	0.00	0.00	-	-	<10	-	6,300	1,900	36	82	65	-	-	-	-	-	-	-
MW-1	03/07/1994	6.89	4.68	2.21	0.00	0.00	-	-	<10	-	7,700	1,100	55	66	38	12,000	-	-	-	-	-	-
MW-1	06/17/1994	6.89	5.06	1.83	0.00	0.00	-	-	2,200	-	4,300	710	12	90	38	-	-	-	-	-	-	-
MW-1	09/12/1994	6.89	5.65	1.24	0.00	0.00	-	-	2,500	-	6,400	1,500	<25	180	<25	12,000	-	-	-	-	-	-
MW-1	11/30/1994	6.89	4.57	2.32	0.00	0.00	-	-	2,300[1]	-	4,900	690	26	97	60	3,900	-	-	-	-	-	-
MW-1	03/24/1995	6.89	2.98	3.91	0.00	0.00	-	-	1,400[2]	-	1,800	160	7.3	11	14	1,300	-	-	-	-	-	-
MW-1	06/27/1995	6.89	5.02	1.87	0.00	0.00	-	-	2,300[2]	-	4,600	1,300	11	97	13	5,100	-	-	-	-	-	-
MW-1	09/28/1995	6.89	5.30	1.59	0.00	0.00	-	-	3,900[2]	-	6,600	1,500	<20	<20	<20	5,800	-	-	-	-	-	-
MW-1	12/19/1995	6.89	4.68	2.21	0.00	0.00	-	-	2,600[2]	-	3,800	930	<10	100	<10	6,300	-	-	-	-	-	-
MW-1	02/28/1996	6.89	3.62	3.27	0.00	0.00	-	-	1,800[2]	-	3,600	280	<5.0	18	5.5	2,200	-	-	-	-	-	-
MW-1	06/25/1996	6.89	5.02	1.87	0.00	0.00	-	-	3,000	-	4,700	1,600	36	150	31	3,000	-	-	-	-	-	-
MW-1	12/17/1996	6.89	4.66	2.23	0.00	0.00	-	-	2,700[3]	-	7,800	1,000	28	340	63	1,200	-	-	-	-	-	-
MW-1	03/31/1997	6.89	4.88	2.01	0.00	0.00	-	-	2,200[2]	-	5,300	590	55	210	53	950	-	-	-	-	-	-
MW-1	06/30/1997	6.89	5.57	1.32	0.00	0.00	-	-	2,200[2]	-	4,400	350	<10	<10	11	580	-	-	-	-	-	-
MW-1	09/12/1997	6.89	5.33	1.56	0.00	0.00	-	-	2,300[2]	-	3,400	220	9.5	15	11	460	-	-	-	-	-	-
MW-1	12/05/1997	6.89	4.45	2.44	0.00	0.00	-	-	1,900[2]	-	4,700	870	21	120	18	750	-	-	-	-	-	-
MW-1	02/16/1998	6.89	3.37	3.52	0.00	0.00	-	-	1,600[2]	-	4,400	120	12	11	7.7	270	-	-	-	-	-	-
MW-1	06/17/1998	6.89	4.65	2.24	0.00	0.00	-	-	1,300[2]	-	7,800	<25	50	34	650	650	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	08/31/1998	6.89	5.19	1.70	0.00	0.00	-	-	2,400[2]	-	3,700	620	17	120	31	380	-	-	-	-	-	-
MW-1	12/28/1998	6.89	4.95	1.94	0.00	0.00	-	-	1,500[2]	-	3,800	250	14	28	15	330	-	4900	<1,000	390000	<1,000	-
MW-1	03/04/1999	6.89	3.65	3.24	0.00	0.00	-	-	1,070[2]	-	1,560	17.9	<0.5	4.17	1.05	70.4	-	-	-	-	-	-
MW-1	06/14/1999	6.89	5.00	1.89	0.00	0.00	-	-	2,500[2]	-	<10,000	820	240	320	640	<500	-	-	-	-	-	-
MW-1	09/17/1999	6.89	6.59	0.30	0.00	0.00	-	-	2,110[2]	-	3,300	141	12.3	<10	<10	238	-	-	-	-	-	-
MW-1	12/20/1999	6.89	4.97	1.92	0.00	0.00	-	-	1,840[2]	-	2,990	218	16.3	20	<10	232	-	-	-	-	-	-
MW-1	03/20/2000	6.89	3.78	3.11	0.00	0.00	-	-	938[2]	-	1,340	20	3.07	1.87	1.87	29.1	-	-	-	-	-	-
MW-1	06/24/2000	6.89	4.44	2.45	0.00	0.00	-	-	1,680[9]	-	1,500[7]	12	5.3	<2.5	7.9	190	-	-	-	-	-	-
MW-1	09/07/2000	6.89	5.15	1.74	0.00	0.00	-	-	1,500[9]	-	3,100[7]	190	13	14	<10	210	-	-	-	-	-	-
MW-1	12/05/2000	6.89	4.73	2.16	0.00	0.00	-	-	970[13]	-	2,140[14]	248	<5.00	20.5	<5.00	<25.0	-	-	-	-	-	-
MW-1	03/01/2001	6.89	3.56	3.33	0.00	0.00	-	-	610[9]	-	1,000[7]	21	<10	<10	<10	280	-	-	-	-	-	-
MW-1	06/04/2001	6.89	4.76	2.13	0.00	0.00	-	-	1,100[9]	-	2,800[7]	310	23	11	15	470	-	-	-	-	-	-
MW-1	09/10/2001	6.89	5.61	1.28	0.00	0.00	-	-	2,600	-	2,500[16]	<20	26	<20	<20	310	-	-	-	-	-	-
MW-1	12/03/2001	6.89	3.58	3.31	0.00	0.00	-	-	2,700	-	2,400	30	7.3	7.0	6.5	160	-	-	-	-	-	-
MW-1	03/04/2002	6.89	4.53	2.36	0.00	0.00	-	-	2,700	-	3,300	120	17	22	9.0	110	-	-	-	-	-	-
MW-1	05/30/2002	6.89	4.48	2.41	0.00	0.00	-	-	2,700	-	4,100	110	9.3	22	11	100	-	-	-	-	-	-
MW-1	09/03/2002	6.89	5.47	1.42	0.00	0.00	-	-	2,900	-	3,700	<5.0	7.8	3.2	10	130	-	-	-	-	-	-
MW-1	12/09/2002	6.89	5.28	1.61	0.00	0.00	-	-	3,000	-	2,900	35	5.1	5.5	8.3	170	-	-	-	-	-	-
MW-1	03/10/2003	6.89	4.39	2.50	0.00	0.00	-	-	1,600	-	3,000	42	5.0	8.2	8.7	110	-	-	-	-	-	-
MW-1	06/09/2003[5,18]	6.89	4.36	2.53	0.00	0.00	-	-	2,000	-	5,200	140	16	20	15	100	-	-	-	-	-	-
MW-1	09/08/2003[5,18]	6.89	5.37	1.52	0.00	0.00	-	-	2,100	-	3,500	4	10	2	11	200	<50	-	-	-	-	-
MW-1	12/08/2003[5,18]	6.89	4.45	2.44	0.00	0.00	-	-	3,400	-	2,200	8	4	3	8	160	<50	-	-	-	-	-
MW-1	03/09/2004[18,20]	6.89	4.03	2.86	0.00	0.00	-	-	3,300	-	1,500	16	3	5	4	99	<130	-	-	-	-	-
MW-1	06/17/2004[18]	6.89	5.48	1.41	0.00	0.00	-	-	2,700	-	3,400	180	13	27	13	160	<50	-	-	-	-	-
MW-1	09/15/2004[18]	6.89	7.80	-0.91	0.00	0.00	-	-	2,600	-	1,700	2	1	0.8	5	180	<50	-	-	-	-	-
MW-1	12/23/2004[18]	6.89	5.54	1.35	0.00	0.00	-	-	3,000	-	1,800	120	3	5	5	120	<50	-	-	-	-	-
MW-1	03/24/2005[18]	6.89	3.40	3.49	0.00	0.00	-	-	950	-	1,100	45	2	5	2	16	<50	-	-	-	-	-
MW-1	09/16/2005[18]	6.89	5.79	1.10	0.00	0.00	-	-	2,200	-	3,700	74	9	21	14	150	<50	-	-	-	-	-
MW-1	12/21/2005[18]	6.89	3.78	3.11	0.00	0.00	-	-	1,600[22]	-	1,400	53	2	4	4	62	<50	-	-	-	-	-
MW-1	03/23/2006[18]	6.89	3.56	3.33	0.00	0.00	-	-	1,400	-	1,100	3	2	2	3	26	<50	-	-	-	-	-
MW-1	06/09/2006[18]	6.89	4.78	2.11	0.00	0.00	-	-	1,300	-	5,200	160	13	42	20	77	<50	-	-	-	-	-
MW-1	09/05/2006[18]	6.89	6.00	0.89	0.00	0.00	-	-	1,600	-	2,000	0.8	<0.5	<0.5	0.8	1,500	<50	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	12/15/2006[18]	6.89	4.05	2.84	0.00	0.00	-	-	1,800	-	1,400	3	0.9	1	5	47	<50	-	-	-	-	-
MW-1	03/01/2007[18]	6.89	3.93	2.96	0.00	0.00	-	-	1,500	-	1,000	23	3	3	3	16	<50	-	-	-	-	-
MW-1	06/05/2007[18]	6.89	4.81	2.08	0.00	0.00	-	-	1,200	-	4,000	90	9	21	12	68	<50	-	-	-	-	-
MW-1	09/05/2007[18]	6.89	5.71	1.18	0.00	0.00	-	-	1,800	-	2,000	3	2	1	6	66	<50	-	-	-	-	-
MW-1	12/05/2007[18]	6.89	5.02	1.87	0.00	0.00	-	-	1,200	-	2,400	58	6	7	7	97	150	-	-	-	-	-
MW-1	03/03/2008[18]	6.89	4.53	2.36	0.00	0.00	-	-	1,400	-	1,500	13	2	2	3	36	<50	-	-	-	-	-
MW-1	06/02/2008[18]	6.89	5.77	1.12	0.00	0.00	-	-	1,000	-	1,100	1	1	<0.5	3	59	<50	-	-	-	-	-
MW-1	09/04/2008[18]	6.89	6.11	0.78	0.00	0.00	-	-	1,000	-	1,200	0.6	<0.5	<0.5	2	20	<50	-	-	-	-	-
MW-1	12/04/2008[18]	6.89	6.11	0.78	0.00	0.00	-	-	2,400	-	810	1	0.8	<0.5	1	91	<50	-	-	-	-	-
MW-1	02/26/2009[18]	6.89	4.31	2.58	0.00	0.00	-	-	1,300	-	460	2	2	<0.5	<0.5	39	-	-	-	-	-	-
MW-1	06/30/2009[18]	6.89	5.42	1.47	0.00	0.00	-	-	1,700	-	2,900	14	4	3	6	70	<50	-	-	-	-	-
MW-1	09/29/2009[18]	6.89	5.81	1.08	0.00	0.00	-	-	1,600	-	1,000	<0.5	<0.5	<0.5	1	37	<50	-	-	-	-	-
MW-1	03/10/2010[18]	6.89	3.80	3.09	0.00	0.00	-	-	570	-	450	0.9 J	<0.5	<0.5	<0.5	18	<50	-	-	-	-	-
MW-1	09/15/2010	6.89	6.42	0.47	0.00	0.00	-	-	1,400	-	1,600	<0.5	0.6 J	<0.5	3	25	<50	-	-	-	-	-
MW-1	03/14/2011	6.89	4.05	2.84	0.00	0.00	94 J	-	56 J	-	220	<0.5	<0.5	<0.5	<0.5	10	<50	-	-	-	-	-
MW-1	09/26/2011	6.89	6.42	0.47	0.00	0.00	-	160	-	200	260	<0.5	<0.5	<0.5	<0.5	11	<50	-	-	-	-	-
MW-1	03/30/2012	6.89	3.31	3.58	0.00	0.00	-	<38	-	<50	100	<0.5	<0.5	<0.5	<0.5	4	<50	-	-	-	-	-
MW-1	09/22/2012	6.89	6.48	0.41	0.00	0.00	-	<38	-	73 J	320	<0.5	<0.5	<0.5	<0.5	16	<50	-	-	-	-	-
MW-1	03/19/2013	6.89	5.37	1.52	0.00	0.00	-	<38	-	69 J	270	<0.5	<0.5	<0.5	<0.5	24	<50	-	-	-	-	-
MW-1	09/25/2013	6.89	6.48	0.41	0.00	0.00	-	-	2,000	-	210	<0.5	<0.5	<0.5	<0.5	13	<50	-	-	-	-	-
MW-1	03/28/2014	6.89	4.41	2.48	0.00	0.00	-	-	2,000	-	140	2	<0.5	<0.5	<0.5	12	<50	-	-	-	-	-
MW-1	**09/25/2014**	**6.89**	**6.42**	**0.47**	**0.00**	**0.00**	**-**	**-**	**-**	**<50**	**160**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**15**	**<50**					
MW-2	08/20/1991	6.27	4.35	1.92	0.00	0.00	-	-	600	-	9,300	3,700	55	530	75	-	-	-	-	-	-	-
MW-2	09/30/1991	6.27	4.99	1.28	0.00	0.00	-	-	-	-	3,500	2,600	47	440	68	-	-	-	-	-	-	-
MW-2	10/28/1991	6.27	4.91	1.36	0.00	0.00	-	-	-	-	4,600	1,800	29	290	53	-	-	-	-	-	-	-
MW-2	01/08/1992	6.27	4.64	1.63	Sheen	0.00	-	-	-	-	14,000	4,300	70	<25	130	-	-	-	-	-	-	-
MW-2	01/13/1992	6.27	-	-	0.00	0.00	-	-	38,000	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/23/1992	6.27	4.64	1.63	0.02	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	08/24/1992	6.27	4.94	1.34	0.02	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	09/21/1992	6.27	5.08	1.20	0.01	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	10/26/1992	6.27	5.93	0.34	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-2	12/23/1992	6.27	-	-	0.00	0.00	-	-	160,000	-	21,000	5,400	59	1,300	160	-	-	-	-	-	-	-
MW-2	01/08/1993	6.27	3.70	2.57	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	03/25/1993	6.27	3.38	2.89	Sheen	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/11/1993	6.27	4.18	2.09	0.00	0.00	-	-	-	-	5,900	1,100	23	240	51	-	-	-	-	-	-	2,300
MW-2	09/29/1993	6.27	6.20	0.07	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/20/1993	6.27	4.35	1.94	0.02	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	03/07/1994	6.27	3.67	2.60	0.00	0.00	-	-	<10	-	26,000	5,700	170	1,000	150	-	-	-	-	-	-	-
MW-2	06/17/1994	6.27	4.02	2.25	Sheen	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	09/12/1994	6.27	4.83	1.45	0.01	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	11/30/1994[26]	6.27	4.00	2.27	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	03/24/1995	6.27	4.01	2.73	0.59	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/27/1995	6.27	4.96	1.71	0.50	0.013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	09/28/1995	6.27	4.25	2.62	0.75	0.013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/19/1995	6.27	4.76	1.99	0.60	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	02/28/1996	6.27	4.58	1.99	0.38	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/25/1996	6.27	4.29	2.36	0.47	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/17/1996	6.27	4.16	2.22	0.14	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	03/31/1997	6.27	4.07	2.34	0.18	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/30/1997	6.27	4.32	2.06	0.14	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	09/12/1997	6.27	4.38	2.00	0.14	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/05/1997	6.27	3.78	2.51	0.02	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	02/16/1998	6.27	3.29	3.08	0.12	0.007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	06/17/1998	6.27	4.00	2.35	0.10	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	08/31/1998	6.27	5.71	0.65	0.11	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/28/1998	6.27	4.60	1.75	0.10	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	03/04/1999	6.27	3.73	2.58	0.05	0.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2A	04/19/1999	6.53	4.86	1.67	0.00	0.00	-	-	820[2]	-	<2,000	<20	<20	<20	<20	9,200	-	-	-	-	-	-
MW-2A	06/14/1999	6.53	5.30	1.23	0.00	0.00	-	-	2,000[2]	-	<5,000	89	<50	66	<50	10,000	-	-	-	-	-	-
MW-2A	09/17/1999	6.53	5.84	0.69	0.00	0.00	-	-	1,050[2]	-	903	42	1.63	22.8	7.74	11,400	-	-	-	-	-	-
MW-2A	12/20/1999	6.53	6.60	-0.07	0.00	0.00	-	-	2,820[2]	-	2,280	115	<10	87.2	27.2	14,000	-	-	-	-	-	-
MW-2A	03/20/2000	6.53	4.79	1.74	0.00	0.00	-	-	1,220[2]	-	1,040	54.3	<5.0	33.8	12.1	10,900[2]	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-2A	06/24/2000	6.53	5.25	1.28	0.00	0.00	-	-	1,300[9]	-	690[7]	50	2.5	18	9.5	15,000[8]	-	-	-	-	-	-
MW-2A	09/07/2000	6.53	5.44	1.09	0.00	0.00	-	-	770[9]	-	310[7]	6.7	1.4	1.6	3.8	16,000	-	-	-	-	-	-
MW-2A	12/05/2000	6.53	5.37	1.16	0.00	0.00	-	-	810[13]	-	414[14]	32.4	<0.500	7.49	5.96	8,910[8]	-	-	-	-	-	-
MW-2A	03/01/2001	6.53	4.50	2.03	0.00	0.00	-	-	590[9]	-	370[7]	30	4.0	12	9.2	8,200	-	-	-	-	-	-
MW-2A	06/04/2001	6.53	5.17	1.36	0.00	0.00	-	-	930[9]	-	<500	19	<5.0	<5.0	<5.0	7,800	-	-	-	-	-	-
MW-2A	09/10/2001	6.53	5.74	0.79	0.00	0.00	-	-	2,400	-	<5,000	<50	<50	<50	<50	9,700	-	-	-	-	-	-
MW-2A	12/03/2001	6.53	5.07	1.46	0.00	0.00	-	-	2,500	-	480	4.5	<1.0	1.1	<3.0	10,000	-	-	-	-	-	-
MW-2A	03/04/2002	6.53	5.01	1.52	0.00	0.00	-	-	2,300	-	630	5.4	1.5	2.9	2.3	7,000	-	-	-	-	-	-
MW-2A	05/30/2002	6.53	4.87	1.66	0.00	0.00	-	-	2,100	-	520	6.1	<1.0	2.6	5.4	7,100	-	-	-	-	-	-
MW-2A	09/03/2002	6.53	5.50	1.03	0.00	0.00	-	-	2,600	-	590	7.8	0.98	2.9	7.8	7,800	-	-	-	-	-	-
MW-2A	12/09/2002	6.53	5.47	1.06	0.00	0.00	-	-	1,900	-	670	7.9	0.88	2.1	5.0	8,300	-	-	-	-	-	-
MW-2A	03/10/2003	6.53	5.01	1.52	0.00	0.00	-	-	1,700	-	640	8.0	0.76	2.6	4.1	7,500	-	-	-	-	-	-
MW-2A	06/09/2003[18]	6.53	4.76	1.77	0.00	0.00	-	-	1,900	-	540	3	<3	<3	<3	6,800	-	-	-	-	-	-
MW-2A	09/08/2003[18]	6.53	5.37	1.16	0.00	0.00	-	-	2,000	-	540	3	0.7	0.7	3	7,000	<50	-	-	-	-	-
MW-2A	12/08/2003[18]	6.53	5.19	1.34	0.00	0.00	-	-	3,100	-	480	<5	<5	<5	<5	6,500	<500	-	-	-	-	-
MW-2A	03/09/2004[18]	6.53	4.72	1.81	0.00	0.00	-	-	1,200	-	1,300	44	2	15	10	2,900	<130	-	-	-	-	-
MW-2A	06/17/2004[18]	6.53	6.60	-0.07	0.00	0.00	-	-	2,300	-	920	23	2	6	12	1,700	<100	-	-	-	-	-
MW-2A	09/15/2004[18]	6.53	8.87	-2.34	0.00	0.00	-	-	1,900	-	880	6	2	<1	7	2,100	<100	-	-	-	-	-
MW-2A	12/23/2004[18]	6.53	5.85	0.68	0.00	0.00	-	-	2,200	-	430	6	<3	<3	<3	5,100	<250	-	-	-	-	-
MW-2A	03/24/2005[18]	6.53	4.75	1.78	0.00	0.00	-	-	810	-	390	<5	<5	<5	<5	5,200	<500	-	-	-	-	-
MW-2A	06/16/2005[18]	6.53	5.23	1.30	0.00	0.00	-	-	3,000	-	380	<5	<5	<5	<5	5,500	<500	-	-	-	-	-
MW-2A	09/16/2005[18]	6.53	6.08	0.45	0.00	0.00	-	-	2,600	-	380	<5	<5	<5	<5	5,900	<500	-	-	-	-	-
MW-2A	12/21/2005[18]	6.53	4.98	1.55	0.00	0.00	-	-	4,000[23]	-	450	1	0.6	<0.5	2	4,800	<50	-	-	-	-	-
MW-2A	03/23/2006[18]	6.53	4.56	1.97	0.00	0.00	-	-	2,600	-	330	1	0.8	<0.5	2	4,500		-	-	-	-	-
MW-2A	06/09/2006[18]	6.53	5.16	1.37	0.00	0.00	-	-	2,800	-	500	<1	<1	<1	<1	4,500	<100	-	-	-	-	-
MW-2A	09/05/2006[18]	6.53	5.81	0.72	0.00	0.00	-	-	3,000	-	510	<5	<5	<5	<5	3,600	<500	-	-	-	-	-
MW-2A	12/15/2006[18]	6.53	5.05	1.48	0.00	0.00	-	-	2,800	-	600	4	<1	<1	1	4,000	<100	-	-	-	-	-
MW-2A	03/01/2007[18]	6.53	5.03	1.50	0.00	0.00	-	-	1,800	-	230	<3	<3	<3	<3	3,700	<250	-	-	-	-	-
MW-2A	06/05/2007[18]	6.53	4.81	1.72	0.00	0.00	-	-	1,700	-	480	0.9	0.6	<0.5	2	3,500	<50	-	-	-	-	-
MW-2A	09/05/2007[18]	6.53	5.25	1.28	0.00	0.00	-	-	2,400	-	430	1	1	<0.5	2	1,700	<50	-	-	-	-	-
MW-2A	12/05/2007[18]	6.53	5.28	1.25	0.00	0.00	-	-	2,000	-	530	2	<1	<1	2	3,400	<100	-	-	-	-	-
MW-2A	03/03/2008[18]	6.53	5.13	1.40	0.00	0.00	-	-	2,100	-	960	85	3	3	5	520	<50	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-2A	06/02/2008[18]	6.53	5.60	0.93	0.00	0.00	-	-	2,300	-	600	10	1	0.7	5	1,300	<50	-	-	-	-	-
MW-2A	09/04/2008[18]	6.53	5.72	0.81	0.00	0.00	-	-	2,600	-	440	<1	<1	<1	1	2,500	<100	-	-	-	-	-
MW-2A	12/04/2008[18]	6.53	6.20	0.33	0.00	0.00	-	-	4,000	-	480	<1	<1	<1	1	2,400	<100	-	-	-	-	-
MW-2A	02/26/2009[18]	6.53	4.39	2.14	0.00	0.00	-	-	860	-	420	44	4	3	3	18	<50	-	-	-	-	-
MW-2A	06/30/2009[18]	6.53	5.38	1.15	0.00	0.00	-	-	2,900	-	500	1	13	2	22	1,900	<50	-	-	-	-	-
MW-2A	09/29/2009[18]	6.53	5.70	0.83	0.00	0.00	-	-	4,200	-	500	2	1	<0.5	5	900	<50	-	-	-	-	-
MW-2A	03/10/2010[18]	6.53	3.77	2.76	0.00	0.00	-	-	1,100	-	900	90	4	2	2	27	<50	-	-	-	-	-
MW-2A	09/15/2010	6.53	5.80	0.73	0.00	0.00	-	-	2,800	-	360	<0.5	<0.5	<0.5	2	24	<50	-	-	-	-	-
MW-2A	03/14/2011	6.53	4.72	1.81	0.00	0.00	540	-	670	-	960	34	4	1	4	39	<50	-	-	-	-	-
MW-2A	09/26/2011	6.53	5.95	0.58	0.00	0.00	-	<39	-	120	340	<0.5	<0.5	<0.5	0.7 J	80	<50	-	-	-	-	-
MW-2A	03/30/2012	6.53	4.18	2.35	0.00	0.00	-	<38	-	82 J	360	<0.5	<0.5	<0.5	2	200	<50	-	-	-	-	-
MW-2A	09/22/2012	6.53	6.23	0.30	0.00	0.00	-	<38	-	50 J	350	<0.5	<0.5	<0.5	1	86	<50	-	-	-	-	-
MW-2A	03/20/2013	6.53	5.84	0.69	0.00	0.00	-	<38	-	<50	310	<0.5	<0.5	<0.5	<0.5	130	<50	-	-	-	-	-
MW-2A	09/25/2013	6.53	6.22	0.31	0.00	0.00	-	-	2,700	-	310	<0.5	<0.5	<0.5	0.6 J	48	<50	-	-	-	-	-
MW-2A	03/28/2014	6.53	5.08	1.45	0.00	0.00	-	-	2,200	-	340	<0.5	<0.5	<0.5	0.6 J	99	<50	-	-	-	-	-
MW-2A	**09/25/2014**	**6.53**	**6.02**	**0.51**	**0.00**	**0.00**	**-**	**-**	**-**	**54 J**	**350**	**1**	**<0.5**	**<0.5**	**2**	**39**	**<50**					
MW-3	08/20/1991	8.71	8.45	0.26	0.00	0.00	-	-	200	-	3,100	200	13	15	12	-	-	-	-	-	-	-
MW-3	09/30/1991	8.71	8.74	-0.03	0.00	0.00	-	-	-	-	1,000	150	8.3	13	6.7	-	-	-	-	-	-	-
MW-3	10/28/1991	8.71	8.76	-0.05	0.00	0.00	-	-	-	-	1,200	120	6.7	11	7.5	-	-	-	-	-	-	-
MW-3	01/08/1992	8.71	8.77	-0.06	0.00	0.00	-	-	-	-	410	120	0.9	4.1	3.4	-	-	-	-	-	-	-
MW-3	01/13/1992	8.71	-	-	0.00	0.00	-	-	220	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	06/23/1992	8.71	8.68	0.03	0.00	0.00	-	-	<50	-	630	43	0.8	8.2	3.4	-	-	-	-	-	-	-
MW-3	08/24/1992	8.71	8.85	-0.14	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/21/1992	8.71	8.94	-0.23	0.00	0.00	-	-	<50	-	1,800	730	1.4	66	39	-	-	-	-	-	-	-
MW-3	10/26/1992	8.71	9.07	-0.36	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/23/1992	8.71	-	-	0.00	0.00	-	-	850	-	840	270	3.4	15	4.2	-	-	-	-	-	-	-
MW-3	01/08/1993	8.71	7.69	1.02	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/25/1993	8.71	7.74	0.97	0.00	0.00	-	-	<10	-	760	270	4.0	10	5.0	-	-	-	-	-	-	-
MW-3	06/11/1993	8.71	8.52	0.19	0.00	0.00	-	-	-	-	200	32	1.0	5.0	2.0	-	-	-	-	-	-	5,600
MW-3	09/29/1993	8.71	6.05	2.66	0.00	0.00	-	-	-	-	9,300	2,800	60	270	62	-	-	-	-	-	-	-
MW-3	12/20/1993	8.71	8.83	-0.12	0.00	0.00	-	-	<10	-	460	250	4.0	8.0	4.0	-	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-3	03/07/1994	8.71	8.07	0.64	0.00	0.00	-	-	<10	-	2,400	260	13	35	18	-	-	-	-	-	-	-
MW-3	06/17/1994	8.71	8.52	0.19	0.00	0.00	-	-	<50	-	1,000	200	4.0	6.6	6.7	-	-	-	-	-	-	-
MW-3	09/12/1994	8.71	8.92	-0.21	0.00	0.00	-	-	<50	-	360	130	3.4	4.8	3.3	130	-	-	-	-	-	-
MW-3	11/30/1994[26]	8.71	8.13	0.58	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/24/1995	8.71	6.78	1.93	0.00	0.00	-	-	1,200[2]	-	4,100	920	<10	23	<10	70	-	-	-	-	-	-
MW-3	06/27/1995	8.71	8.22	0.49	0.00	0.00	-	-	1,000[2]	-	3,100	640	16	31	<10	<50	-	-	-	-	-	-
MW-3	09/28/1995	8.71	8.85	-0.14	0.00	0.00	-	-	460[2]	-	490	78	3.4	4.4	2.4	38	-	-	-	-	-	-
MW-3	12/19/1995	8.71	8.02	0.69	0.00	0.00	-	-	650[2]	-	2,600	580	<10	25	<10	<50	-	-	-	-	-	-
MW-3	02/28/1996	8.71	7.55	1.16	0.00	0.00	-	-	780[2]	-	1,500	510	<5.0	9.9	<5.0	<25	-	-	-	-	-	-
MW-3	06/25/1996	8.71	8.37	0.34	0.00	0.00	-	-	1,200[2]	-	1,300	390	7.8	14	6.5	31	-	-	-	-	-	-
MW-3	12/17/1996	8.71	8.30	0.41	0.00	0.00	-	-	1,100[2]	-	760	85	<1.2	5.9	5.1	<6.2	-	-	-	-	-	-
MW-3	03/31/1997	8.71	8.19	0.52	0.00	0.00	-	-	1,300[2]	-	2,000	380	12	24	12	<25	-	-	-	-	-	-
MW-3	06/30/1997	8.71	8.71	0.00	0.00	0.00	-	-	620[2]	-	1,900	340	9.9	23	6.1	<25	-	-	-	-	-	-
MW-3	09/12/1997	8.71	7.64	1.07	0.00	0.00	-	-	400[2]	-	1,200	200	4.6	14	4.8	3.9	-	-	-	-	-	-
MW-3	12/05/1997	8.71	8.25	0.46	0.00	0.00	-	-	190[2]	-	460	72	2.7	5.2	1.7	<5.0	-	-	-	-	-	-
MW-3	02/16/1998	8.71	7.00	1.71	0.00	0.00	-	-	1,000[2]	-	6,200	1,100	20	34	12	<50	-	-	-	-	-	-
MW-3	06/17/1998	8.71	8.00	0.71	0.00	0.00	-	-	1,100[2]	-	3,000	350	<10	<10	<10	120	-	-	-	-	-	-
MW-3	08/31/1998	8.71	8.63	0.08	0.00	0.00	-	-	790[2]	-	430	100	2.6	8.6	6.0	<12	-	-	-	-	-	-
MW-3	12/28/1998	8.71	8.73	-0.02	0.00	0.00	-	-	180[2]	-	1,400	220	<10	12	<10	<50	-	4500	<1,000	980000	390000	-
MW-3	03/04/1999	8.71	7.65	1.06	0.00	0.00	-	-	763[2]	-	2,880	355	9.15	19	<5.0	<20	-	-	-	-	-	-
MW-3A	04/19/1999	8.70	7.70	1.00	0.00	0.00	-	-	93[2]	-	<50	<0.5	<0.5	<0.5	<0.5	3.1	-	-	-	-	-	-
MW-3A	06/14/1999	8.70	8.20	0.50	0.00	0.00	-	-	160[2]	-	148	4.55	0.82	0.53	1.1	3.7	-	-	-	-	-	-
MW-3A	09/17/1999	8.70	8.72	-0.02	0.00	0.00	-	-	101[2]	-	169	6.02	0.806	0.515	0.786	4.68	-	-	-	-	-	-
MW-3A	12/20/1999	8.70	8.92	-0.22	0.00	0.00	-	-	153[2]	-	<50	1.82	<0.5	<0.5	<0.5	11	-	-	-	-	-	-
MW-3A	03/20/2000	8.70	7.64	1.06	0.00	0.00	-	-	223[2]	-	140	5.08	0.695	<0.5	<0.5	10.1	-	-	-	-	-	-
MW-3A	06/24/2000	8.70	8.38	0.32	0.00	0.00	-	-	128[9]	-	<50	0.74	<0.50	<0.50	<0.50	34	-	-	-	-	-	-
MW-3A	09/07/2000	8.70	8.79	-0.09	0.00	0.00	-	-	<50	-	<50	1.4	<0.50	<0.50	<0.50	15	-	-	-	-	-	-
MW-3A	12/05/2000	8.70	8.68	0.02	0.00	0.00	-	-	<50	-	<50.0	1.39	<0.500	<0.500	<0.500	12.9	-	-	-	-	-	-
MW-3A	03/01/2001	8.70	7.82	0.88	0.00	0.00	-	-	66[11]	-	<50	1.0	<0.50	<0.50	<0.50	19	-	-	-	-	-	-
MW-3A	06/04/2001	8.70	8.45	0.25	0.00	0.00	-	-	69[9]	-	<50	2.0	<0.50	<0.50	<0.50	37	-	-	-	-	-	-
MW-3A	09/10/2001	8.70	9.10	-0.40	0.00	0.00	-	-	<50	-	<50	3.9	<0.50	<0.50	<0.50	19	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-3A	12/03/2001	8.70	8.08	0.62	0.00	0.00	-	-	56	-	<50	<0.50	<0.50	<0.50	<1.5	19	-	-	-	-	-	-
MW-3A	03/04/2002	8.70	8.94	-0.24	0.00	0.00	-	-	85	-	<50	<0.50	<0.50	<0.50	<1.5	26	-	-	-	-	-	-
MW-3A	05/30/2002	8.70	8.78	-0.08	0.00	0.00	-	-	210	-	<50	<0.50	<0.50	<0.50	<1.5	22	-	-	-	-	-	-
MW-3A	09/03/2002	8.70	8.98	-0.28	0.00	0.00	-	-	89	-	<50	<0.50	<0.50	<0.50	<1.5	24	-	-	-	-	-	-
MW-3A	12/09/2002	8.70	8.90	-0.20	0.00	0.00	-	-	110	-	<50	<0.50	<0.50	<0.50	<1.5	22	-	-	-	-	-	-
MW-3A	03/10/2003	8.70	8.12	0.58	0.00	0.00	-	-	66	-	<50	<0.50	<0.50	<0.50	<1.5	40	-	-	-	-	-	-
MW-3A	06/09/2003[18]	8.70	8.23	0.47	0.00	0.00	-	-	82	-	<50	<0.5	0.5	<0.5	<0.5	35	-	-	-	-	-	-
MW-3A	09/08/2003[18]	8.70	8.76	-0.06	0.00	0.00	-	-	110	-	<50	<0.5	<0.5	<0.5	<0.5	27	<50	-	-	-	-	-
MW-3A	12/08/2003[18]	8.70	8.50	0.20	0.00	0.00	-	-	74[19]	-	<50	<0.5	<0.5	<0.5	<0.5	23	<50	-	-	-	-	-
MW-3A	03/09/2004[18]	8.70	7.71	0.99	0.00	0.00	-	-	410	-	53	1	<0.5	<0.5	<0.5	28	<50	-	-	-	-	-
MW-3A	06/17/2004[18]	8.70	8.52	0.18	0.00	0.00	-	-	430	-	180	1	<0.5	<0.5	<0.5	3	<50	-	-	-	-	-
MW-3A	09/15/2004[18]	8.70	9.12	-0.42	0.00	0.00	-	-	280	-	92	<0.5	<0.5	<0.5	<0.5	63	<50	-	-	-	-	-
MW-3A	12/23/2004[18]	8.70	8.76	-0.06	0.00	0.00	-	-	330	-	76	<0.5	<0.5	<0.5	<0.5	5	<50	-	-	-	-	-
MW-3A	03/24/2005[18]	8.70	6.28	2.42	0.00	0.00	-	-	210	-	<50	<0.5	<0.5	<0.5	<0.5	0.6	360	-	-	-	-	-
MW-3A	06/16/2005[18]	8.70	8.18	0.52	0.00	0.00	-	-	590	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-3A	09/16/2005[18]	8.70	8.78	-0.08	0.00	0.00	-	-	160[21]	-	<50	<0.5	<0.5	<0.5	<0.5	5	<50	-	-	-	-	-
MW-3A	12/21/2005[18]	8.70	8.30	0.40	0.00	0.00	-	-	220[23]	-	<50	<0.5	<0.5	<0.5	<0.5	10	<50	-	-	-	-	-
MW-3A	03/23/2006[18]	8.70	7.10	1.60	0.00	0.00	-	-	150	-	<50	<0.5	<0.5	<0.5	<0.5	0.5	<50	-	-	-	-	-
MW-3A	06/09/2006[18]	8.70	8.30	0.40	0.00	0.00	-	-	390	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-3A	09/05/2006[18]	8.70	9.00	-0.30	0.00	0.00	-	-	140	-	<50	<0.5	<0.5	<0.5	<0.5	5	<50	-	-	-	-	-
MW-3A	12/15/2006[18]	8.70	8.53	0.17	0.00	0.00	-	-	250	-	<50	<0.5	0.8	<0.5	2	9	<50	-	-	-	-	-
MW-3A	03/01/2007[18]	8.70	8.07	0.63	0.00	0.00	-	-	140	-	<50	2	4	1	5	10	<50	-	-	-	-	-
MW-3A	06/05/2007[18]	8.70	8.44	0.26	0.00	0.00	-	-	2,900	-	<50	<0.5	<0.5	<0.5	<0.5	7	<50	-	-	-	-	-
MW-3A	09/05/2007[18]	8.70	9.05	-0.35	0.00	0.00	-	-	520	-	<50	<0.5	<0.5	<0.5	<0.5	8	<50	-	-	-	-	-
MW-3A	12/05/2007[18]	8.70	8.71	-0.01	0.00	0.00	-	-	110	-	<50	<0.5	<0.5	<0.5	<0.5	30	<50	-	-	-	-	-
MW-3A	03/03/2008[18]	8.70	8.22	0.48	0.00	0.00	-	-	240	-	<50	<0.5	<0.5	<0.5	<0.5	9	<50	-	-	-	-	-
MW-3A	06/02/2008[18]	8.70	8.68	0.02	0.00	0.00	-	-	160	-	<50	<0.5	<0.5	<0.5	<0.5	25	<50	-	-	-	-	-
MW-3A	09/04/2008[18]	8.70	9.17	-0.47	0.00	0.00	-	-	220	-	<50	<0.5	<0.5	<0.5	<0.5	54	<50	-	-	-	-	-
MW-3A	12/04/2008[18]	8.70	8.95	-0.25	0.00	0.00	-	-	150	-	<50	<0.5	<0.5	<0.5	<0.5	29	<50	-	-	-	-	-
MW-3A	02/26/2009[18]	8.70	7.77	0.93	0.00	0.00	-	-	440	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-3A	06/30/2009[18]	8.70	5.73	2.97	0.00	0.00	-	-	52 J	-	<50	<0.5	<0.5	<0.5	<0.5	25	<50	-	-	-	-	-
MW-3A	09/29/2009[18,25]	8.70	6.30	2.40	0.00	0.00	-	-	400	-	<500	<0.5	<0.5	<0.5	<0.5	39	<50	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-3A	03/10/2010[18]	8.70	4.43	4.27	0.00	0.00	-	-	1,200	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-3A	09/15/2010	8.70	8.95	-0.25	0.00	0.00	-	-	360	-	<50	<0.5	<0.5	<0.5	<0.5	8	<50	-	-	-	-	-
MW-3A	03/14/2011	8.70	5.50	3.20	0.00	0.00	<38	-	<33	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-3A	09/26/2011	8.70	8.78	-0.08	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-3A	03/30/2012	8.70	6.17	2.53	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-3A	09/22/2012	8.70	8.69	0.01	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-3A	03/20/2013	8.70	7.72	0.98	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-3A	09/25/2013	8.70	8.54	0.16	0.00	0.00	-	-	400	-	<50	<0.5	<0.5	<0.5	<0.5	0.8 J	<50	-	-	-	-	-
MW-3A	03/28/2014	8.70	6.45	2.25	0.00	0.00	-	-	530	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-3A	**09/25/2014**	**8.70**	**8.72**	**-0.02**	**0.00**	**0.00**	**-**	**-**	**-**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<50**					
MW-4	08/20/1991	7.37	5.05	1.32	0.00	0.00	-	-	160	-	1,800	870	4.0	3.0	9.0	-	-	-	-	-	-	-
MW-4	09/30/1991	7.37	5.67	1.70	0.00	0.00	-	-	-	-	670	830	5.5	2.7	12	-	-	-	-	-	-	-
MW-4	10/28/1991	7.37	5.81	1.56	0.00	0.00	-	-	-	-	2,800	990	5.8	4.8	19	-	-	-	-	-	-	-
MW-4	01/08/1992	7.37	5.34	2.03	0.00	0.00	-	-	-	-	2,900	1,200	10	7.0	18	-	-	-	-	-	-	-
MW-4	01/13/1992	7.37	-	-	0.00	0.00	-	-	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	06/23/1992	7.37	5.37	2.00	0.00	0.00	-	-	<50	-	1,600	380	6.5	3.0	12	-	-	-	-	-	-	-
MW-4	08/24/1992	7.37	5.75	1.62	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	09/21/1992	7.37	5.95	1.42	0.00	0.00	-	-	<50	-	1,200	480	5.6	3.7	11	-	-	-	-	-	-	-
MW-4	10/26/1992	7.37	5.96	1.41	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/23/1992	7.37	-	-	0.00	0.00	-	-	1,800	-	1,500	700	3.6	3.2	11	-	-	-	-	-	-	-
MW-4	01/08/1993	7.37	4.64	2.73	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	03/25/1993	7.37	4.42	2.95	0.00	0.00	-	-	<10	-	520	160	3.0	1.0	4.0	-	-	-	-	-	-	-
MW-4	06/11/1993	7.37	5.12	2.25	0.00	0.00	-	-	-	-	1,200	430	5.0	6.0	11	-	-	-	-	-	-	2,600
MW-4	09/29/1993	7.37	5.80	1.57	0.00	0.00	-	-	-	-	1,300	210	8.0	2.0	14	-	-	-	-	-	-	-
MW-4	12/20/1993	7.37	5.10	2.27	0.00	0.00	-	-	3,900	-	570	230	5.0	4.0	8.0	-	-	-	-	-	-	-
MW-4	03/07/1994	7.37	5.01	2.36	0.00	0.00	-	-	2,600	-	2,200	290	18	2.5	11	22,000	-	-	-	-	-	-
MW-4	06/17/1994	7.37	5.82	1.55	0.00	0.00	-	-	2,800	-	2,100	480	11	4.3	9.5	-	-	-	-	-	-	-
MW-4	09/12/1994	7.37	5.64	1.73	0.00	0.00	-	-	3,000	-	1,700	340	6.1	2.7	9.7	63,000	-	-	-	-	-	-
MW-4	11/30/1994[26]	7.37	5.58	1.79	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	03/24/1995	7.37	4.95	2.42	0.00	0.00	-	-	3,000[2]	-	1,500	280	<5.0	<5.0	6.9	12,000	-	-	-	-	-	-
MW-4	06/27/1995	7.37	8.79	-1.42	0.00	0.00	-	-	3,100[2]	-	<10,000	310	<100	<100	<100	32,000	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-4	09/28/1995	7.37	5.85	1.52	0.00	0.00	-	-	6,300[2]	-	330	64	1.1	<0.5	<0.5	630	-	-	-	-	-	-
MW-4	12/19/1995	7.37	5.50	1.87	0.00	0.00	-	-	3,400[2]	-	3,000	520	<25	<25	<25	44,000	-	-	-	-	-	-
MW-4	02/28/1996	7.37	5.10	2.27	0.00	0.00	-	-	4,700[2]	-	<10,000	230	<100	<100	<100	32,000	-	-	-	-	-	-
MW-4	06/25/1996	7.37	5.78	1.59	0.00	0.00	-	-	3,100	-	<10,000	160	<100	<100	<100	31,000	-	-	-	-	-	-
MW-4	12/17/1996	7.37	5.95	1.42	0.00	0.00	-	-	3,600[3]	-	<5,000	110	<50	<50	<50	22,000	-	-	-	-	-	-
MW-4	03/31/1997	7.37	5.62	1.75	0.00	0.00	-	-	2,700[2]	-	<2,500	130	<25	<25	<25	16,000	-	-	-	-	-	-
MW-4	06/30/1997	7.37	6.03	1.34	0.00	0.00	-	-	2,700[2]	-	<2,500	130	<25	<25	<25	14,000	-	-	-	-	-	-
MW-4	09/12/1997	7.37	5.69	1.68	0.00	0.00	-	-	2,100[2]	-	<5,000	63	<50	<50	<50	15,000	-	-	-	-	-	-
MW-4	12/05/1997	7.37	5.15	2.22	0.00	0.00	-	-	2,600[2]	-	1,300	120	<5.0	<5.0	8.5	15,000	-	-	-	-	-	-
MW-4	02/16/1998	7.37	6.26	1.11	0.00	0.00	-	-	1,300[2]	-	1,200	57	4.5	<2.5	7.0	12,000	-	-	-	-	-	-
MW-4	06/17/1998	7.37	4.96	2.41	0.00	0.00	-	-	530[2]	-	5,300	390	290	28	150	17,000	-	-	-	-	-	-
MW-4	08/31/1998	7.37	5.91	1.46	0.00	0.00	-	-	2,400[2]	-	<50	89	<0.5	<0.5	<0.5	14,000/16,000[4]	-	-	-	-	-	-
MW-4	12/28/1998	7.37	5.41	1.96	0.00	0.00	-	-	2,900[2]	-	1,000	52	5.6	4.6	9.1	8,400	-	3500	<1,000	670000	6800	-
MW-4	03/04/1999	7.37	5.20	2.17	0.00	0.00	-	-	4,490[2]	-	<2,500	85.5	40.9	<25	<25	11,400	-	-	-	-	-	-
MW-4A	03/20/1999	7.69	5.62	2.07	0.00	0.00	-	-	1,280[2]	-	1,370	129	8.6	18.3	7.3	2,110	-	-	-	-	-	-
MW-4A	04/19/1999	7.69	4.91	2.78	0.00	0.00	-	-	370[2]	-	<500	<5.0	<5.0	<5.0	<5.0	1,600	-	-	-	-	-	-
MW-4A	06/14/1999	7.69	5.25	2.44	0.00	0.00	-	-	2,500[2]	-	5,360	312	<20	44	<20	2,880	-	-	-	-	-	-
MW-4A	09/17/1999	7.69	7.37	0.32	0.00	0.00	-	-	1,430[2]	-	1,290	38.6	<5.0	7.01	<5.0	1,780	-	-	-	-	-	-
MW-4A	12/20/1999	7.69	6.30	1.39	0.00	0.00	-	-	7,480[2]	-	852	43.5	4.63	9.18	4.36	1,070	-	-	-	-	-	-
MW-4A	06/24/2000	7.69	6.12	1.57	0.00	0.00	-	-	1,190[9]	-	190[7]	1.4	1.7	1.7	3.3	3,900[7]	-	-	-	-	-	-
MW-4A	09/07/2000	7.69	6.26	1.43	0.00	0.00	-	-	740[9]	-	490[7]	15	1.9	1.1	3.9	3,300	-	-	-	-	-	-
MW-4A	12/05/2000	7.69	5.99	1.70	0.00	0.00	-	-	560[12]	-	<500	<5.00	<5.00	<5.00	<5.00	3,380[8]	-	-	-	-	-	-
MW-4A	03/01/2001	7.69	5.68	2.01	0.00	0.00	-	-	600[9]	-	<1,000	10	<10	<10	<10	4,600	-	-	-	-	-	-
MW-4A	06/04/2001	7.69	6.60	1.09	0.00	0.00	-	-	770[9]	-	390[15]	8.4	3.8	<2.5	3.0	3,800	-	-	-	-	-	-
MW-4A	09/10/2001	7.69	6.57	1.12	0.00	0.00	-	-	810	-	<500	13	<5.0	22	<5.0	4,900	-	-	-	-	-	-
MW-4A	12/03/2001	7.69	5.95	1.74	0.00	0.00	-	-	2,100	-	<250	1.5	<1.0	<1.0	<3.0	3,800	-	-	-	-	-	-
MW-4A	03/04/2002	7.69	8.88	-1.19	0.00	0.00	-	-	2,400	-	2,500	49	6.8	21	9.5	2,600	-	-	-	-	-	-
MW-4A	05/30/2002	7.69	6.20	1.49	0.00	0.00	-	-	2,600	-	430	4.6	<1.0	2.0	<3.0	3,700	-	-	-	-	-	-
MW-4A	09/03/2002	7.69	6.49	1.20	0.00	0.00	-	-	3,200	-	<500	4.5	<2.0	3.5	7.5	3,800	-	-	-	-	-	-
MW-4A	12/09/2002	7.69	6.26	1.43	0.00	0.00	-	-	1,600	-	440	1.1	<0.50	0.71	<5.0	4,000	-	-	-	-	-	-
MW-4A	03/10/2003	7.69	5.83	1.86	0.00	0.00	-	-	1,700	-	710	14	2.2	4.2	<10	4,100	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-4A	06/09/2003[18]	7.69	6.44	1.25	0.00	0.00	-	-	3,200	-	400	3	<1	2	<1	4,100	-	-	-	-	-	-
MW-4A	09/08/2003[18]	7.69	5.86	1.83	0.00	0.00	-	-	3,900	-	1,300	28	4	4	<3	2,900	<250	-	-	-	-	-
MW-4A	12/08/2003[18]	7.69	6.12	1.57	0.00	0.00	-	-	2,500	-	360	3	<3	<3	<3	3,200	<250	-	-	-	-	-
MW-4A	03/09/2004[18]	7.69	5.37	2.32	0.00	0.00	-	-	4,300	-	1,400	28	5	10	3	3,200	<250	-	-	-	-	-
MW-4A	06/17/2004[18]	7.69	6.05	1.64	0.00	0.00	-	-	7,900	-	6,000	140	20	52	16	1,500	<50	-	-	-	-	-
MW-4A	09/15/2004[18]	7.69	7.40	0.29	0.00	0.00	-	-	4,200	-	3,300	14	5	4	6	2,400	<100	-	-	-	-	-
MW-4A	12/23/2004[18]	7.69	6.26	1.43	0.00	0.00	-	-	2,800	-	1,500	7	3	4	4	3,000	<100	-	-	-	-	-
MW-4A	03/24/2005[18]	7.69	5.01	2.68	0.00	0.00	-	-	900	-	2,700	28	7	9	4	2,300	<250	-	-	-	-	-
MW-4A	06/16/2005[18]	7.69	6.03	1.66	0.00	0.00	-	-	3,600	-	1,000	3	5	3	6	3,200	<250	-	-	-	-	-
MW-4A	09/16/2005[18]	7.69	6.62	1.07	0.00	0.00	-	-	2,400	-	380	<5	<5	<5	<5	3,700	<500	-	-	-	-	-
MW-4A	12/21/2005[18]	7.69	5.86	1.83	0.00	0.00	-	-	2,900[23]	-	580	2	0.7	1	2	3,000	<50	-	-	-	-	-
MW-4A	03/23/2006[18]	7.69	5.14	2.55	0.00	0.00	-	-	1,900	-	1,400	16	5	9	<3	2,800	<250	-	-	-	-	-
MW-4A	06/09/2006[18]	7.69	5.93	1.76	0.00	0.00	-	-	3,900	-	1,200	4	2	3	3	3,000	<50	-	-	-	-	-
MW-4A	09/05/2006[18]	7.69	6.62	1.07	0.00	0.00	-	-	3,800	-	650	<5	<5	<5	<5	1,600	<500	-	-	-	-	-
MW-4A	12/15/2006[18]	7.69	6.00	1.69	0.00	0.00	-	-	3,500	-	1,000	2	1	0.8	3	520	<50	-	-	-	-	-
MW-4A	03/01/2007[18]	7.69	5.83	1.86	0.00	0.00	-	-	1,600	-	1,200	11	5	6	5	1,100	<50	-	-	-	-	-
MW-4A	06/05/2007[18]	7.69	5.36	2.33	0.00	0.00	-	-	3,000	-	3,300	34	9	7	8	330	<100	-	-	-	-	-
MW-4A	09/05/2007[18]	7.69	5.72	1.97	0.00	0.00	-	-	3,800	-	1,700	11	4	2	4	130	<50	-	-	-	-	-
MW-4A	12/05/2007[18]	7.69	6.12	1.57	0.00	0.00	-	-	2,100	-	1,300	3	3	1	3	82	<50	-	-	-	-	-
MW-4A	03/03/2008[18]	7.69	5.83	1.86	0.00	0.00	-	-	4,900	-	2,700	13	6	9	7	700	<50	-	-	-	-	-
MW-4A	06/02/2008[18]	7.69	5.69	2.00	0.00	0.00	-	-	6,500	-	6,200	60	17	17	16	1,100	<50	-	-	-	-	-
MW-4A	09/04/2008[18]	7.69	6.23	1.46	0.00	0.00	-	-	3,000	-	1,800	11	2	1	3	58	<50	-	-	-	-	-
MW-4A	12/04/2008[18]	7.69	6.27	1.42	0.00	0.00	-	-	3,800	-	470	<0.5	<0.5	<0.5	<0.5	58	<50	-	-	-	-	-
MW-4A	02/26/2009[18]	7.69	5.46	2.23	0.00	0.00	-	-	4,000	-	1,900	4	3	5	6	140	<50	-	-	-	-	-
MW-4A	06/30/2009[18]	7.69	8.70	-1.01	0.00	0.00	-	-	6,100	-	7,400	33	16	13	17	920	<50	-	-	-	-	-
MW-4A	09/29/2009[18]	7.69	6.60	1.09	0.00	0.00	-	-	4,700	-	250	3	3	1 J	6	36	<50	-	-	-	-	-
MW-4A	03/10/2010[18]	7.69	4.67	3.02	0.00	0.00	-	-	3,700	-	5,100	22	11	12	12	690	<50	-	-	-	-	-
MW-4A	09/15/2010	7.69	7.07	0.62	0.00	0.00	-	-	5,700	-	3,500	6	2	3	10	18	<50	-	-	-	-	-
MW-4A	03/14/2011	7.69	4.90	2.79	0.00	0.00	590	-	2,800	-	6,200	24	12	14	14	870	<50	-	-	-	-	-
MW-4A	09/26/2011	7.69	6.51	1.18	0.00	0.00	-	<39	-	1,000	5,000	9	3	2	10	43	<50	-	-	-	-	-
MW-4A	03/30/2012	7.69	4.43	3.26	0.00	0.00	-	<38	-	430	1,300	5	2	2	3	130	<50	-	-	-	-	-
MW-4A	09/22/2012	7.69	6.53	1.16	0.00	0.00	-	<38	-	210	990	2	<0.5	<0.5	0.7 J	51	<50	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-4A	03/20/2013	7.69	5.73	1.96	0.00	0.00	-	<38	-	78 J	410	2	0.8 J	0.7 J	0.7 J	120	<50	-	-	-	-	-
MW-4A	09/25/2013	7.69	6.62	1.07	0.00	0.00	-	-	4,500	-	1,900	0.7 J	<0.5	<0.5	3	16	<50	-	-	-	-	-
MW-4A	03/28/2014	7.69	5.07	2.62	0.00	0.00	-	-	5,200	-	770	4	2	2	2	230	<50	-	-	-	-	-
MW-4A	**09/25/2014**	**7.69**	**6.61**	**1.08**	**0.00**	**0.00**	**-**	**-**	**-**	**420**	**2,500**	**2**	**1**	**2**	**4**	**35**	**<50**					
MW-5	06/23/1992	14.14	12.24	1.90	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	08/24/1992	14.14	12.29	1.85	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/21/1992	14.14	12.46	1.68	0.00	0.00	-	-	60	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	10/26/1992	14.14	12.52	1.62	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	12/23/1992	14.14	11.12	3.02	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	01/08/1993	14.14	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/25/1993	14.14	9.74	4.40	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	0.9	-	-	-	-	-	-	-
MW-5	06/11/1993	14.14	10.44	3.70	0.00	0.00	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	770
MW-5	09/29/1993	14.14	11.92	2.22	0.00	0.00	-	-	<10	-	<50	<0.5	0.6	<0.5	0.6	-	-	-	-	-	-	-
MW-5	12/20/1993	14.14	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/07/1994	14.14	11.34	2.80	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	06/17/1994	14.14	11.27	2.87	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	09/12/1994	14.14	12.86	1.28	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	-	-	-	-	-
MW-5	11/30/1994	14.14	11.91	2.23	0.00	0.00	-	-	99[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	03/24/1995	14.14	9.76	4.38	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	06/27/1995	14.14	11.40	2.74	0.00	0.00	-	-	55[3]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	09/28/1995	14.14	11.90	2.24	0.00	0.00	-	-	300[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-5	12/19/1995	14.14	12.58	1.56	0.00	0.00	-	-	53[2]	-	<50	<0.5	<0.5	<0.5	<0.5	3.1	-	-	-	-	-	-
MW-5	02/28/1996	14.14	11.70	2.44	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	06/25/1996	14.14	11.43	2.71	0.00	0.00	-	-	120[2]	-	<50	<0.5	<0.5	<0.5	<0.5	36	-	-	-	-	-	-
MW-5	12/17/1996	14.14	11.40	2.74	0.00	0.00	-	-	89[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	03/31/1997	14.14	12.10	2.04	0.00	0.00	-	-	150[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	06/30/1997[25]	14.14	12.78	1.36	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/12/1997	14.14	13.68	0.46	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	12/05/1997	14.14	13.03	1.11	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	02/16/1998	14.14	9.97	4.17	0.00	0.00	-	-	62[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	06/17/1998	14.14	11.85	2.29	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-5	08/31/1998	14.14	12.82	1.32	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	12/28/1998	14.14	13.43	0.71	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	15	<1,000	480000	51000	-
MW-5	03/04/1999	14.14	13.75	0.39	0.00	0.00	-	-	70.5	-	<50	<0.5	<0.5	<0.5	<0.5	3.34	-	-	-	-	-	-
MW-5	06/14/1999	14.14	14.10	0.04	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/17/1999	14.14	14.18	-0.04	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	12/20/1999	14.14	13.70	0.44	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/20/2000	14.14	12.64	1.50	0.00	0.00	-	-	115[3]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-5	06/24/2000	14.14	13.04	1.10	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/07/2000	14.14	13.17	0.97	0.00	0.00	-	-	<50	-	<50	<0.50	<0.50	<0.50	<0.50	5.0	-	-	-	-	-	-
MW-5	12/05/2000	14.14	11.28	2.86	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/01/2001	14.14	10.30	3.84	0.00	0.00	-	-	<50	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-5	06/04/2001[25]	14.14	11.31	2.83	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/10/2001	14.14	12.16	1.98	0.00	0.00	-	-	<50	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-5	12/03/2001[25]	14.14	8.62	5.52	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/04/2002	14.14	9.85	4.29	0.00	0.00	-	-	78	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-5	05/30/2002[25]	14.14	10.83	3.31	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/03/2002[26]	14.14	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	12/09/2002[25]	14.14	11.36	2.78	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/10/2003	14.14	11.19	2.95	0.00	0.00	-	-	100	-	<50	<0.50	<0.50	<0.50	<1.5	8.2	-	-	-	-	-	-
MW-5	06/09/2003[25]	14.14	12.57	1.57	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/08/2003[18]	14.14	12.01	2.13	0.00	0.00	-	-	65	-	<50	<0.5	<0.5	<0.5	<0.5	8	<50	-	-	-	-	-
MW-5	12/08/2003[25]	14.14	11.13	3.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/09/2004[18]	14.14	10.58	3.56	0.00	0.00	-	-	110	-	<50	<0.5	<0.5	<0.5	<0.5	4	<50	-	-	-	-	-
MW-5	06/17/2004[25]	14.14	12.10	2.04	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/15/2004[18]	14.14	12.58	1.56	0.00	0.00	-	-	92	-	<50	<0.5	<0.5	<0.5	<0.5	7	<50	-	-	-	-	-
MW-5	12/23/2004[25]	14.14	12.20	1.94	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/24/2005[18]	14.14	7.70	6.44	0.00	0.00	-	-	85	-	<50	<0.5	<0.5	<0.5	3	6	<50	-	-	-	-	-
MW-5	06/16/2005[25]	14.14	11.55	2.59	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/16/2005[18]	14.14	11.78	2.36	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	6	<50	-	-	-	-	-
MW-5	12/21/2005[25]	14.14	9.70	4.44	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/23/2006[18]	14.14	9.20	4.94	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	4	<50	-	-	-	-	-
MW-5	06/09/2006[25]	14.14	10.67	3.47	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-5	09/05/2006[18]	14.14	11.80	2.34	0.00	0.00	-	-	120	-	<50	<0.5	<0.5	<0.5	<0.5	4	<50	-	-	-	-	-
MW-5	12/15/2006[25]	14.14	11.50	2.64	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/01/2007[18]	14.14	9.22	4.92	0.00	0.00	-	-	150	-	<50	1	3	0.7	3	2	<50	-	-	-	-	-
MW-5	06/05/2007[25]	14.14	11.02	3.12	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/05/2007[18]	14.14	12.50	1.64	0.00	0.00	-	-	68	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-5	12/05/2007[25]	14.14	10.65	3.49	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	03/03/2008[18]	14.14	10.51	3.63	0.00	0.00	-	-	89	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	06/02/2008[25]	14.14	12.57	1.57	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/04/2008[18]	14.14	12.48	1.66	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-5	12/04/2008[25]	14.14	12.10	2.04	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	02/26/2009[18]	14.14	10.35	3.79	0.00	0.00	-	-	320	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	06/30/2009[18]	14.14	10.93	3.21	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	09/29/2009[18,25]	14.14	12.27	1.87	0.00	0.00	-	-	270	-	<500	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-5	03/10/2010[18]	14.14	10.21	3.93	0.00	0.00	-	-	540	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	09/15/2010	14.14	11.25	2.89	0.00	0.00	-	-	<32	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	03/14/2011	14.14	10.30	3.84	0.00	0.00	<38	-	<33	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	09/26/2011	14.14	10.34	3.80	0.00	0.00	-	<39	-	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	03/30/2012	14.14	10.91	3.23	0.00	0.00	-	48 J	-	<50	<50	<0.5	<0.5	<0.5	<0.5	1 J	<50	-	-	-	-	-
MW-5	09/21/2012	14.14	12.48	1.66	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-5	03/19/2013	14.14	10.97	3.17	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	0.9 J	<50	-	-	-	-	-
MW-5	09/25/2013	14.14	12.46	1.68	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	0.7 J	<50	-	-	-	-	-
MW-5	03/28/2014	14.14	10.32	3.82	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-5	**09/25/2014**	**14.14**	**12.50**	**1.64**	**0.00**	**0.00**	**-**	**-**	**-**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.6 J**	**<50**					
MW-6	06/23/1992	4.46	5.14	-0.68	0.00	0.00	-	-	120	-	<50	4.3	<0.5	0.8	0.9	-	-	-	-	-	-	-
MW-6	08/24/1992	4.46	4.95	-0.49	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/21/1992	4.46	4.90	-0.44	0.00	0.00	-	-	<50	-	<250	<2.5	<2.5	<2.5	<2.5	-	-	-	-	-	-	-
MW-6	10/26/1992	4.46	5.52	-1.06	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	12/23/1992	4.46	5.40	-0.94	0.00	0.00	-	-	81	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	01/08/1993	4.46	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/25/1993	4.46	6.10	-1.64	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	0.7	-	-	-	-	-	-	-
MW-6	06/11/1993	4.46	6.56	-2.10	0.00	0.00	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	15,000

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-6	09/29/1993	4.46	5.17	-0.71	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	12/20/1993	4.46	5.93	-1.47	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	03/07/1994	4.46	5.27	-0.81	0.00	0.00	-	-	<10	-	54	<0.5	<0.5	<0.5	0.6	-	-	-	-	-	-	-
MW-6	06/17/1994	4.46	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/12/1994	4.46	5.10	-0.64	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-	-
MW-6	11/30/1994	4.46	5.58	-1.12	0.00	0.00	-	-	800[1]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	03/24/1995	4.46	6.33	-1.87	0.00	0.00	-	-	490[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	06/27/1995	4.46	8.20	-3.74	0.00	0.00	-	-	300[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	09/28/1995	4.46	4.65	-0.19	0.00	0.00	-	-	1,200[2]	-	120	1.1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-6	12/19/1995	4.46	6.04	-1.58	0.00	0.00	-	-	820[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	02/28/1996	4.46	6.00	-1.54	0.00	0.00	-	-	270[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	06/25/1996	4.46	6.17	-1.71	0.00	0.00	-	-	750[2]	-	97	<0.5	<0.5	<0.5	0.71	<2.5	-	-	-	-	-	-
MW-6	12/17/1996	4.46	6.13	-1.67	0.00	0.00	-	-	540[2]	-	65	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	03/31/1997	4.46	6.69	-2.23	0.00	0.00	-	-	780[2]	-	65	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	06/30/1997[25]	4.46	7.08	-2.62	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/12/1997	4.46	5.41	-0.95	0.00	0.00	-	-	270[2]	-	65	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	12/05/1997	4.46	6.42	-1.96	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	02/16/1998	4.46	4.76	-0.30	0.00	0.00	-	-	3302	-	140	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	06/17/1998	4.46	6.00	-1.54	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	08/31/1998	4.46	5.10	-0.64	0.00	0.00	-	-	2701	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	12/28/1998	4.46	6.50	-2.04	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	810	<1,000	2400000	110000	-
MW-6	03/04/1999	4.46	5.81	-1.35	0.00	0.00	-	-	638[1]	-	95.5	<0.5	<0.5	<0.5	<0.5	<2.0	-	-	-	-	-	-
MW-6	06/14/1999	4.46	5.43	-0.97	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/17/1999	4.46	6.20	-1.74	0.00	0.00	-	-	258[1]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	12/20/1999	4.46	6.77	-2.31	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/20/2000	4.46	6.58	-2.12	0.00	0.00	-	-	257[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-6	06/24/2000[25]	4.46	6.98	-2.52	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/07/2000	4.46	4.92	-0.46	0.00	0.00	-	-	98[11]	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-6	12/05/2000	4.46	5.10	-0.64	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/01/2001	4.46	4.89	-0.43	0.00	0.00	-	-	190[9]	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-6	06/04/2001[25]	4.46	5.21	-0.75	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/10/2001	4.46	5.11	-0.65	0.00	0.00	-	-	140[17]	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-6	12/03/2001[25]	4.46	5.03	-0.57	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/04/2002[26]	4.46	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	05/30/2002[25]	4.46	6.11	-1.65	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/03/2002	4.46	5.28	-0.82	0.00	0.00	-	-	340	-	<500	<2.0	<2.0	<2.0	<6.0	<3.0	-	-	-	-	-	-
MW-6	12/09/2002[25]	4.46	5.12	-0.66	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/10/2003	4.46	6.26	-1.80	0.00	0.00	-	-	420	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-6	06/09/2003[25]	4.46	5.91	-1.45	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/08/2003[18]	4.46	4.65	-0.19	0.00	0.00	-	-	230	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	12/08/2003[25]	4.46	5.24	-0.78	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/09/2004[18]	4.46	5.85	-1.39	0.00	0.00	-	-	1,500	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	06/17/2004[25]	4.46	6.08	-1.62	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/15/2004[18]	4.46	6.74	-2.28	0.00	0.00	-	-	1,200	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	12/23/2004[25]	4.46	5.76	-1.30	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/24/2005[18]	4.46	4.65	-0.19	0.00	0.00	-	-	290	-	60	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	06/16/2005[25]	4.46	5.50	-1.04	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/16/2005[18]	4.46	5.09	-0.63	0.00	0.00	-	-	640	-	<50	<3	<3	<3	<3	<3	<250	-	-	-	-	-
MW-6	12/21/2005[25]	4.46	5.00	-0.54	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/23/2006[18]	4.46	4.63	-0.17	0.00	0.00	-	-	1,500	-	50	<3	<3	<3	<3	<3	<250	-	-	-	-	-
MW-6	06/09/2006[25]	4.46	4.95	-0.49	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/05/2006[18]	4.46	4.85	-0.39	0.00	0.00	-	-	820	-	<250	<3	<3	<3	<3	<3	<250	-	-	-	-	-
MW-6	12/15/2006[25]	4.46	5.40	-0.94	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/01/2007[18]	4.46	5.42	-0.96	0.00	0.00	-	-	1,600	-	<250	0.9	3	0.7	4	<0.5	<50	-	-	-	-	-
MW-6	06/05/2007[25]	4.46	5.87	-1.41	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/05/2007[18]	4.46	4.75	-0.29	0.00	0.00	-	-	850	-	58	<5	<5	<5	<5	<5	<500	-	-	-	-	-
MW-6	12/05/2007[25]	4.46	5.58	-1.12	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	03/03/2008[18]	4.46	5.86	-1.40	0.00	0.00	-	-	1,800	-	82	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	06/02/2008[25]	4.46	5.24	-0.78	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/04/2008[18]	4.46	4.71	-0.25	0.00	0.00	-	-	770	-	<50	<5[24]	<5[24]	<5[24]	<5[24]	<5[24]	<500	-	-	-	-	-
MW-6	12/04/2008[25]	4.46	4.80	-0.34	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	02/26/2009[18,26]	4.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	06/30/2009[18]	4.46	5.29	-0.83	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	09/29/2009[18,24]	4.46	4.82	-0.36	0.00	0.00	-	-	1,500	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-6	03/10/2010[18]	4.46	2.91	1.55	0.00	0.00	-	-	2,500	-	120	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	09/15/2010	4.46	5.00	-0.54	0.00	0.00	-	-	1,300	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	03/14/2011	4.46	7.15	-2.69	0.00	0.00	72 J	-	710	-	89 J	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	09/26/2011	4.46	4.79	-0.33	0.00	0.00	-	<38	-	<50	<50	<1	<1	<1	<1	<1	<100	-	-	-	-	-
MW-6	03/30/2012	4.46	6.87	-2.41	0.00	0.00	-	<38	-	<50	<50	<5	<5	<5	<5	<5	<500	-	-	-	-	-
MW-6	09/22/2012	4.46	6.88	-2.42	0.00	0.00	-	<38	-	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	03/19/2013	4.46	7.41	-2.95	0.00	0.00	-	<38	-	<50	62 J	<3	<3	<3	<3	<3	<250	-	-	-	-	-
MW-6	09/25/2013	4.46	5.25	-0.79	0.00	0.00	-	-	1,600	-	70 J	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	03/28/2014	4.46	7.00	-2.54	0.00	0.00	-	-	1,500	-	69 J	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-6	**09/25/2014**	**4.46**	**5.09**	**-0.63**	**0.00**	**0.00**	**-**	**-**	**-**	**<50**	**<250**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<50**					
MW-7	08/24/1992	5.26	5.55	-0.29	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/21/1992	5.26	5.65	-0.39	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	10/26/1992	5.26	5.51	-0.25	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/23/1992	5.26	3.95	1.31	0.00	0.00	-	-	60	-	<50	2.9	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	01/08/1993	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/25/1993	5.26	2.50	2.76	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	06/11/1993	5.26	3.46	1.80	0.00	0.00	-	-	-	-	<50	0.6	<0.5	<0.5	<0.5	-	-	-	-	-	-	2,200
MW-7	09/29/1993	5.26	5.52	-0.26	0.00	0.00	-	-	<10	-	<50	2.0	1.0	1.0	7.0	-	-	-	-	-	-	-
MW-7	12/20/1993	5.26	4.41	0.85	0.00	0.00	-	-	<10	-	<50	2.0	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	03/07/1994	5.26	2.62	2.64	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	06/17/1994	5.26	3.27	1.99	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	09/12/1994	5.26	4.11	1.15	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0	-	-	-	-	-	-
MW-7	11/30/1994	5.26	2.76	2.50	0.00	0.00	-	-	92[1]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	03/24/1995	5.26	2.20	3.06	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	06/27/1995	5.26	3.90	1.36	0.00	0.00	-	-	69[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	09/28/1995	5.26	4.85	0.41	0.00	0.00	-	-	84[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-7	12/19/1995	5.26	3.02	2.24	0.00	0.00	-	-	84[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	02/28/1996	5.26	1.43	3.83	0.00	0.00	-	-	99[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	06/25/1996	5.26	4.29	0.97	0.00	0.00	-	-	110[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	12/17/1996	5.26	2.18	3.08	0.00	0.00	-	-	54[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	03/31/1997	5.26	2.94	2.32	0.00	0.00	-	-	100[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-7	06/30/1997[27]	5.26	3.58	1.68	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/12/1997	5.26	3.41	1.85	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/05/1997	5.26	1.89	3.37	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	02/16/1998	5.26	1.83	3.43	0.00	0.00	-	-	77[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	06/17/1998	5.26	1.94	3.32	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	08/31/1998	5.26	4.19	1.07	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/28/1998	5.26	4.47	0.79	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	12000	<1,000	350000	79000	-
MW-7	03/04/1999	5.26	1.75	3.51	0.00	0.00	-	-	73.4	-	<50	<0.5	<0.5	<0.5	<0.5	<2.0	-	-	-	-	-	-
MW-7	06/14/1999	5.26	1.62	3.64	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/17/1999	5.26	4.84	0.42	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/20/1999	5.26	4.81	0.45	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/20/2000	5.26	1.85	3.41	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-7	06/24/2000	5.26	2.21	3.05	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/07/2000	5.26	3.65	1.61	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/05/2000	5.26	2.95	2.31	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/01/2001	5.26	0.65	4.61	0.00	0.00	-	-	<50	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-7	06/04/2001	5.26	1.52	3.74	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/10/2001[27]	5.26	4.18	1.08	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/03/2001[27]	5.26	1.06	4.20	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/04/2002	5.26	1.50	3.76	0.00	0.00	-	-	<50	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-7	05/30/2002[27]	5.26	2.75	2.51	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/03/2002[27]	5.26	3.02	2.24	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/09/2002[27]	5.26	2.85	2.41	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/10/2003	5.26	1.94	3.32	0.00	0.00	-	-	85	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-7	06/09/2003[27]	5.26	2.54	2.72	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/08/2003[27]	5.26	2.60	2.66	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/08/2003[27]	5.26	2.45	2.81	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/09/2004[18]	5.26	0.73	4.53	0.00	0.00	-	-	230	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-7	06/17/2004[26]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/15/2004[26]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/23/2004[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/24/2005[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-7	06/16/2005[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/16/2005[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/21/2005[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/23/2006[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	06/09/2006[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/05/2006[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/15/2006[28]	5.26	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	06/23/1992	8.94	24.14	-15.20	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	08/24/1992	8.94	8.60	0.34	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/21/1992	8.94	8.39	0.55	0.00	0.00	-	-	<50	-	94	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	10/26/1992	8.94	9.12	-0.18	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/23/1992	8.94	8.11	0.83	0.00	0.00	-	-	79	-	<50	0.7	5.0	0.7	2.9	-	-	-	-	-	-	-
MW-8	01/08/1993	8.94	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/25/1993	8.94	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	06/11/1993	8.94	8.39	0.55	0.00	0.00	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	3,500
MW-8	09/29/1993	8.94	8.25	0.69	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	12/20/1993	8.94	8.46	0.48	0.00	0.00	-	-	<10	-	<50	<0.5	0.6	<0.5	1.0	-	-	-	-	-	-	-
MW-8	03/07/1994	8.94	8.66	0.28	0.00	0.00	-	-	<10	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	06/17/1994	8.94	8.82	0.12	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	09/12/1994	8.94	8.83	0.11	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	0.8	<5.0	-	-	-	-	-	-
MW-8	11/30/1994	8.94	8.63	0.31	0.00	0.00	-	-	120[1]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	03/24/1995	8.94	8.51	0.43	0.00	0.00	-	-	110[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	06/27/1995	8.94	8.97	-0.03	0.00	0.00	-	-	67[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	09/28/1995	8.94	8.90	0.04	0.00	0.00	-	-	91[2]	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
MW-8	12/19/1995	8.94	8.40	0.54	0.00	0.00	-	-	76[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-8	02/28/1996	8.94	8.44	0.50	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-8	06/25/1996	8.94	8.89	0.05	0.00	0.00	-	-	80[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-8	12/17/1996	8.94	8.45	0.49	0.00	0.00	-	-	79[2]	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
MW-8	03/31/1997	8.94	8.76	0.18	0.00	0.00	-	-	72[2]	-	<50	<0.5	<0.5	<0.5	<0.5	3.6	-	-	-	-	-	-
MW-8	06/30/1997	8.94	9.12	-0.18	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/12/1997	8.94	8.81	0.13	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-8	12/05/1997	8.94	8.35	0.59	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	02/16/1998	8.94	7.94	1.00	0.00	0.00	-	-	68[2]	-	<50	<0.5	<0.5	<0.5	<0.5	4.3	-	-	-	-	-	-
MW-8	06/17/1998	8.94	8.43	0.51	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	08/31/1998	8.94	8.88	0.06	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/28/1998	8.94	8.30	0.64	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	45	<1,000	1100000	87000	-
MW-8	03/04/1999	8.94	8.65	0.29	0.00	0.00	-	-	106	-	<50	<0.5	<0.5	<0.5	<0.5	3.83	-	-	-	-	-	-
MW-8	06/14/1999	8.94	8.42	0.52	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/17/1999	8.94	9.87	-0.93	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/20/1999	8.94	8.40	0.54	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/20/2000	8.94	8.12	0.82	0.00	0.00	-	-	82.2[6]	-	<50	<0.5	<0.5	<0.5	<0.5	3.46	-	-	-	-	-	-
MW-8	06/24/2000[27]	8.94	8.63	0.31	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/07/2000	8.94	8.68	0.26	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/05/2000	8.94	8.13	0.81	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/01/2001	8.94	7.90	1.04	0.00	0.00	-	-	51[11]	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
MW-8	06/04/2001	8.94	9.21	-0.27	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/10/2001[27]	8.94	8.68	0.26	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/03/2001[27]	8.94	7.82	1.12	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/04/2002	8.94	7.68	1.26	0.00	0.00	-	-	82	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-8	05/30/2002[26]	8.94	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/03/2002[27]	8.94	9.15	-0.21	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/09/2002[27]	8.94	8.73	0.21	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/10/2003	8.94	8.39	0.55	0.00	0.00	-	-	110	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
MW-8	06/09/2003[27]	8.94	8.97	-0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/08/2003[27]	8.94	8.42	0.52	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/08/2003[27]	8.94	8.17	0.77	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/09/2004[18]	8.94	7.91	1.03	0.00	0.00	-	-	300	-	<50	<0.5	<0.5	<0.5	<0.5	3	<50	-	-	-	-	-
MW-8	06/17/2004[27]	8.94	8.93	0.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/15/2004[27]	8.94	9.91	-0.97	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/23/2004[27]	8.94	5.74	3.20	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/24/2005[18]	8.94	8.44	0.50	0.00	0.00	-	-	240	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-8	06/16/2005[27]	8.94	8.78	0.16	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/16/2005[27]	8.94	8.68	0.26	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-8	12/21/2005[27]	8.94	8.21	0.73	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/23/2006[18]	8.94	7.91	1.03	0.00	0.00	-	-	120	-	<50	<0.5	<0.5	<0.5	<0.5	0.8	<50	-	-	-	-	-
MW-8	06/09/2006[27]	8.94	8.91	0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/05/2006[27]	8.94	8.55	0.39	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/15/2006[27]	8.94	8.26	0.68	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/01/2007[18]	8.94	8.08	0.86	0.00	0.00	-	-	150	-	63	2	5	1	7	1	<50	-	-	-	-	-
MW-8	06/05/2007[27]	8.94	8.35	0.59	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/05/2007[27]	8.94	7.21	1.73	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/05/2007[27]	8.94	7.17	1.77	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/03/2008[18]	8.94	7.13	1.81	0.00	0.00	-	-	510	-	<50	<0.5	<0.5	<0.5	<0.5	0.9	<50	-	-	-	-	-
MW-8	06/02/2008[27]	8.94	7.74	1.20	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/04/2008[27]	8.94	7.88	1.06	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/04/2008[27]	8.94	7.22	1.72	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	02/26/2009[18]	8.94	6.44	2.50	0.00	0.00	-	-	580	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-8	06/30/2009[27]	8.94	7.62	1.32	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	09/29/2009[18,27]	8.94	7.22	1.72	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/10/2010[18]	8.94	5.18	3.76	0.00	0.00	-	-	460	-	<50	<0.5	<0.5	<0.5	<0.5	2	<50	-	-	-	-	-
MW-8	09/15/2010[27]	8.94	8.77	0.17	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/14/2011[29]	8.94	7.75	1.19	0.00	0.00	<38	-	<33	-	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-8	09/26/2011[29]	8.94	8.52	0.42	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/30/2012	8.94	7.56	1.38	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<50	-	-	-	-	-
MW-8	09/22/2012[29]	8.94	8.55	0.39	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	03/19/2013	8.94	8.01	0.93	0.00	0.00	-	<38	-	<50	<50	<0.5	<0.5	<0.5	<0.5	0.7 J	<50	-	-	-	-	-
MW-8	09/25/2013	8.94	8.60	0.34	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
MW-8	03/28/2014	8.94	7.49	1.45	0.00	0.00	-	-	<50	-	<50	<0.5	<0.5	<0.5	<0.5	0.6 J	<50	-	-	-	-	-
MW-8	**09/25/2014[29]**	**8.94**	**8.39**	**0.55**	**0.00**	**0.00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**					
MW-9	04/19/1999	5.87	3.16	2.71	0.00	0.00	-	-	2,600[2]	-	3,900[6]	14	6.9	14	24	140	-	-	-	-	-	-
MW-9	06/14/1999	5.87	4.81	1.06	0.00	0.00	-	-	2,800[2]	-	2,880	12.6	<10	<10	<10	138	-	-	-	-	-	-
MW-9	09/17/1999	5.87	4.85	1.02	0.00	0.00	-	-	1,770[2]	-	3,370	33.1	14.4	<5.0	<5.0	202	-	-	-	-	-	-
MW-9	12/20/1999	5.87	4.00	1.87	0.00	0.00	-	-	996[2]	-	3,970	42.2	13.5	<10	<10	311	-	-	-	-	-	-
MW-9	03/20/2000	5.87	3.00	2.87	0.00	0.00	-	-	2,710[2]	-	5,920	22.1	<5.0	6.8	<5.0	106.0	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-9	06/24/2000	5.87	3.91	1.96	0.00	0.00	-	-	1,940[9]	-	2,500[7]	12	<10	11	<10	120	-	-	-	-	-	-
MW-9	09/07/2000	5.87	4.28	1.59	0.00	0.00	-	-	1,500[9]	-	3,700[7]	<25	<25	<25	<25	330	-	-	-	-	-	-
MW-9	12/05/2000	5.87	3.80	2.07	0.00	0.00	-	-	1,300[12]	-	3,470[2]	<5.00	7.64	<5.00	<5.00	177	-	-	-	-	-	-
MW-9	03/01/2001	5.87	2.68	3.19	0.00	0.00	-	-	960[9]	-	2,400[7]	11	18.0	<10	<10	250	-	-	-	-	-	-
MW-9	06/04/2001	5.87	3.91	1.96	0.00	0.00	-	-	1,200[9]	-	3,200[7]	45	17	6.1	8.9	300	-	-	-	-	-	-
MW-9	09/10/2001	5.87	4.69	1.18	0.00	0.00	-	-	2,000[17]	-	2,300	5.7	7.3	10	<5.0	200	-	-	-	-	-	-
MW-9	12/03/2001	5.87	2.99	2.88	0.00	0.00	-	-	2,600	-	3,600	14	5.4	8.2	8.5	210	-	-	-	-	-	-
MW-9	03/04/2002	5.87	3.55	2.32	0.00	0.00	-	-	3,700	-	4,400	17	<5.0	9.2	6.4	79	-	-	-	-	-	-
MW-9	05/30/2002	5.87	3.65	2.22	0.00	0.00	-	-	4,600	-	4,300	15	3.7	5.8	6.1	110	-	-	-	-	-	-
MW-9	09/03/2002	5.87	4.56	1.31	0.00	0.00	-	-	2,500	-	3,200	5.8	2.6	3.5	5.6	84	-	-	-	-	-	-
MW-9	12/09/2002	5.87	4.36	1.51	0.00	0.00	-	-	2,600	-	3,000	6.3	3.2	3.9	6.1	110	-	-	-	-	-	-
MW-9	03/10/2003	5.87	3.61	2.26	0.00	0.00	-	-	1,500	-	3,300	11	3.7	5.4	<7.5	150	-	-	-	-	-	-
MW-9	06/09/2003[18]	5.87	3.58	2.29	0.00	0.00	-	-	2,700	-	3,500	2	2	3	2	46	-	-	-	-	-	-
MW-9	09/08/2003[18]	5.87	4.44	1.43	0.00	0.00	-	-	3,000	-	3,000	3	2	2	3	120	<50	-	-	-	-	-
MW-9	12/08/2003[18]	5.87	3.66	2.21	0.00	0.00	-	-	2,500	-	2,400	3	3	3	4	560	<50	-	-	-	-	-
MW-9	03/09/2004[18]	5.87	3.18	2.69	0.00	0.00	-	-	2,500	-	3,700	2	1	2	2	120	<50	-	-	-	-	-
MW-9	06/17/2004[18]	5.87	4.82	1.05	0.00	0.00	-	-	2,700	-	3,100	2	1	2	3	96	<50	-	-	-	-	-
MW-9	09/15/2004[18]	5.87	9.03	-3.16	0.00	0.00	-	-	2,600	-	1,200	1	<0.5	<0.5	2	190	<50	-	-	-	-	-
MW-9	12/23/2004[18]	5.87	4.49	1.38	0.00	0.00	-	-	3,400	-	2,900	4	4	4	4	93	<50	-	-	-	-	-
MW-9	03/24/2005[18]	5.87	2.52	3.35	0.00	0.00	-	-	1,500	-	3,200	16	2	3	3	23	<50	-	-	-	-	-
MW-9	06/16/2005[18]	5.87	3.62	2.25	0.00	0.00	-	-	1,600	-	2,300	30	2	2	3	28	<50	-	-	-	-	-
MW-9	09/16/2005[18]	5.87	4.78	1.09	0.00	0.00	-	-	1,500	-	1,400	2	0.9	1	2	50	<50	-	-	-	-	-
MW-9	12/21/2005[18]	5.87	2.90	2.97	0.00	0.00	-	-	1,400[22]	-	2,300	2	2	3	3	40	<50	-	-	-	-	-
MW-9	03/23/2006[18]	5.87	2.62	3.25	0.00	0.00	-	-	1,600	-	2,900	1	9	6	160	24	<50	-	-	-	-	-
MW-9	06/09/2006[18]	5.87	3.81	2.06	0.00	0.00	-	-	1,500	-	1,900	5	1	1	34	32	<50	-	-	-	-	-
MW-9	09/05/2006[18]	5.87	4.93	0.94	0.00	0.00	-	-	1,700	-	1,300	1	1	0.9	14	53	<50	-	-	-	-	-
MW-9	12/15/2006[18]	5.87	3.19	2.68	0.00	0.00	-	-	2,000	-	2,300	1	1	1	5	43	<50	-	-	-	-	-
MW-9	03/01/2007[18]	5.87	3.07	2.80	0.00	0.00	-	-	1,700	-	3,000	1	1	1	4	36	<50	-	-	-	-	-
MW-9	06/05/2007[18]	5.87	3.85	2.02	0.00	0.00	-	-	1,200	-	1,900	1	0.6	0.8	2	35	<50	-	-	-	-	-
MW-9	09/05/2007[18]	5.87	4.98	0.89	0.00	0.00	-	-	1,800	-	1,400	1	0.8	0.8	3	56	<50	-	-	-	-	-
MW-9	12/05/2007[18]	5.87	4.05	1.82	0.00	0.00	-	-	1,800	-	2,100	1	0.8	1	3	65	93	-	-	-	-	-
MW-9	03/03/2008[18]	5.87	3.59	2.28	0.00	0.00	-	-	1,000	-	2,500	0.6	0.6	1	2	26	<50	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-9	06/02/2008[18]	5.87	4.78	1.09	0.00	0.00	-	-	1,700	-	2,400	1	0.8	0.8	2	50	<50	-	-	-	-	-
MW-9	09/04/2008[18]	5.87	5.10	0.77	0.00	0.00	-	-	1,400	-	2,000	2	1	0.5	3	92	<50	-	-	-	-	-
MW-9	12/04/2008[18]	5.87	4.73	1.14	0.00	0.00	-	-	2,300	-	1,700	1	2	1	3	50	<50	-	-	-	-	-
MW-9	02/26/2009[18]	5.87	2.57	3.30	0.00	0.00	-	-	3,000	-	3,100	0.9	1	1	2	29	<50	-	-	-	-	-
MW-9	06/30/2009	5.87	4.63	1.24	0.00	0.00	-	-	1,700	-	2,600	0.9 J	0.9 J	0.8 J	4	49	<50	-	-	-	-	-
MW-9	09/29/2009	5.87	5.20	0.67	0.00	0.00	-	-	2,300	-	3,100	2	1	0.9 J	3	52	<50	-	-	-	-	-
MW-9	03/10/2010	5.87	3.00	2.87	0.00	0.00	-	-	5,000	-	4,100	0.6 J	0.8 J	1	2	19	<50	-	-	-	-	-
MW-9	09/15/2010	5.87	5.12	0.75	0.00	0.00	-	-	1,900	-	1,700	<0.5	<0.5	<0.5	<0.5	69	<50	-	-	-	-	-
MW-9	03/14/2011	5.87	3.53	2.34	0.00	0.00	430	-	1,100	-	2,600	0.6 J	5	0.9 J	1	14	<50	-	-	-	-	-
MW-9	09/26/2011	5.87	5.00	0.87	0.00	0.00	-	120	-	400	1,100	<0.5	<0.5	<0.5	<0.5	84	<50	-	-	-	-	-
MW-9	03/30/2012	5.87	2.32	3.55	0.00	0.00	-	310	-	790	1,200	0.5 J	3	1 J	0.9 J	19	<50	-	-	-	-	-
MW-9	09/22/2012	5.87	5.09	0.78	0.00	0.00	-	160		490	950	<0.5	0.6 J	<0.5	<0.5	68	<50	-	-	-	-	-
MW-9	03/19/2013	5.87	4.47	1.40	0.00	0.00	-	<38	-	240	1,800	<0.5	0.8 J	<0.5	0.5 J	25	<50	-	-	-	-	-
MW-9	09/25/2013	5.87	5.13	0.74	0.00	0.00	-	-	2,000	-	920	<0.5	<0.5	<0.5	<0.5	62	<50	-	-	-	-	-
MW-9	03/28/2014	5.87	4.08	1.79	0.00	0.00	-	-	4,000	-	240	<0.5	<0.5	<0.5	<0.5	23	<50	-	-	-	-	-
MW-9	**09/25/2014**	**5.87**	**3.98**	**1.89**	**0.00**	**0.00**	**-**	**-**	**-**	**250**	**<500**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**44**	**<50**					
SUMP	05/30/2007	-	-	-	0.00	0.00	-	-	830	-	1,300	1	1	2	4	28	130	-	-	-	-	-
SUMP	03/05/2009	-	-	-	0.00	0.00	-	-	670	-	1,100	2	1	1	2	23	<50	-	-	-	-	-
SUMP	07/13/2009	-	-	-	0.00	0.00	-	-	270	-	120	<0.5	<0.5	<0.5	<0.5	5	<50	-	-	-	-	-
SUMP	03/19/2010	-	-	-	0.00	0.00	-	-	5,200	-	3,200	7	3	3	5	35	<50	-	-	-	-	-
SUMP	09/15/2010[26]	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUMP	03/14/2011	-	-	-	0.00	0.00	<38	-	610	-	990	1	2	1	2	16	<50	-	-	-	-	-
SUMP	09/26/2011	-	-	-	0.00	0.00	-	4,200	-	1,000	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
SUMP	03/30/2012	-	-	-	0.00	0.00	-	39 J	-	580	1,600	1	3	2	2	21	<50	-	-	-	-	-
SUMP	09/21/2012	-	-	-	0.00	0.00		<38		<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
SUMP	03/19/2013	-	-	-	0.00	0.00	-	<38	-	<50	120	<0.5	<0.5	<0.5	<0.5	6	<50	-	-	-	-	-
SUMP	09/25/2013[30]	-	-	-	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUMP	03/28/2014	-	-	-	0.00	0.00	-	-	2,700	-	1,800	0.7 J	2	0.9 J	2	18	<50	-	-	-	-	-
SUMP	**09/25/2014**				**0.00**	**0.00**	**-**	**-**	**-**	**<50**	**<250**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.7 J**	**<50**	**-**	**-**	**-**	**-**	**-**
QA	12/03/2001	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
QA	03/04/2002	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
QA	05/30/2002	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
QA	09/03/2002	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
QA	12/09/2002	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
QA	03/10/2003	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<1.5	<2.5	-	-	-	-	-	-
QA	06/09/2003[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/08/2003[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/08/2003[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/09/2004[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/17/2004[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/15/2004[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/23/2004[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/24/2005[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/16/2005[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/16/2005[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/21/2005[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/23/2006[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/09/2006[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/05/2006[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/15/2006[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/01/2007[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/05/2007[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/05/2007[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/05/2007[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/03/2008[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/02/2008[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/04/2008[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	12/04/2008[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	02/26/2009[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	06/30/2009[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/29/2009[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/10/2010[18]	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
QA	09/15/2010	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	-	-	-	-	-
QA	03/14/2011	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/26/2011	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/30/2012	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/21/2012	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/19/2013	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	09/25/2013	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	03/28/2014	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
QA	**09/25/2014**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**-**	**-**	**-**	**-**	**-**	**-**
Trip Blank	09/21/1992	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	12/23/1992	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	03/25/1993	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	06/11/1993	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	09/29/1993	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	12/20/1993	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	03/07/1994	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	06/17/1994	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	09/12/1994	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	1.0	-	-	-	-	-	-	-
Trip Blank	11/30/1994	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	03/24/1995	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	06/27/1995	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	09/28/1995	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	12/19/1995	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	02/28/1996	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	06/25/1996	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Trip Blank	12/17/1996	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	03/31/1997	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	06/30/1997	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	09/12/1997	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	12/05/1997	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	02/16/1998	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Trip Blank	06/17/1998	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	08/31/1998	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	12/28/1998	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	03/04/1999	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.0	-	-	-	-	-	-
Trip Blank	06/14/1999	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	09/17/1999	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	12/20/1999	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	03/20/2000	-	-	-	-	-	-	-	-	-	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	-	-	-	-	-
Trip Blank	06/24/2000	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
Trip Blank	09/07/2000	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
Trip Blank	12/05/2000	-	-	-	-	-	-	-	-	-	<50	<0.500	<0.500	<0.500	<0.500	<2.5	-	-	-	-	-	-
Trip Blank	03/01/2001	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
Trip Blank	06/04/2001	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-
Trip Blank	09/10/2001	-	-	-	-	-	-	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<2.5	-	-	-	-	-	-

Abbreviations and Notes:

TOC = Top of casing

DTW = Depth to water

GWE = Groundwater elevation

LNAPLT = Light non-aqueous phase liquid thickness

(ft-amsl) = Feet above mean sea level

ft = Feet

µg/L = Micrograms per liter

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

VOCS = Volatile organic compounds

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes (Total)

MTBE = Methyl tert butyl ether

-- = Not available / not applicable

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

<x = Not detected at or above laboratory method detection limit

J = Estimated value between method detection limit and laboratory reporting limit.

1 Chromatogram pattern indicates a non-diesel mix.

2 Chromatogram pattern indicates an unidentified hydrocarbon.

3 Chromatogram pattern indicates an unidentified hydrocarbon and weathered diesel.

4 Confirmation run.

5 ORC present in well.

6 Laboratory report indicates gasoline and unidentified hydrocarbons >10.

7 Laboratory report indicates gasoline C6-C12.

8 Laboratory report indicates this sample was analyzed outside of the EPA recommended holding time.

9 Laboratory report indicates unidentified hydrocarbons C9-C24.

10 Laboratory report indicates unidentified hydrocarbons C10-C24.

11 Laboratory report indicates unidentified hydrocarbons >C16.

12 Laboratory report indicates unidentified hydrocarbons C9-C40.

13 Laboratory report indicates diesel C9-C24 + unidentified hydrocarbons <C16.

14 Laboratory report indicates weathered gasoline C6-C12.

15 Laboratory report indicates unidentified hydrocarbons C6-C12.

16 Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

17 Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel. The pattern more closely resembles that of a heavier hydrocarbon mix.

18 BTEX and MTBE by EPA Method 8260.

19 Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil.

20 ORC removed from well.

21 Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil. It elutes in the DRO range later than #2 fuel and also has individual peaks eluting in the DRO range.

22 Laboratory report indicates the observed sample pattern is not typical of #2 fuel/diesel. It contains two patterns in the DRO range, one earlier and one later than #2 fuel.

23 Laboratory report indicates the observed sample pattern includes #2 fuel/diesel and an additional pattern which elutes later in the DRO range.

24 Laboratory report indicates the preservation requirements were not met. The vial submitted for volatile analysis did not have a pH <2 at the time of analysis. Due to the volital nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample reciept. The pH of this sample was pH=6

24 Laboratory report indicates reporting limits for the GC/MS volatile compounds were raised due to sample foaming.

25 Sampled semi-annually

26 Inaccessible

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

							HYDROCARBONS					PRIMARY VOCS					ADDITIONAL VOCS	GENERAL CHEMISTRY				
Location	Date	TOC	DTW	GWE	LNAPLT	LNAPL REMOVED	Motor Oil	Motor Oil w/ Si Gel	TPH-DRO	TPH-DRO w/ Si Gel	TPH-GRO	B	T	E	X	MTBE by SW8260	Ethanol	Ferrous Iron	Nitrate	Total Alkalinity	Sulfate	Total Dissolved Solids
	Units	ft	ft	ft-amsl	ft	gal	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

27 Sampled annually

28 Unable to locate

29 Well Not Sampled

30 Unable to collect sample

TABLE 2
CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND,CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	Total TPH	TPHmo w/ Silica Gel (TOG)	TPHd	TPHd w/ Silica Gel	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	TAME	TBA	ETBE	Naphthalene	1,2-DCA	EDB	Ethanol
			Concentrations reported in milligrams per kilogram (mg/kg)																	
LTC - Commercial - 0 to 5 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*8.2*	*NE*	*89*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Commercial - Outdoor Air - 5 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*12*	*NE*	*134*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Utility Worker - 0 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*14*	*NE*	*314*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*219*	*NE*	*NE*	*NE*
2013 CRA Site Investigation																				
B-1	11/11/13	3	38[b, c]	38[b, c]	---	14[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.021	<0.001	<0.001	---	---	---
B-1	11/11/13	6	<9.9[b, c]	<9.9[b, c]	---	<3.9[b]	<1.0	<0.0005	<0.001	<0.001	0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-1	11/11/13	9	40[b, c]	40[b, c]	---	11[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-1	11/11/13	9.5	<9.9[b, c]	<9.9[b, c]	---	27[d]	220	<0.025[e]	<0.051[e]	<0.051[e]	<0.051[e]	<0.025[e]	<0.051[e]	<0.051[e]	<1.0[e]	<0.051[e]	<0.051[e]	---	---	---
B-1	11/11/13	12.5	<9.9[b, c, f]	<9.9[b, c, f]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.021	<0.001	<0.001	---	---	---
B-1	11/11/13	14.5	<10[b, c, f]	<10[b, c, f]	---	<4.0[b, f]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.019	<0.001	<0.001	---	---	---
B-2	11/11/13	3	<10[b, c]	<10[b, c]	---	<4.0[b]	<1.0	<0.0005	<0.0009	<0.0009	<0.0009	<0.0005	<0.0009	<0.0009	<0.019	<0.0009	<0.0009	---	---	---
B-2	11/11/13	6	<9.9[b, c]	<9.9[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-2	11/11/13	9	<10[b, c]	<10[b, c]	---	<4.0[b]	<1.0	<0.0005	<0.0009	<0.0009	<0.0009	0.0006	<0.0009	<0.0009	<0.018	<0.0009	<0.0009	---	---	---
B-2	11/11/13	13	<9.9[b, c]	<9.9[b, c]	---	<3.9[b]	<1	<0.0005	<0.001	<0.001	<0.001	0.28	<0.001	<0.001	0.17	0.004	<0.001	---	---	---
B-3	11/11/13	3	<10[b, c]	<10[b, c]	---	<4.0[b]	2.1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-3	11/11/13	5	110[c, d, g]	110[c, d, g]	---	920[b]	1,300	<0.024[e]	<0.048[e]	<0.048[e]	<0.048[e]	<0.024[e]	<0.048[e]	<0.048[e]	<0.95[e]	<0.048[e]	<0.048[e]	---	---	---
B-3	11/11/13	7.5	<9.9[b, c, f]	<9.9[b, c, f]	---	14[d, f]	58	0.0008	0.002	0.002	0.011	0.017	<0.001	<0.001	0.061	<0.001	0.002	---	---	---
B-3	11/11/13	9	<10[b, c]	<10[b, c]	---	7.9[b]	5.6	0.002	0.001	0.002	0.005	0.088	<0.001	<0.001	0.29	0.001	0.006	---	---	---
B-3	11/11/13	11	<9.9[b, c]	<9.9[b, c]	---	<4.0[b]	2.9	0.001[h]	<0.001[h]	<0.001[h]	<0.001[h]	0.071[h]	<0.001[h]	<0.001[h]	0.49[h]	0.001[h]	<0.001[h]	---	---	---
B-4	11/12/13	3	870[c, j]	870[c, j]	---	330[d, g]	<41[i]	0.0007[h]	<0.001[h]	<0.001[h]	<0.001[h]	<0.0005[h]	<0.001[h]	<0.001[h]	<0.021[h]	<0.001[h]	0.005[h]	---	---	---
B-4	11/13/13	6	700[b, c]	700[b, c]	---	190[b]	<9.8[i]	<0.0005[h]	<0.001[h]	<0.001[h]	<0.001[h]	<0.0005[h]	<0.001[h]	<0.001[h]	<0.021[h]	<0.001[h]	<0.001[h]	---	---	---
B-4	11/13/13	9	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-4	11/13/13	15	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.019	<0.001	<0.001	---	---	---
B-4	11/13/13	20	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-4	11/13/13	25	<10[b, c]	<10[b, c]	---	<4.0[b]	<1.1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.021	<0.001	<0.001	---	---	---
B-4	11/13/13	27.5	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-5	11/12/13	3	27[b, c]	27[b, c]	---	5.2[b]	<1	<0.0005	<0.0009	<0.0009	<0.0009	<0.0005	<0.0009	<0.0009	<0.019	<0.0009	<0.0009	---	---	---
B-5	11/12/13	6	140[b, c]	140[b, c]	---	33[b]	<1	<0.0005[h]	<0.001[h]	<0.001[h]	<0.001[h]	<0.0005[h]	<0.001[h]	<0.001[h]	<0.019[h]	<0.001[h]	<0.001[h]	---	---	---
B-5	11/12/13	9	17[b, c]	17[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-5	11/13/13	24	<10[b, c]	<10[b, c]	---	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-6	11/13/13	3	46[b, c]	46[b, c]	---	11[b, f]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-6	11/12/13	6	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-6	11/12/13	9	<10[b, c]	<10[b, c]	---	<4.0[b]	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	<0.001	---	---	---
B-6	11/12/13	15	<10[b, c]	<10[b, c]	---	<4.0[b]	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.021	<0.001	<0.001	---	---	---
B-7	11/12/13	3	19[b, c]	19[b, c]	---	21[b]	86	<0.025[e]	<0.049[e]	<0.049[e]	<0.049	<0.025[e]	<0.049[e]	<0.049[e]	<0.98[e]	<0.049[e]	0.14[e]	---	---	---
B-7	11/12/13	6	<10[b, c]	<10[b, c]	---	79[d]	2,600	0.058[e]	<0.10[e]	<0.10[e]	0.13[e]	<0.050[e]	<0.10[e]	<0.10[e]	<2.0[e]	<0.10[e]	0.24[e]	---	---	---
B-7	11/12/13	6.75	16[c, d]	16[c, d]	---	130[d]	130	<0.024[e]	<0.048[e]	<0.048[e]	<0.048[e]	<0.024[e]	<0.048[e]	<0.048[e]	<0.96[e]	<0.048[e]	0.053[e]	---	---	---
B-7	11/12/13	7.5	<10[b, c]	<10[b, c]	---	5.9[d]	22	0.0009	<0.001	<0.001	0.002	<0.0005	<0.001	<0.001	<0.020	<0.001	0.008	---	---	---
B-7	11/12/13	10	<10[b, c]	<10[b, c]	---	20[b]	8.0	0.004	<0.001	0.004	0.022	<0.0005	<0.001	<0.001	<0.020	<0.001	0.002	---	---	---
2010 CRA Compliance Soil Sampling																				

TABLE 2
CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND,CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	Total TPH	TPHmo w/ Silica Gel (TOG)	TPHd	TPHd w/ Silica Gel	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	TAME	TBA	ETBE	Naphthalene	1,2-DCA	EDB	Ethanol
			Concentrations reported in milligrams per kilogram (mg/kg)																	
LTC - Commercial - 0 to 5 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*8.2*	*NE*	*89*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Commercial - Outdoor Air - 5 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*12*	*NE*	*134*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Utility Worker - 0 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*14*	*NE*	*314*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*219*	*NE*	*NE*	*NE*
EX-1	08/10/10	9.5	---	---	2.3	---	2.5	<0.005	<0.005	<0.005	<0.005	0.18	<0.005	<0.005	0.16	<0.005	---	<0.004	<0.004	<0.5
EX-2	08/10/10	9.5	---	---	7.0	---	7.9	<0.005	<0.005	<0.005	<0.005	0.041	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
EX-3	08/10/10	9.5	---	---	<1.0	---	1.1	<0.020	<0.020	<0.020	<0.020	0.77	<0.020	<0.020	0.35	<0.020	---	<0.016	<0.016	<2.0
EX-4	08/10/10	9.5	---	---	27	---	20	<0.010	<0.010	<0.010	<0.010	0.22	<0.010	<0.010	0.23	<0.010	---	<0.0080	<0.0080	<1.0
EX-5	08/10/10	9.5	---	---	<1.0	---	0.78	<0.005	<0.005	<0.005	<0.005	0.087	<0.005	<0.005	0.12	<0.005	---	<0.004	<0.004	<0.5
EX-6	08/10/10	9.5	---	---	18	---	1.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
P-1	08/10/10	6.5	---	---	6.0	---	5.7	0.041	0.22	0.040	0.20	0.074	<0.010	<0.010	<0.10	<0.010	---	<0.0080	<0.0080	<1.0
P-2	08/10/10	5	---	---	12	---	7.2	<0.005	<0.005	0.039	0.16	0.17	<0.005	<0.005	0.17	<0.005	---	<0.004	<0.004	<0.5
P-3	08/10/10	5	---	---	11	---	9.4	<0.020	<0.020	<0.020	0.035	0.46	<0.020	<0.020	0.24	<0.020	---	<0.016	<0.016	<2.0
P-4	08/10/10	5	---	---	730	---	980	1.4	<1.0	16	2.6	<1.0	<1.0	<1.0	<10	<1.0	---	<0.80	<0.80	<100
P-5	08/10/10	5	---	---	30	---	1.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
P-6	08/10/10	4	---	---	9.4	---	2.2	<0.005	<0.005	0.0054	<0.005	0.0081	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
P-7	08/10/10	4	---	---	900	---	8.4	<0.010	<0.010	<0.010	<0.010	0.037	<0.010	<0.010	<0.10	<0.010	---	<0.0080	<0.0080	<1.0
P-8	08/10/10	4	---	---	150	---	410	<0.10	<0.10	3.0	0.12	<0.10	<0.10	<0.10	<1.0	<0.10	---	<0.080	<0.080	<10
P-9	08/10/10	4	---	---	<1.0	---	0.89	<0.005	<0.005	<0.005	<0.005	0.0051	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
P-10	08/10/10	4	---	---	1.5	---	1.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	---	<0.004	<0.004	<0.5
P-11	08/10/10	4	---	---	290	---	390	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	---	<0.40	<0.40	<50
P-12	08/10/10	4	---	---	1,100	---	770	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	---	<0.80	<0.80	<100
P-13	08/10/10	4	---	---	610	---	780	0.70	<0.50	5.9	0.66	<0.50	<0.50	<0.50	<5.0	<0.50	---	<0.40	<0.40	<50
P-14	08/10/10	4	---	---	420	---	620	1.0	<0.50	9.4	0.84	<0.50	<0.50	<0.50	<5.0	<0.50	---	<0.40	<0.40	<50
SS-1	08/10/10	--	---	---	15	---	6.1	<0.005	<0.005	<0.005	0.047	---	---	---	---	---	---	---	---	---
SS-2	08/10/10	--	---	---	28	---	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
SS-3	08/10/10	--	---	---	29	---	8.3	<0.005	0.023	<0.005	0.014	---	---	---	---	---	---	---	---	---
2006 Cambria Soil investigation																				
SB-3-S-6	08/28/06	6	---	---	1,200	---	420	<0.003	<0.005	0.006	0.046	<0.003	<0.005	<0.005	<0.10	<0.005	---	---	---	<0.50
SB-3-S-10	08/28/06	10	---	---	310	---	750	<0.002	<0.005	<0.005	0.011	0.47	<0.005	0.01	<0.099	<0.005	---	---	---	<0.50
SB-5-S-4	08/23/06	4	---	---	<200	---	1,900	0.13	<0.013	7.6	5.2	<0.063	<0.13	<0.13	<2.5	<0.13	---	---	---	<13
SB-5-S-8	08/23/06	8	---	---	14	---	21	0.039	0.009	0.12	0.063	0.01	<0.005	<0.005	<0.099	<0.005	---	---	---	<0.50
SB-2-S-2	08/22/06	2	---	---	<10	---	<1	<0.0005	<0.001	<0.001	<0.001	0.012	<0.001	<0.001	<0.020	<0.001	---	---	---	<0.099
SB-2-S-4	08/22/06	4	---	---	<10	---	3.4	<0.0005	<0.001	<0.001	<0.001	0.064	<0.001	<0.001	0.078	<0.001	---	---	---	<0.10
SB-4-S-6	08/22/06	6	---	---	56	---	620	<0.063	<0.013	0.32	<0.13	<0.063	<0.13	<0.13	<2.5	<0.13	---	---	---	<13
SB-4-S-10	08/22/06	10	---	---	16	---	1.5	0.031	0.004	0.19	0.018	0.054	<0.001	<0.001	0.036	<0.001	---	---	---	<0.10

TABLE 2
CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND,CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	Total TPH	TPHmo w/ Silica Gel (TOG)	TPHd	TPHd w/ Silica Gel	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	TAME	TBA	ETBE	Naphthalene	1,2-DCA	EDB	Ethanol
			← Concentrations reported in milligrams per kilogram (mg/kg)																	
LTC - Commercial - 0 to 5 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*8.2*	*NE*	*89*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Commercial - Outdoor Air - 5 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*12*	*NE*	*134*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Utility Worker - 0 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*14*	*NE*	*314*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*219*	*NE*	*NE*	*NE*
SB-1-S-4	08/03/06	4	---	---	41	---	120	0.003	<0.005	0.021	0.013	0.011	<0.005	<0.005	<0.099	<0.005	---	---	---	<0.50
SB-1-S-6	08/03/06	6	---	---	<10	---	7.3	0.010	<0.001	0.002	0.002	0.15	<0.001	0.00	0.15	<0.001	---	---	---	<0.099
SB-6-S-6	08/23/06	6	---	---	25	---	26	0.025	0.014	0.73	0.15	<0.003	<0.005	<0.005	<0.10	<0.005	---	---	---	<0.50
SB-6-S-10	08/23/06	10	---	---	19	---	<40	0.032	0.007	0.27	0.061	0.003	<0.005	<0.005	<0.10	<0.005	---	---	---	<0.50
SB-7-S-2	08/23/06	2	---	---	240	---	150	<0.062	<0.12	<0.12	<0.12	<0.062	<0.12	<0.12	<2.5	<0.12	---	---	---	<12
SB-7-S-4	08/23/06	4	---	---	900	---	760	<0.063	<0.013	<0.013	<0.013	<0.063	<0.13	<0.13	<2.5	<0.13	---	---	---	<13
2006 Cambria Soil Boring Invesgtigation																				
SB-8	08/03/06	2	<10	<10[k]	<10	---	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	---	<0.001	<0.001	<0.10
SB-8	08/03/06	4	<10	<10[k]	<10	---	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	---	<0.001	<0.001	<0.099
SB-9	08/03/06	2	100	100[k]	41	---	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	---	<0.001	<0.001	<0.10
SB-9	08/03/06	4	<10	<10[k]	<10	---	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.020	<0.001	---	<0.001	<0.001	<0.10
1999 Cambria Soil investigation																				
MW2A-3	04/01/99	3	---	---	28	---	820	1.7	2.8	13	29	<0.5	---	---	---	---	---	---	---	---
MW2A-6	04/01/99	6	---	---	100	---	430	<1	1.7	5.0	2.6	<10	---	---	---	---	---	---	---	---
MW2A-17	04/01/99	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW3A-5.5	04/01/99	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW3A-6	04/01/99	6	---	---	3.8	---	41	<0.1	<0.1	<0.1	0.28	<1	---	---	---	---	---	---	---	---
MW3A-11	04/01/99	11	---	---	9.2	---	180	0.57	0.52	<0.5	1.8	<5	---	---	---	---	---	---	---	---
MW3A-15	04/01/99	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW4A-3	04/01/99	3	---	---	94	---	540	0.96	1.6	4.6	1.3	<2.5	---	---	---	---	---	---	---	---
MW4A-6	04/01/99	6	---	---	72	---	1,100	5.6	13	2.4	18	<10	---	---	---	---	---	---	---	---
MW9-3	04/01/99	3	---	---	1.2	---	22	0.036	0.048	0.028	0.091	0.089	---	---	---	---	---	---	---	---
MW9-6	04/01/99	6	---	---	<1	---	8.3	0.011	0.033	0.010	0.078	0.18	---	---	---	---	---	---	---	---
1996 Piping Trench and Dispenser Sampling																				
P1	10/03/96	3	---	---	---	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
P2	10/03/96	2	---	---	---	---	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	---	---	---	---	---	---	---	---
P3	10/03/96	2.5	---	---	---	---	<1.0	0.0056	<0.0050	<0.0050	0.005	0.63	---	---	---	---	---	---	---	---

TABLE 2
CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND,CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	Total TPH	TPHmo w/ Silica Gel (TOG)	TPHd	TPHd w/ Silica Gel	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	TAME	TBA	ETBE	Naphthalene	1,2-DCA	EDB	Ethanol
			← Concentrations reported in milligrams per kilogram (mg/kg)																	
LTC - Commercial - 0 to 5 fbg [a]			***NE***	***NE***	***NE***	***NE***	***NE***	***8.2***	***NE***	***89***	***NE***	***NE***	***NE***	***NE***	***NE***	***NE***	***45***	***NE***	***NE***	***NE***
LTC - Commercial - Outdoor Air - 5 to 10 fbg [a]			***NE***	***NE***	***NE***	***NE***	***NE***	***12***	***NE***	***134***	***NE***	***NE***	***NE***	***NE***	***NE***	***NE***	***45***	***NE***	***NE***	***NE***
LTC - Utility Worker - 0 to 10 fbg [a]			***NE***	***NE***	***NE***	***NE***	***NE***	***14***	***NE***	***314***	***NE***	***NE***	***NE***	***NE***	***NE***	***NE***	***219***	***NE***	***NE***	***NE***
P4	10/03/96	2.5	---	---	---	---	710	<0.25	19	7.8	78	15	---	---	---	---	---	---	---	---
P5	10/03/96	3	---	---	---	---	110	<0.25	<0.25	<0.25	0.46	<1.2	---	---	---	---	---	---	---	---
P6	10/03/96	3	---	---	---	---	1.3	0.021	0.15	0.033	0.18	2.5	---	---	---	---	---	---	---	---
P7	10/03/96	3	---	---	---	---	<1.0	<0.0050	0.0071	0.0063	0.024	0.49	---	---	---	---	---	---	---	---
P8	10/03/96	2.5	---	---	---	---	4,100	**33**	19	51	30	31	---	---	---	---	---	---	---	---
P9	10/03/96	2	---	---	---	---	1,400	<0.50	22	5.4	5	9.7	---	---	---	---	---	---	---	---
P10	10/03/96	2.5	---	---	---	---	410	**8.3**	<0.12	4.8	2.4	<0.62	---	---	---	---	---	---	---	---
P11	10/03/96	3	---	---	---	---	1,600	**25**	<0.50	25	26	<2.5	---	---	---	---	---	---	---	---
P12	10/03/96	2.5	---	---	---	---	2.2	**28**	<1.0	23	12	<5.0	---	---	---	---	---	---	---	---
P13	10/03/96	3	---	---	---	---	290	6.1	4	2.1	1.3	<0.62	---	---	---	---	---	---	---	---
P14	10/03/96	2.5	---	---	---	---	2,500	**40**	20	27	76	<5.0	---	---	---	---	---	---	---	---
P15	10/03/96	2.5	---	---	---	---	1,000	**23**	<0.25	13	3	<1.2	---	---	---	---	---	---	---	---
1992 GTI Well Installation																				
MW1A	06/19/92	20.5	---	---	---	<1	<1	0.006	0.019	<0.005	0.015	---	---	---	---	---	---	---	---	---
MW5D	06/12/92	20.5	---	---	---	<1	<1	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
MW6A	06/12/92	5.5	---	---	---	<1	<1	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
MW7A	06/12/92	5.5	---	---	---	<1	<1	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
MW8A	06/12/92	5.5	---	---	---	<1	<1	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
MW8B	06/12/92	10.5	---	---	---	2[l]	13	<0.005	0.006	0.012	0.078	---	---	---	---	---	---	---	---	---
1991 GTI Well Installation																				
MW-2A	08/07/91	2	---	---	---	4	660	1.5	1.2	2.3	4.6	---	---	---	---	---	---	---	---	---
MW-2B	08/07/91	7	---	---	---	17	540	2.8	1.3	11	4.3	---	---	---	---	---	---	---	---	---
MW-3A	08/13/91	2	---	---	---	2	<1.0	0.021	<0.005	<0.005	<0.005	---	---	---	---	---	---	---	---	---
MW-3B	08/13/91	9	---	---	---	34	660	3	3.7	5.0	8.0	---	---	---	---	---	---	---	---	---
MW-4A	08/13/91	3	---	---	---	13	560	<0.6	4.5	3.6	7.4	---	---	---	---	---	---	---	---	---
MW-4B	08/13/91	8	---	---	---	2	31	0.17	0.29	0.11	0.220	---	---	---	---	---	---	---	---	---

Notes/Abbreviations:

Total petroleum hydrocarbons by modified EPA Method 8015B unless otherwise noted.

Total petroleum hydrocarbons as motor oil (TPHmo) and total oil and grease (TOG) by modified EPA Method 8015B unless otherwise noted.

Total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) by modified EPA Method 8015B unless otherwise noted.

Benzene, toluene, ethybenzene, total xylenes, methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), t-amyl methyl ether (TAME), t-butyl alcohol (TBA), ethyl t-butyl ether (ETBE), naphthalene, 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB) and ethanol by Method 8026B unless otherwise noted.

Lead (Pb) by EPA Method 6010 unless otherwise noted.

fbg = Feet below grade

NE = Not established

TABLE 2
CUMULATIVE SOIL ANALYTICAL DATA
FORMER CHEVRON SERVICE STATION 90121
3026 LAKESHORE AVENUE
OAKLAND,CALIFORNIA

Sample ID	Date	Sample Depth (fbg)	Total TPH	TPHmo w/ Silica Gel (TOG)	TPHd	TPHd w/ Silica Gel	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	TAME	TBA	ETBE	Naphthalene	1,2-DCA	EDB	Ethanol
			← Concentrations reported in milligrams per kilogram (mg/kg)																	
LTC - Commercial - 0 to 5 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*8.2*	*NE*	*89*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Commercial - Outdoor Air - 5 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*12*	*NE*	*134*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*45*	*NE*	*NE*	*NE*
LTC - Utility Worker - 0 to 10 fbg [a]			*NE*	*NE*	*NE*	*NE*	*NE*	*14*	*NE*	*314*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*219*	*NE*	*NE*	*NE*

ND = Not detected above various laboratory method detection limits.

--- = Not analyzed

a = Low-Threat Underground Storage Tank Case Closure Policy Criteria - California State Water Resources Control Board (SWRCB), August 2012, Low-Threat Underground Storage Tank Policy.

b = The reverse surrogate, capric acid, is present at <1%

c = TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetraoctane) normal hydrocarbons.

d = Due to the presence of fuel in the sample extract, capric acid recovery can not be determined

e = Reporting limits were raised due to interference from the sample matrix

f = The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

g = The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram

h = The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

i = Reporting limits were raised due to sample foaming

j = Due to the dilution of the sampl extract, capric acid recovery can not be determined

k = TPHmo or TOG not analyzed with silica gel cleanup

l = According to laboratory analytical reports the chromatogram pattern observed was not typical of diesel.

Appendix A

Regulatory Correspondences

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

April 4, 2014

Ms. Alexis Fischer
Chevron Products Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
(sent via electronic mail to AFischer@chevron.com)

Subject: Request for Data Validation, a Focused Site Conceptual Model, and a Data Gap Work Plan; Fuel Leak Case No. RO0000284 and Geotracker Global ID T0600100328, Chevron #9-0121; 3026 Lakeshore Avenue, Oakland, CA 94610

Dear Ms. Alexis Fischer:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Second Semi-Annual 2013 Groundwater Monitoring and Sampling Report,* dated November 20, 2013, and the *Subsurface Investigation Report,* dated February 14, 2014. The reports were submitted on your behalf by Conestoga-Rovers & Associates (CRA). Thank you for their submittal. The *Subsurface Investigation Report,* documents the installation of seven soil bores, the collection of soil and grab groundwater samples, and the collection of two crawl space vapor samples, six indoor air samples, two outdoor air samples, and three subslab vapor samples.

ACEH has evaluated the data and recommendations presented in the above-mentioned reports, in conjunction with the case files, to determine if the site is eligible for closure as a low risk site under the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Based on ACEH staff review, we have determined that the site fails to meet the LTCP General Criteria e (Site Conceptual Model), and the Media-Specific Criteria for Groundwater, the Media-Specific Criteria for Vapor Intrusion to Indoor Air, and the Media-Specific Criteria for Direct Contact (see Geotracker for a copy of the LTCP checklist).

Therefore, at this juncture ACEH requests that you prepare a Revised Data Gap Investigation Work Plan that is supported by a focused Site Conceptual Model (SCM) to address the Technical Comments provided below and discussed with you in a meeting with Chevron and ACEH staff on March 13, 2014.

TECHNICAL COMMENTS

1. **Comments on Subsurface Investigation Report –** ACEH has a number of comments relative to the referenced investigation report. These include the following:

    a. **Data Validation Request –** The referenced *Subsurface Investigation Report* contains soil and grab groundwater analytical data that contains a significant number of footnote qualifiers indicating the data is poorly collected, and is potentially unusable to characterize the site. A data QA/QC discussion or section was not included in the report. In particular, laboratory analytical data qualifiers include the following:

        i. Surrogate recovery in multiple soil analytical results did not meet quality control requirements.

        ii. Reporting limits were raised due to foaming in both soil and groundwater samples.

iii. All grab groundwater Total Petroleum Hydrocarbons (TPH) as motor oil (TPHmo) and TPH as diesel (TPHd) analysis were conducted outside hold times.

iv. Footnotes state that preserved VOAs were used; however, the pH of three (of seven total) samples with low volatile compound detections contained a pH as high as 8.

v. The uniformity of oxygen and nitrogen content, especially in the subslab vapor environment, warrants an evaluation of collection procedures in an effort to determine that sampling procedures or errors may have inadvertently contributed to the uniformity of results.

It appears that a review of Data Quality Objectives (DQO) and the appropriateness of the use of the data, including vapor analytical data, are warranted. Therefore ACEH requests the validation of analytical data prior to acceptance of the data for the characterization of the site, by the date identified below.

b. **Soil Bore Log Descriptions** – A discrepancy exists between descriptions of Light Non-Aqueous Phase Liquids (LNAPL) included in the text of the report and descriptions contained on bore log B-7. The bore log does not include a note about the presence of LNAPL. At a minimum it appears appropriate to include these descriptions on the log for B-7.

2. **Low Threat Closure Policy Review –** As noted above the site has been reviewed under the LTCP and it is not eligible for closure under policy at this time. ACEH provides the following observations.

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

Our review of the case files indicates that insufficient data collection and analysis has not been presented to assess the nature, extent, and mobility of the release and to support compliance with Media Specific Criteria for Groundwater, Vapor Intrusion to Indoor Air, and Direct Contact and Outdoor Air Exposure as described in Items b, c and d below, respectively.

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

Our review of the case files indicates that insufficient data collection and analysis has been presented to support the requisite characteristics of plume stability or plume classification as follows:

i. **Downgradient and Lateral Extent of Groundwater Plume** - The downgradient and lateral extent of the groundwater plume has not been adequately defined. As presently understood, there are three groundwater flow directions at the site; two (northerly and southwesterly) apparently created by the subterranean Visqueen plastic vertical sheet installed between the subject site and the adjacent downgradient property, belonging to the Archdiocese of Oakland. A third flow direction is located in the eastern corner of the site and appears to flow uphill towards Excelsior Court to the east. This area is in the vicinity of a source area and a storm drain conduit documented along the southern property boundary.

In the northerly flow direction, onsite groundwater well MW-2A is currently the most downgradient well. Well MW-2A, and the previous well MW-2, have historically contained

groundwater concentrations that LTCP technical support documents consider to be indicative of indirect evidence of LNAPL (concentrations up to 26,000 micrograms per liter [µg/l] TPHg, and 5,700 µg/l benzene). Concentrations of TPHd are not defined downgradient of the well(s) and Lake Merritt is also downgradient. The southwesterly gradient remains undefined as documented by TPHd concentrations in well MW-6. Additionally the storm drain conduit along the southern edge of the property by-passes the well network and may provide a conduit for discharge of contaminated water directly into Lake Merritt.

ii. **Preferential Pathway and Sensitive Receptor Survey –**. The *Sensitive Receptor and Preferential Pathway Survey, Response to Regulatory Comments, and Work Plan for Additional Assessment,* dated May 15, 2011 indicates there are multiple conduits in Lakeshore Avenue that may act as preferential pathways; including several large diameter sewer and storm drain trunk lines. A key reason for the collection of groundwater samples along the storm drain alignment on the eastern edge of the site and downgradient properties during the November 13, 2013 field investigation was to determine the extent this likely conduit is used in the offsite migration of petroleum contamination from the site. ACEH notes that the collection of groundwater at 25 and 20 feet, respectively in bores B-4 and B-5, does not define the downgradient extent of groundwater along this conduit; however, may, upon data validation as discussed above, define the vertical extent of groundwater contamination beneath the subject site and vicinity. Soil collected in these bores may, upon data validation, help define the downgradient extent of soil contamination along the conduit.

The referenced May 2011 report also indicates that other sensitive receptors, such as basements with basement sumps, also appear to exist within the currently undefined down- or lateral-gradient extent of the groundwater plume.

Further evaluation of potential preferential pathways and sensitive receptors appears appropriate.

iii. **Historic Data Quality Review –** Review of groundwater analytical data from well couple MW-3 and MW-3A has not been conducted. A review of analytical data indicates that concentrations of contaminants in groundwater samples collected from well MW-3A (installed as a replacement well for MW-3) were substantially lower than samples collected from well MW-3 within a period of approximately one month (2,880 to <50 µg/l TPHg, 763 to 93 µg/l TPHd, 355 to <0.5 µg/l benzene). Well MW-3A contains a longer screen interval that may allow dilution of hydrocarbon contaminants. An evaluation of the wells appears warranted to ensure that a source of residual hydrocarbons is not located near the storm drain line.

Please present a strategy in the Revised Data Gap Work Plan (described in Item 3 below) to address the items discussed above. Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Groundwater in the focused SCM described in Item 3 below.

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

Our review of the case files indicates that the site data collection and analysis fail to support the requisite characteristics of one of the four scenarios. These comments apply to the subject site, which is no longer an active service station, and to the adjacent downgradient property containing a basement. Water level data indicates the site may not have a bioattenuation zone as defined by the LTCP, as the depth to groundwater is as shallow as the ground surface at times of the year. Additionally, concentrations greater than 100 mg/kg TPH are present in the 0 to 5 foot

depth interval at multiple locations on the subject site as well as immediately upgradient of the offsite basement with documented infiltration of contaminated groundwater. At present no onsite soil vapor samples have been collected at the former service station.

Subslab indoor air outdoor crawl space sampling was conducted at the site in Nov 2013. A review of the crawl space, outdoor air, and indoor air vapor data collected indicates very uniform TPHg, BTEX, MTBE, and naphthalene results in each environment. ACEH notes that all benzene vapor concentrations, including outdoor air samples, are above generic but conservative Environmental Screening Levels (ESLs) promulgated by the San Francisco Regional Water Quality Control Board (RWQCB). Concentrations below ESLs are generally considered to be protective of human health. ACEH also notes that the site is in a very busy area of Oakland, and is just west of an onramp to I-580 south, thus anticipates that air concentrations could be expected to be elevated above indoor ESLs.

Based on the data collected CRA recommends conducting an additional round of sampling to confirm the results of samples collected. ACEH notes that concentrations of B and ethylbenzene in groundwater indicate these constituents not pose a risk to indoor air. However, ACEH also notes that naphthalene, which is one of the criteria used in the LTCP, has not been evaluated in soil, groundwater, or air even though a significant source of diesel appears to exist. Therefore ACEH requests the addition of the analyte to groundwater and vapor samples collected in the future.

ACEH has a number of comments and observations in regards to the vapor sampling effort conducted at the site in November 2013, that are not discussed in the *Subsurface Investigation Report,* dated February 14, 2014. Clarification of sampling procedures and building conditions appears warranted to validate the sampling results.

i. Indoor air sampling analytical data suggest that there is no difference between indoor and outdoor air; that they are equilibrated. This is atypical and suggests that the windows and doors may have been open during the sampling event or that the HVAC unit was on and had equilibrated or had entirely replaced indoor air with outside air. This is additionally indicated by the building survey form for 3008 Lakeshore Avenue that includes a note about an open door in the back storage area. ACEH would expect that keeping doors open is seasonally not a normal practice at the building, therefore please clarify if the door or windows were closed during the 24 hour collection time period, or if changes in door or window position occurred during the sampling period.

ii. Review of the building survey forms indicates that indoor air sample IA-4 was collected on the first floor of the Archdiocese building, and not in the basement near the elevator sump as requested, and also stated in the text of the report. It appears that the basement was not included in the building survey, as the location of the elevator (on any floor) and the elevator sump in the basement is not depicted in the building diagram. This is critical as sump seepage water samples have consistently detected petroleum compounds (TPHd, with and without silica gel cleanup, TPHg, BTEX, and MTBE). Please clarify whether a sample was collected near the basement sump as requested.

iii. A standard statement is included in the report that a shroud atmosphere of approximately 40% helium was created during vapor sampling; however, there are no helium concentrations reported for the shroud, either as meter readings or through laboratory analysis to validate the statement. Data validation, requested above, must include this detail.

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

d. **LTCP Media Specific Criteria for Direct Contact and Outdoor Air Criteria** – The LTCP describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air poses a low threat to human health. According to the policy, release sites

where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if the maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth bgs. Alternatively, the policy allows for a site specific risk assessment that demonstrates that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health, or controlling exposure through the use of mitigation measures, or institutional or engineering controls.

Our review of the case files indicates that insufficient data collection and analysis has been presented to satisfy the media-specific criteria for direct contact and outdoor air exposure. Specifically, the presence of TPHmo range hydrocarbons at the site and vicinity indicate that while a waste oil UST has not been reported at the site, the source of the TPHmo is unknown and may suggest the presence of an undocumented WO UST. At present, naphthalene soil analytical data is not documented to have been collected in a source area for motor oil at the site. It appears appropriate to determine the source of the TPHmo and collect soil analytical data for naphthalene and polycyclic aromatic hydrocarbons (PAHs) in the source area(s). The presence of TPHd at the site further indicates the collection of these analytical parameters is appropriate.

Additionally, several tank or product line removal reports document the presence of benzene concentrations at 2.5 feet bgs beneath product piping, and ranging between 23 to 40 mg/kg. Some of this area may have been vertically overexcavated; however, the lateral extent of the removal, or the presence of residual contamination that affects this criterion, has not been confirmed.

Therefore, please present a strategy as described in Item 3 below to collect sufficient data to satisfy the direct contact and outdoor air exposure criteria in source areas (dispenser locations, former waste oil locations, etc.). Sample and analyze soil at the five and ten foot intervals, at the groundwater interface, lithologic changes, and at areas of obvious impact. Also, collect a groundwater sample from each boring and propose the requisite analysis including naphthalene and PAH analysis.

Alternatively, please provide justification of why the site satisfies the Media-Specific Criteria for Direct Contact and Outdoor Air Exposure in the focused SCM described in Item 3 below that assures that exposure to petroleum constituents in soil will have no significant risk of adversely affecting human health.

3. **Data Gap Investigation Work Plan and Focused Site Conceptual Model** – Please prepare a Data Gap Investigation Work Plan to address the technical comments listed above. Please support the scope of work in the Data Gap Investigation Work Plan with a focused SCM and Data Quality Objectives (DQOs) that relate the data collection to each LTCP criteria. For example please clarify which scenario within each Media-Specific Criteria a sampling strategy is intended to apply to.

   In order to expedite review, ACEH requests the focused SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure under the LTCP. Please see Attachment A "Site Conceptual Model Requisite Elements". Please sequence activities in the proposed revised data gap investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

4. **Missing Subsurface Investigation Report and Associated Data** – Soil bores SB-1 to SB-7 were installed at the site at some time in the past; however, an associated report and analytical data has not been submitted to ACEH or to Geotracker. The bore locations appear to have been installed in useful locations, and thus fill data gaps in the understanding of contaminant distribution in soil, and perhaps groundwater, at the site. Therefore ACEH requests the submittal of the report to the ACEH ftp site and to Geotracker. Depending on the date of the report, it may be uploadable without a perjury statement as a historic document (pre-2006).

5. **Future Site Plans** – As of approximately August 2010 all fuel dispensing infrastructure was removed from the site. While the subject site is no longer an active service station, future plans for the site have not been provided. In order to help with a closure analysis under the LTCP, ACEH requests

that future site plans or intensions be provided in the requested Data Gap Work Plan and focused SCM.

TECHNICAL REPORT REQUEST

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

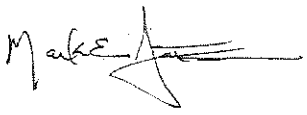
- **April 25, 2014** – Missing Report (SB-1 to SB-7 data)
  File to be named: RO284_SWI_R_yyyy-mm-dd
- **May 16, 2014** – First Semiannual 2014 Groundwater Monitoring Report
  File to be named: RO284_GWM_R_yyyy-mm-dd
- **July 3, 2014** – Data Gap Investigation Plan and Focused Site Conceptual Model
  File to be named: RO284_WP_SCM_R_yyyy-mm-dd
- **November 21, 2014** – Second Semiannual 2014 Groundwater Monitoring Report
  File to be named: RO284_GWM_R_yyyy-mm-dd

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

Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm.

If you have any questions, please call me at (510) 567-6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,



Digitally signed by Mark E. Detterman
DN: cn=Mark E. Detterman, o, ou, email, c=US
Date: 2014.04.04 15:13:02 -07'00'

Mark E. Detterman, P.G., C.E.G.
Senior Hazardous Materials Specialist

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

Attachment A – Site Conceptual Model Requisite Elements

cc: Nathan Lee, Conestoga-Rovers & Associates, Inc., 5900 Hollis Street, Suite A, Emeryville, CA 94608; (sent via electronic mail to nlee@craworld.com)

Dilan Roe, ACEH (sent via electronic mail to dilan.roe@acgov.org)
Mark Detterman (sent via electronic mail to mark.detterman@acgov.org)
Electronic file, GeoTracker

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

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

ELECTRONIC SUBMITTAL OF REPORTS

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

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

PERJURY STATEMENT

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

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

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

UNDERGROUND STORAGE TANK CLEANUP FUND

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

AGENCY OVERSIGHT

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

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

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

REQUIREMENTS

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

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

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ATTACHMENT A

Site Conceptual Model Requisite Elements

ATTACHMENT A

Site Conceptual Model

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

TABLE 1

INITIAL SITE CONCEPTUAL MODEL

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Geology and Hydrogeology	Regional	The site is in the northwest portion of the Livermore Valley, which consists of a structural trough within the Diablo Range and contains the Livermore Valley Groundwater Basin (referred to as "the Basin") (DWR, 2006). Several faults traverse the Basin, which act as barriers to groundwater flow, as evidenced by large differences in water levels between the upgradient and downgradient sides of these faults (DWR, 2006). The Basin is divided into 12 groundwater basins, which are defined by faults and non-water-bearing geologic units (DWR, 1974). The hydrogeology of the Basin consists of a thick sequence of fresh-water-bearing continental deposits from alluvial fans, outwash plains, and lacustrine environments to up to approximately 5,000 feet bgs (DWR, 2006). Three defined fresh-water bearing geologic units exist within the Basin: Holocene Valley Fill (up to approximately 400 feet bgs in the central portion of the Basin), the Plio-Pleistocene Livermore Formation (generally between approximately 400 and 4,000 feet bgs in the central portion of the Basin), and the Pliocene Tassajara Formation (generally between approximately 250 and 5,000 or more feet bgs) (DWR, 1974). The Valley Fill units in the western portion of the Basin are capped by up to 40 feet of clay (DWR, 2006).	None	NA
	Site	***Geology:*** Borings advanced at the site indicate that subsurface materials consist primarily of finer-grained deposits (clay, sandy clay, silt and sandy silt) with interbedded sand lenses to 20 feet below ground surface (bgs), the approximate depth to which these borings were advanced. The documented lithology for one on-site boring that was logged to approximately 45 feet bgs indicates that beyond approximately 20 feet bgs, fine-grained soils are present to approximately 45 feet bgs. A cone penetrometer technology test indicated the presence of sandier lenses from approximately 45 to 58 feet bgs and even coarser materials (interbedded with finer-grained materials) from approximately 58 feet to 75 feet bgs, the total depth drilled. The lithology documented at the site is similar to that reported at other nearby sites, specifically the Montgomery Ward site (7575 Dublin Boulevard), the Quest laboratory site (6511 Golden Gate Drive), the Shell-branded Service Station site (11989 Dublin Boulevard), and the Chevron site (7007 San Ramon Road). ***Hydrogeology:*** Shallow groundwater has been encountered at depths of approximately 9 to 15 feet bgs. The hydraulic gradient and groundwater flow direction have not been specifically evaluated at the site.	As noted, most borings at the site have been advanced to approximately 20 feet bgs, and one boring has been advanced and logged to 45 feet bgs; CPT data was collected to 75 feet bgs at one location. Lithologic data will be obtained from additional borings that will be advanced on site to further the understanding of the subsurface, especially with respect to deeper lithology. The on-site shallow groundwater horizontal gradient has not been confirmed. Additionally, it is not known if there may be a vertical component to the hydraulic gradient.	Two direct push borings and four multi-port wells will be advanced to depth (up to approximately 75 feet bgs) and soil lithology will be logged. See items 4 and 5 on Table 2. Shallow and deeper groundwater monitoring wells will be installed to provide information on lateral and vertical gradients. See Items 2 and 5 on Table 2.
Surface Water Bodies		The closest surface water bodies are culverted creeks. Martin Canyon Creek flows from a gully west of the site, enters a culvert north of the site, and then bends to the south, passing approximately 1,000 feet east of the site before flowing into the Alamo Canal. Dublin Creek flows from a gully west of the site, enters a culvert approximately 750 feet south of the site, and then joins Martin Canyon Creek approximately 750 feet southeast of the site.	None	NA
Nearby Wells		The State Water Resources Control Board's GeoTracker GAMA website includes information regarding the approximate locations of water supply wells in California. In the vicinity of the site, the closest water supply wells presented on this website are depicted approximately 2 miles southeast of the site; the locations shown are approximate (within 1 mile of actual location for California Department of Public Health supply wells and 0.5 mile for other supply wells). No water-producing wells were identified within 1/4 mile of the site in the well survey conducted for the Quest Laboratory site (6511 Golden Gate Drive; documented in 2009); information documented in a 2005 report for the Chevron site at 7007 San Ramon Road indicates that a water-producing well may exist within 1/2 mile of the site.	A formal well survey is needed to identify water-producing, monitoring, cathodic protection, and dewatering wells.	Obtain data regarding nearby, permitted wells from the California Department of Water Resources and Zone 7 Water Agency (Item 11 on Table 2).

TABLE 2

DATA GAPS AND PROPOSED INVESTIGATION

Item	Data Gap	Proposed Investigation	Rationale	Analysis
5	Evaluate the possible presence of impacts to deeper groundwater. Evaluate deeper groundwater concentration trends over time. Obtain data regarding the vertical groundwater gradient. Obtain more lithological data below 20 feet bgs.	Install four continuous multichannel tubing (CMT) groundwater monitoring wells (aka multi-port wells) to approximately 65 feet bgs in the northern parking lot with ports at three depths (monitoring well locations may be adjusted pending results of shallow grab groundwater samples; we will discuss any potential changes with ACEH before proceeding). Groundwater monitoring frequency to be determined. Soil samples will be collected only if there are field indications of impacts. Soil lithology will be logged. However, information regarding the moisture content of soil may not be reliable using sonic drilling technology (two borings will be logged using direct push technology; see Item 4, above).	One well is proposed at the western (upgradient) property boundary to confirm that there are no deeper groundwater impacts from upgradient. Two wells are proposed near the center of the northern parking lot to evaluate potential impacts in an area where deeper impacts, if any, would most likely to be found. One well is proposed at the eastern (downgradient) property boundary to confirm that there are no impacts extending off-site. Port depths will be chosen based on the locations of saturated soils (as logged in direct push borings; see Item 4, above), but are expected at approximately 15, 45, and 60 feet bgs.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.
6	Evaluate possible off-site migration of impacted soil vapor in the downgradient direction (east). Evaluate concentration trends over time.	Install 4 temporary nested soil vapor probes at approximately 4 and 8 feet bgs along the eastern property boundary. Based on the results of the sampling, two sets of nested probes will be converted to vapor monitoring wells to allow for evaluation of VOC concentration trends over time.	Available data indicate that PCE and TCE are present in soil vapor in the eastern portion of the northern parking lot. Samples are proposed on approximately 50-foot intervals along the eastern property boundary to provide a transect of concentrations through the vapor plume. The depths of 4 and 8 feet bgs are chosen to provide data closest to the source (i.e., groundwater) while avoiding saturated soil, and also provide shallower data to help evaluate potential attenuation within the soil column. Two sets of nested vapor probes will be converted into vapor monitoring wells (by installing well boxes at ground surface); the locations of the permanent wells will be chosen based on the results of samples from the temporary probes.	*Soil vapor*: VOCs by EPA Method TO-15.
7	Evaluate potential for off-site migration of impacted groundwater in the downgradient direction (east).	Advance two borings to approximately 20 feet bgs in the parking lot of the property east of the Crown site for collection of grab groundwater samples.	Two borings are proposed off-site, on the property east of the Crown site, just east of the building in the expected area of highest potential VOC concentrations.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.
8	Evaluate VOC concentrations just north of the highest concentration area.	Advance two borings to approximately 20 feet bgs north of Building A for collection of soil and grab groundwater samples. Soil samples will be collected at two depths in the vadose zone. Soil samples will be collected based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.	The highest concentrations of PCE in groundwater were detected at boring NM-B-32, just north of Building A. The nearest available data to the north are approximately 75 feet away. One of the borings will be advanced approximately 20 feet north of NM-B-32 to provide data close to the highest concentration area. A second boring will be advanced approximately halfway between the first boring and former boring NM-B-33 to provide additional spatial data for contouring purposes. These borings will be part of a transect in the highest concentration area.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. *Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
9	Evaluate VOC concentrations in soil vapor in the south parcel of the site.	Install four temporary soil vapor probes at approximately 5 feet bgs around boring SV-25, where PCE was detected in soil vapor at a low concentration.	PCE was detected in soil vapor sample SV-25 in the southern parcel, although was not detected in groundwater in that area. Three probes will be installed approximately 30 feet from of boring SV-25 to attempt to delineate the extent of impacts. A fourth probe is proposed west of the original sample, close to the property boundary and the location of mapped utility lines, which may be a potential conduit, to evaluate potential impacts from the west.	*Soil vapor*: VOCs by EPA Method TO-15.
10	Obtain additional information regarding subsurface structures and utilities to further evaluate migration pathways and sources.	Ground penetrating radar (GPR) and other utility locating methodologies will be used, as appropriate, to further evaluate the presence of unknown utilities and structures at the site.	Utilities have been identified at the site that include an on-site sewer lateral and drain line, and shallow water, electric, and gas lines. Given the current understanding of the distribution of PCE in groundwater at the site, it is possible that other subsurface utilities, and specifically sewer laterals, exist that may act as a source or migration pathway for distribution of VOCs in the subsurface.	NA

Lee, Nathan

From: Detterman, Mark, Env. Health [Mark.Detterman@acgov.org]
Sent: Friday, November 21, 2014 9:40 AM
To: Lee, Nathan
Cc: Roe, Dilan, Env. Health; Coulter, Alexis N
Subject: RE: Case No. RO0000284, Former Chevron 9-0121; 3026 Lakeshore Ave, Oakland - Data Validation, a Focused Site Conceptual Model, and a Data Gap Work Plan - Extension Request

Nathan,
Please use this email to document a revised delivery date of February 6, 2014 for the report. This is shorter than requested; however, in reviewing the case history extensions have previously been provided from the original date of July 3, 2014.

Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Lee, Nathan [mailto:nlee@craworld.com]
Sent: Thursday, November 20, 2014 2:51 PM
To: Detterman, Mark, Env. Health
Cc: Roe, Dilan, Env. Health; Coulter, Alexis N
Subject: Case No. RO0000284, Former Chevron 9-0121; 3026 Lakeshore Ave, Oakland - Data Validation, a Focused Site Conceptual Model, and a Data Gap Work Plan - Extension Request

Mark and Dilan,

Conestoga-Rovers and Associates (CRA) on behalf of Chevron Environmental Management Company (EMC) would like to request an extension for the request for *Data Validation, a Focused Site Conceptual Model, and a Data Gap Work Plan* which was requested by Alameda County Environmental Health (ACEH) in their letter dated April 4, 2014. As discussed in the meeting with ACEH, and EMC at the ACEH offices on November 20, 2014 we are requesting an extension of **March 27, 2014** for the submittal of the *Data Validation, a Focused Site Conceptual Model, and a Data Gap Work Plan* is requested. The results from the sub-slab, crawl space and ambient air sampling will be submitted in a *Vapor Assessment Report* that will be submitted by December 12, 2014.

Thanks,

Nathan Lee, P.G.
Conestoga-Rovers & Associates (CRA)
2300 Clayton Road, Suite 920
Concord, CA 94520

Phone: 925.849.1003

Fax: 510.420.9170
Cell: 510.385.2499
Email: nlee@CRAworld.com

CRA and GHD have merged! To learn more, visit www.CRAworld.com/ghd

Appendix B

Summary of Environmental Investigation and Remediation

SUMMARY OF ENVIRONMENTAL INVESTIGATION AND REMEDIATION

Former Chevron Service Station 90121

3026 Lakeshore Avenue

Oakland, California

1967 Source Leak

In July 1967, a 2,000-gallon inventory loss was discovered. The steel underground storage tanks (USTs) were removed and replaced with new USTs double wrapped in asphalt. A 32-inch long gash was observed in one of the removed tanks. This information was reported in Pacific Environmental Group, Inc.'s (PEG) October 4, 1993 *Remedial Feasibility Study*.

Prior to 1981 Monitoring Well Installation

Six monitoring wells were installed between late the late 1970's and 1981 and used as recovery wells to recover light non aqueous-phase liquids (LNAPL). Installation dates and well construction logs were unavailable. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1980 Tank Replacement

A tank tightness test indicated that one of the USTs may have had a leak and was subsequently replaced with a fiberglass UST. An undocumented quantity of soil was removed from the site during UST replacement. A plastic impermeable barrier extending to approximately 14 to 16 feet below grade (fbg) was installed along the southwestern property line. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1981 Monitoring Well Installation

Four additional 8-inch diameter monitoring wells were installed in July 1981. In August 1981, a pump test was performed to determine groundwater draw down and production rates. Additional information is available in Groundwater Technology, Inc.'s (GTI) *Considerations on Retrieval of Product from Groundwater.* The report is not dated.

1984 Station Rebuild and UST Abandonment

In 1984, the station was torn down and completely rebuilt. During renovation two USTs, approximately 500 to 1,000 gallons, were discovered beneath the sidewalk. The USTs were abandoned in place by filling them with grout. Approximately 740 cubic yards of soil related to the site redevelopment were over-excavated and disposed of offsite. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1984 Basement Inspections

The building tenants at 3014 Lakeshore Avenue complained of petroleum odors in the building. No odor or sheen was noted in the basement. A letter was sent to the property owner by Chevron stating that Chevron had been monitoring the basement during the two previous years (1982 and 1983) and did not find any evidence of hydrocarbons. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1990 UST Repair

A hole created by repetitive tank volume gauging with a stick was discovered in the unleaded gasoline UST. The hole was repaired and the UST was put back in service. This information was reported in PEG's October 4, 1993 *Remedial Feasibility Study*.

1991 Monitoring Well Destruction

In March 1991 six monitoring wells were destroyed and in April 1991 two monitoring wells were destroyed. Additional information available in GTI's April 25, 1991 *Destruction of Five Groundwater Monitoring Wells and Three Groundwater Extraction Wells*.

1991 Monitoring Well Installation

On August 7 and 13, 1991 monitoring wells MW-1 through MW-4 were installed. Additional information is available in GTI's October 18, 1991 *Well Installation Report*.

1992 Monitoring Well Installation and Destruction

In June 1992, offsite monitoring wells MW-5 through MW-8 were installed and onsite well MW-1 was destroyed. Additional information is available in GTI's July 31, 1992 *Environmental Assessment Report*.

1993 Feasibility Study

In October 1993, PEG completed a remedial feasibility study and recommended natural attenuation as the cleanup method. Additional information is available in PEG's October 4, 1993 *Remedial Feasibility Study*.

1996 Product Piping and Dispenser Replacement

In September 1996, the product piping and dispensers were replaced. Soil samples were collected from beneath the dispensers and product piping at depths ranging from 2 to 3 fbg. Approximately 100 cubic yards of soil was removed and disposed of offsite. Additional information is available in Touchstone Development's November 1, 1996 *Product Piping Removal and Soil Sampling Report*.

1996 Well Destruction

In October 1996 one well was destroyed. Additional information is available in RRM Engineering Contracting Firm's October 2, 1996 *Well 1S/3W25R80 Abandonment Document Letter*.

1999 Well Installation

In April 1999, onsite monitoring well MW-9 was installed, and ¾-inch diameter wells MW-2 through MW-4 were destroyed and replaced with 2-inch diameter wells MW-2A through MW-4A. Additional information is available in Gettler-Ryan's May 26, 1999 *Monitoring Well Destruction and Installation Report*.

2001 Site Conceptual Model

In October 2001, Delta Environmental Consultants, Inc. (Delta) completed a site conceptual model and recommended further offsite, downgradient delineation of dissolved hydrocarbons by installing additional monitoring wells to the southwest. Additional information is available in Delta's October 15, 2001 *Site Conceptual Model*.

2006 Offsite Borings

In August 2006, Cambria Environmental Technology, Inc. (Cambria) supervised the advancement of offsite borings SB-8 and SB-9 as part of the ongoing site assessment. Boring SB-10 was not advanced due to refusal and boring SB-11 was not advanced due to its location on the opposite side of a newly installed culvert. Additional information is available in Cambria's October 20, 2006 *Additional Subsurface Investigation Report*.

2007 Offsite Sump Sampling

In May 2007, CRA collected a single grab-groundwater sample from the sump located downgradient in the Diocese of Oakland office building basement. CRA agreed with ACEH to add sump monitoring to the semi-annual groundwater monitoring and sampling schedule once an access agreement was in place to allow regularly scheduled sump sampling. Additional information is available in CRA's July 12, 2007 *Offsite Sampling Report*.

2010 Station Demolition and Fueling Facilities Removal

On August 10, 2010, CRA observed Musco Excavators, Inc. remove the USTs and associated fuel piping. CRA collected soil samples EX-1 through EX-6 beneath the former USTs at 9.5 fbg, P-1 through P-14 beneath the former product piping at 4 and 6 fbg, and soil stockpile samples SS-1 through SS-3. Groundwater sample GW-1 was collected from the UST excavation. Additional information is available in CRA's September 9, 2010 *Underground Storage Tank Removal and Soil Sampling Report*.

2013 Subsurface Investigation

On November 11 through 13, 2013, CRA observed Vapor Tech Services advanced soil borings B-1 through B-7 onsite and offsite to depths between 11 to 27.5 fbg to assess downgradient delineation of petroleum hydrocarbons. CRA also observed the installation of sub-slab vapor probes SSVP-1 through SSVP-3 in the adjacent property located at 3014 Lakeshore Avenue to assess vapor intrusion risk. CRA sampled indoor, outdoor, and crawl space air, and sub-slab soil vapor at adjacent properties downgradient to the site. Additional information is available in CRA's February 14, 2014 *Subsurface Investigation Report*.

Appendix C

Laboratory Correspondence

Yan, Oliver

From: Natalie Luciano [NatalieLuciano@eurofinsUS.com]
Sent: Friday, March 14, 2014 12:24 PM
To: Yan, Oliver
Subject: RE: Holding Times

Hi Oliver,

My understanding is that the data may be accurate as is; however, the final judgment regarding acceptability of the data will be determined by the regulator receiving the data. Some regulators follow hold times strictly while others are not as strict. This will depend upon who you are reporting to, so I cannot speak to how they will interpret this.

Thank you,
Natalie Luciano
Senior Specialist, Environmental Client Services
Phone: +1 717-556-7258

Note that my email address has changed. It is now natalieluciano@eurofinsus.com. Please update my contact information.

From: Yan, Oliver [mailto:oyan@craworld.com]
Sent: Friday, March 14, 2014 3:15 PM
To: Natalie Luciano
Subject: RE: Holding Times

Thanks Natalie,

So would the data still be "valid/realistic"? I know it has to be noted on the laboratory, but as noted it the last part of the bolded section – "in truth, the analytical result may be perfectly accurate". Please advise.

Thanks,
Oliver Yan
Phone: 510.420.3372
Mobile: 916.919.0467

From: Natalie Luciano [mailto:NatalieLuciano@eurofinsUS.com]
Sent: Friday, March 14, 2014 12:11 PM
To: Yan, Oliver
Subject: Holding Times

Hi Oliver,

I checked on this and obtained the following information from the technical group. This information below is from the EPA: http://www.epa.gov/esd/cmb/tasks/holding.htm.

> Holding times are the length of time a sample can be stored after collection and prior to analysis without significantly affecting the analytical results. Holding times vary with the analyte, sample matrix, and analytical methodology used to quantify the analytes concentration. Maximum holding times (MHTs) have been established by the U.S. Environmental Protection Agency (EPA) and have been presented in the

Code of Federal Regulations (CFR) and SW-846 methods manual. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

While holding times may appear adequate to protect sample integrity and provide sufficient time for laboratory analysis, relevant data is sparse on individually defined holding times and, thus, some of the holding times appear to be arbitrary and/or politically driven. Holding times appear to be arbitrary when a single value is applied over a large general class of compounds (e.g., pesticides or polyaromatic hydrocarbons); when the holding time was originally "established" for aqueous media and then blindly applied to other media (e.g., sediments and tissues); or when a contaminant is known to be chemically highly stable and will still be present in the sample even if the sample is not extracted in the regulatory time frame. For example, if PCBs significantly degraded after 7 days, then there would not be an environmental problem with PCBs today.

Holding times may appear politically driven to speed commercial laboratories in sample analysis and report production. While holding times tend not to be a major concern for large commercial laboratories, they may be especially harmful for non-production-based analytical laboratories, such as EPA Regional laboratories. The primary concern of both government and private laboratories occurs when their sample load is heavy or excessive, instruments break down, or extraction difficulties occur due to matrix complications and the holding times are, thus, exceeded. **If the holding times are exceeded, even if only by 1 day, the data must be flagged and is often declared invalid or are reported as "estimated," and the data are then called into question, especially if the data are to be used in a court of law. Once declared invalid, the time and expense associated with the sample collection and processing is forfeited even though, in truth, the analytical result may be perfectly accurate (i.e., sample integrity is maintained).** The potential for missing holding times often causes a laboratory to charge extraordinary fees to pay for overtime, or in many cases, to simply turn away work for fear of having data rejected should it not meet the arbitrary holding times. From the Agency's point of view, holding times are particularly objectionable when they cause data to be rejected, delay projects, and cost the government money for rework that is unnecessary.

Note that my email address has changed. It is now natalieluciano@eurofinsus.com. Please update my contact information.

Thank you,
Natalie Luciano
Senior Specialist, Environmental Client Services

Eurofins Lancaster Laboratories
Environmtental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7258
Fax: +1 717-656-6766

Website: www.LancasterLabsEnv.com

Click here to report this email as spam.

Lee, Nathan

From: Amek Carter [AmekCarter@EurofinsUS.com]
Sent: Monday, January 26, 2015 9:02 AM
To: Lee, Nathan
Cc: Yan, Oliver
Subject: RE: Site 90121 - Quality Assurance and Quality Control Questions for the soil samples

Nate,

Regarding the comments on the report:

Due to the presence of fuel in the sample extract, capric acid recovery cannot be determined. - **The fuel in the samples interferes with the capric acid; therefore, an accurate recovery of capric acid cannot be determined, the reported TPH-DRO data is valid.**

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials - **The sample surrogate was outside method limits low at 46% (51%-127% window). The samples were re-extracted 10 days outside method holding time with the sample surrogate recovery at 83%. Both trials were non detect for target range, the reported TPH-MO data is valid.**

Reporting limits were raised due to sample foaming. - **Detection limits were raised, the reported TPH-GRO data is valid.**

Thanks,
Amek Carter
Eurofins Lancaster Labs Env., LLC

From: Lee, Nathan [mailto:nlee@craworld.com]
Sent: Saturday, January 24, 2015 5:32 PM
To: Amek Carter
Cc: Yan, Oliver
Subject: Site 90121 - Quality Assurance and Quality Control Questions for the soil samples

Amek,

The Regulatory Agency is questioning the validity of some of the soil samples analyzed in the laboratory report attached. Could you please provide me with an explanation as to the cause and/or reason for why the soil sample was outside the quality control parameters or why the capric acid recovery could not be determined. I also need to know if the soil samples are still valid. If I could please have this by the end of the day on Monday that would be appreciated as the Agency wants this information sooner rather than later.

Thank you very much,

Nathan Lee, P.G.
Conestoga-Rovers & Associates (CRA)
2300 Clayton Road, Suite 920
Concord, CA 94520

Phone: 925.849.1003
Fax: 510.420.9170
Cell: 510.385.2499

Email: nlee@CRAworld.com

CRA and GHD have merged! To learn more, visit www.CRAworld.com/ghd

Appendix D

Sampling Data Sheets

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: CS-1

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Avenue Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 3.52 mL/min Summa Canister ID: 34269 ✓

Summa Canister Size: 6L Analysis: TPH$_g$/BTEX/MTBE/NAPH (SEE COC)

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
0932	-30	0838	-7	23hr 6min

Notes: no TO-17 sample; place toward the center of the crawl space.

Sample collected @ 3014 Lakeshore Ave, Oakland.

Soil Vapor Sampling Point ID: CS-2

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Avenue Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 3.54 mL/min Summa Canister ID: 34760 ✓

Summa Canister Size: 6L Analysis: see COC

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
0945	-30	0847	-7	23hr 2 min

Notes: Crawl space @ 3008 Lakeshore Ave → Saidan's.

~7 ft into crawl space. NO TO-17 sample collected.

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: IA-1

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

→ 3014 Lakeshore

Sample Collection

Flow Control Setting: 3.46 mL/min Summa Canister ID: 35149 ✓

Summa Canister Size: 6L Analysis: see COC

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
10:32	-28	0829	-4	21hrs 57 min

Notes: SHUT IN TEST @ 10.20 set alicat ~ 10 sccm

start @ 10:32 stopped @ 09:38

minutes run → 1384

#G0137611

initial temp: 60° final temp: 62°

initial humidity: 74 final humidity: 76

initial reading → -7.23 final reading -7.12

Soil Vapor Sampling Point ID: IA-2

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

→ 3014 Lakeshore

Sample Collection

Flow Control Setting: 3.46 mL/min Summa Canister ID: 33776 ✓

Summa Canister Size: 6L Analysis: see COC

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
12:20	-30	12:19	-5	23hrs 59 min

Notes: pump reading set @ 10 sccm

start @ 12:20 stopped @ 12:19

minutes run → 1445

initial temp: 65 initial humidity: 78

final temp: 63 final humidity: 77

initial reading: -5.06 final reading: -4.92

#G0135654

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: IA-3

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection → 3014 Lakeshore

Flow Control Setting: 3.45 mL/min Summa Canister ID: 5592 ✓

Summa Canister Size: 6L Analysis: SEE COC.

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
11:04	-29	11 04	-6.5	24 hrs.

Notes: initial reading set to 10sccm #GO143773

Start @ 11:04 stopped @ 1104

initial T°F = 63° initial humidity = 76

final T° = 62° final humidity = 77

minutes run → 1440

initial reading → -3.96 final reading → -4.59

Soil Vapor Sampling Point ID: IA-4

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

→ 3014 Lakeshore

Sample Collection

Flow Control Setting: 3.51 mL/min Summa Canister ID: 13844 ✓

Summa Canister Size: 6L Analysis: SEE COC

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
13:30	-30	13:28	-6	23 hrs 58 mins.

Notes: air pump set @ 10sccm ; mass flow controller set to 10sccm #GO143726

final temp → 62°

final humidity → 80

start @ 13:30 completed @ 13:36

-4.75 -4.62

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: IA-5

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: NLEE

Purge Volume

Calculated Purge Volume: ~~_____~~

Time	Flow Rate	Volume	Comments

→ 3011 Lakeshore

Sample Collection

Flow Control Setting: 3.51 mL/min Summa Canister ID: 33921 ✓

Summa Canister Size: 6L Analysis: SEE COC.

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
12:05	-30	12:05	-7	24 hrs

Notes: NO TO-17 sampling → since CS-1 was not sample

Soil Vapor Sampling Point ID: IA-6

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

→ 3008 Lakeshore

Purge Volume

Calculated Purge Volume: ~~_____~~

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 3.56mL/min Summa Canister ID: 30849 ✓

Summa Canister Size: 6L Analysis: SEE COC

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
11:45	-30	09:45	-8	22:00 hrs.

Notes: NO TO-17 sampling → no paper source.

Mr. Nissan Saidan had to leave early Friday for a meeting → had to pick up sample sooner.

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: OA-1

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume → 3014 Lakeshore

Calculated Purge Volume:

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 3.56 mL/min Summa Canister ID: 12676 ✓

Summa Canister Size: 6L Analysis: SEE COC

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
1351	-30	-3.5	1350	23hrs 59min

Notes: air pump set @ 10 sccm start @ 13:51 stopped @ 13:54

initial T° = 60° humidity → 75

final T° = 62° -2.34 -2.04 # G0139414 ✓

Soil Vapor Sampling Point ID: OA-1 DUP

Project Name: Chevron 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume:

Time	Flow Rate	Volume	Comments

Sample Collection → 3014 Lakeshore

Flow Control Setting: 3.46 mL/min. Summa Canister ID: 5766 ✓

Summa Canister Size: 6L Analysis: SEE COC

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
13:51	-30	13:50	-26	23:59

Notes: Duplicate sample for OA-1; issue w/ gauge.

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: OA-2

Project Name: Chevro 90121 Date: 11/14/13

Project No: 311973 Sampler: O. YAN

Site Address: 3026 Lakeshore Ave Project Mgr: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

→ 3008 Lakeshore Ave

Sample Collection

Flow Control Setting: 3.49 mL/min Summa Canister ID: 33890 ✓

Summa Canister Size: 6L Analysis: SEE COC

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time
1155	-30	1150	-7	23 hrs 55 min

Notes: outside towards the fence area ; no TO-17 sampling

Soil Vapor Sampling Point ID: _____

Project Name: _____ Date: _____

Project No: _____ Sampler: _____

Site Address: _____ Project Mgr: _____

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: _____ Summa Canister ID: _____

Summa Canister Size: _____ Analysis: _____

Time – Begin Sampling	Canister Vacuum	Time – End Sampling	Canister Vacuum	Sampling Time

Notes:

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: SSVP-1

Project Name: Chevron 90121 Date: 11/15/13

Project No: 311973 Sampler: B. YIFRU

Site Address: 3026 Lakeshore Ave PM: N. LEE

Purge Volume

Calculated Purge Volume:

Time	Flow Rate	Volume	Comments
	200 mL/MIN		

9:12

27.75

Sample Collection

Flow Control Setting: Summa Canister ID: 35557

Summa Canister Size: Analysis:

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
10 15	-30	1020	-5	5 MIN

Notes: TEMP 60°C HUMIDITY 80%

HELIUM CONC. MIN. 35 MAX. 55

TO-17

GO147712 10:41

Soil Vapor Sampling Point ID: SSVP-3

Project Name: Chevron 90121 Date: 11/15/13

Project No: 311973 Sampler: B. YIFRU

Site Address: 3026 Lakeshore Ave PM: N. LEE

Purge Volume

Calculated Purge Volume:

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: Summa Canister ID:

Summa Canister Size: Analysis:

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
11:20	-29	11:27	-5	

Notes: TEMP 62 HUMIDITY 78%

HELIUM MIN 35% MAX 57%

TO-17 11:45

GO145537

11:05

22.25

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: SSVP-2

Project Name: Chevron 90121 Date: 11/15/13

Project No: 311973 Sampler: B. YIFRU

Site Address: 3026 Lakeshore Ave PM: N. LEE

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 167 ml/min Summa Canister ID: 9503

Summa Canister Size: 1L Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
13:14	-29	13:19	~~13:10~~ -5	

Notes: TEMP 62°F HUMIDITY 80%

HELIUM MIN 40% MAX 62%.

GO143682
TO17
13:50

Soil Vapor Sampling Point ID: TRIP BLANK

Project Name: _____ Date: _____

Project No: _____ Sampler: _____

Site Address: _____ PM: _____

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: _____ Summa Canister ID: 2092

Summa Canister Size: _____ Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time

Notes:

Appendix E

Boring Logs

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-1
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	11-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	11-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	12.00 fbg (11-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on northeast corner of the site		

PID (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (fbg)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					FILL: Gray brown; dry; cobbles, pea gravel, fine sand, clay; low plasticity.	3.0	
0.0		B-1 @ 3	5	CL	**CLAY:** Brown; dry; low plasticity; trace fine sand. @ 5 fbg: Grayish brown.	6.0	
0.0		B-1 @ 6		ML	**Gravelly SILT:** Dark brown; dry; small gravel; low plasticity. @ 7.5 fbg: Small to medium angular gravel	8.0	Portland Type I/II
				CL	**CLAY:** Dark brown; moist; medium plasticity; trace fine gravel.	9.0	
0.0		B-1 @ 9					
43.6		B-1 @ 9.5	10	CL	**CLAY with gravel:** Dark brown; moist; shell fragments; medium plasticity. @ 9.5 fbg: Greenish gray.	10.0	
					SILT with sand: Greenish gray; moist; fine sand; medium plasticity.		
0.0		B-1 @ 12.5		ML	@ 12.5 fbg: Wet.		
					@ 14 fbg: Greenish gray/brown, mottled.		
0.0		B-1 @ 15	15			15.0	Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973-\13167A9-1311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-2
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	11-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	11-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	9.00 fbg (11-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on southwest corner of site		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							FILL: Gray; dry; fine to medium sand, fine to coarse gravel up to 2-3 inches, angular to subangular; concrete debris.	2.5	
0.0		B-2 @ 3			CL		**CLAY:** Dark brown; dry; mottled; low to medium plasticity; trace sand.	5.0	
				5					
0.0		B-2 @ 6			ML		**SILT:** Yellowish/greenish brown; dry; low plasticity; trace fine sand.	7.0	Portland Type I/II
0.4							**CLAY:** Dark brownish gray; moist; medium to high plasticity.		
0.1		B-2 @ 9			CL		@ 9 fbg: Wet.	10.5	
				10					
							CLAY with sand: Dark brownish gray; wet; fine sand; shell fragments; low to medium plasticity.		
0.1		B-2 @ 13			CL			13.0	Bottom of Boring @ 13 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973~1\3167A9~1\311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-3
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	11-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	11-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	8.00 fbg (11-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on the southwest boundary of site		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							FILL: Moderate brown; dry; fine to medium sand, fine to coarse gravel.	2.0	
0.0		B-3 @ 3			ML		**SILT with sand:** Moderate brown; dry; fine sand; low plasticity.	4.0	
422.7		B-3 @ 5		5	ML		**Sandy SILT with gravel:** Moderate brown; dry; low plasticity; fine gravel.	6.5	Portland Type I/II
0.5		B-3 @ 7.5					**CLAY:** Dark brownish gray; moist; medium to high plasticity. ▽ @ 8 fbg: Wet.		
0.7		B-3 @ 9			CL				
				10					
0.6		B-3 @ 11						11.0	Bottom of Boring @ 11 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973~1\3167A9~1\311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-4
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	13-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	26.50 fbg (13-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on parking lot at 3008 Lakeshore Avenue		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Asphalt	0.5	Concrete Cap
0.0		B-4 @ 3					**FILL:** Dark brown, grayish brown; dry; sandy silt, fine to medium sand, gravels up to 2-inches, angular; very compact.		
0.1		B-4 @ 6		5					
								8.0	
0.0		B-4 @ 9		10			**CLAY:** Brown; dry; fine sand; low plasticity.		
							@ 11 fbg: Grayish brown.		
							@ 12 fbg: Moist; medium to high plasticity.		
							@ 13 fbg: Shell fragments.		Portland Type I/II
0.0		B-4 @ 15		15	CL		@ 15 fbg: Low to medium plasticity.		
							@ 18 fbg: Light brown with black mottling.		
				20					

Continued Next Page

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-4
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	13-Nov-13

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		B-4 @ 20					**CLAY:** Light brown with black mottling; moist; low to medium plasticity; fine sand, shell fragments. @ 20.5 fbg: Fine sand; fine gravel. @ 23.5 fbg: Dry.		
0.0		B-4 @ 25		25					
					ML		**SILT with sand and gravel:** Light brown; wet; fine sand; fine gravel; low plasticity. ▽	26.0	
0.0		B-4 @ 27.5			CL		**CLAY:** Light brown; moist; low to medium plasticity.	27.5 28.0	Bottom of Boring @ 27.5 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973~1\3167A9~1\311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-5
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	13-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	22.00 fbg (13-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on parking lot at 3008 Lakeshore Avenue		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							Asphalt	0.5	Concrete Cap
							FILL: Dark brown/grayish brown; dry; fine to medium sand; fine to coarse gravel, subangular.		
0.3		B-5 @ 3							
				5					
0.7		B-5 @ 6						7.0	
							Sandy CLAY with gravel: Light grayish brown; dry; fine sand, fine gravel; low plasticity.		
							@ 8.5 fbg: Medium to high plasticity.		
0.5		B-5 @ 9			CL				
				10					
								12.0	Portland Type I/II
					CL		**CLAY with sand:** Light gray; moist; coarse sand; low plasticity.		
				15				15.0	
					CL		**CLAY with gravel:** Light gray; dry; shell fragments; low plasticity.		
								17.0	
					CL		**CLAY:** Gray; dry; low plasticity.		
				20					

Continued Next Page

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-5
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	13-Nov-13

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CLAY: Gray; dry; low plasticity. @ 21 fbg: Shell fragments.		
					ML		**Sandy SILT:** Brown; wet; low plasticity; fine to medium sand, coarse gravel, shell fragments. ▽	21.5	
0.3		B-5 @ 24			CL		**CLAY:** Gray; moist; low plasticity	23.5 24.0	Bottom of Boring @ 24 fbg

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-6
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	12-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	11.00 fbg (12-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on parking lane of Beacon Street		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
							Asphalt	0.3
							FILL: Roadbase fill; grayish brown; dry; coarse gravel, angular.	1.0
							CLAY: Grayish brown; dry; low to medium plasticity; fine sand.	
0.0		B-6 @ 3			CL			
				5				5.0
					ML		**Sandy SILT:** Moderate brown; moist; fine to medium sand; low plasticity.	6.0
0.0		B-6 @ 6					**CLAY:** Greenish brown; moist; medium plasticity.	
0.0		B-6 @ 9		10	CL		@ 11 fbg: Wet.	
								13.5
					ML		**Sandy SILT:** Greenish brown; wet; fine sand; low plasticity.	
0.0		B-6 @ 15		15				15.0

WELL DIAGRAM: Asphalt/Road base; Portland Type I/II; Bottom of Boring @ 15 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973-~1\13167A9-~1311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron EMC	**BORING/WELL NAME**	B-7
JOB/SITE NAME	90121 Oakland	**DRILLING STARTED**	12-Nov-13
LOCATION	3026 Lakeshore Avenue, Oakland, CA	**DRILLING COMPLETED**	12-Nov-13
PROJECT NUMBER	311973	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Servies C-57, #916085	**GROUND SURFACE ELEVATION**	NA
DRILLING METHOD	Hand Auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	3-inch	**SCREENED INTERVALS**	NA
LOGGED BY	O. Yan	**DEPTH TO WATER (First Encountered)**	6.00 fbg (12-Nov-13)
REVIEWED BY	N. Lee PG# 8486	**DEPTH TO WATER (Static)**	NA
REMARKS	Located on parking lane of Beacon Street		

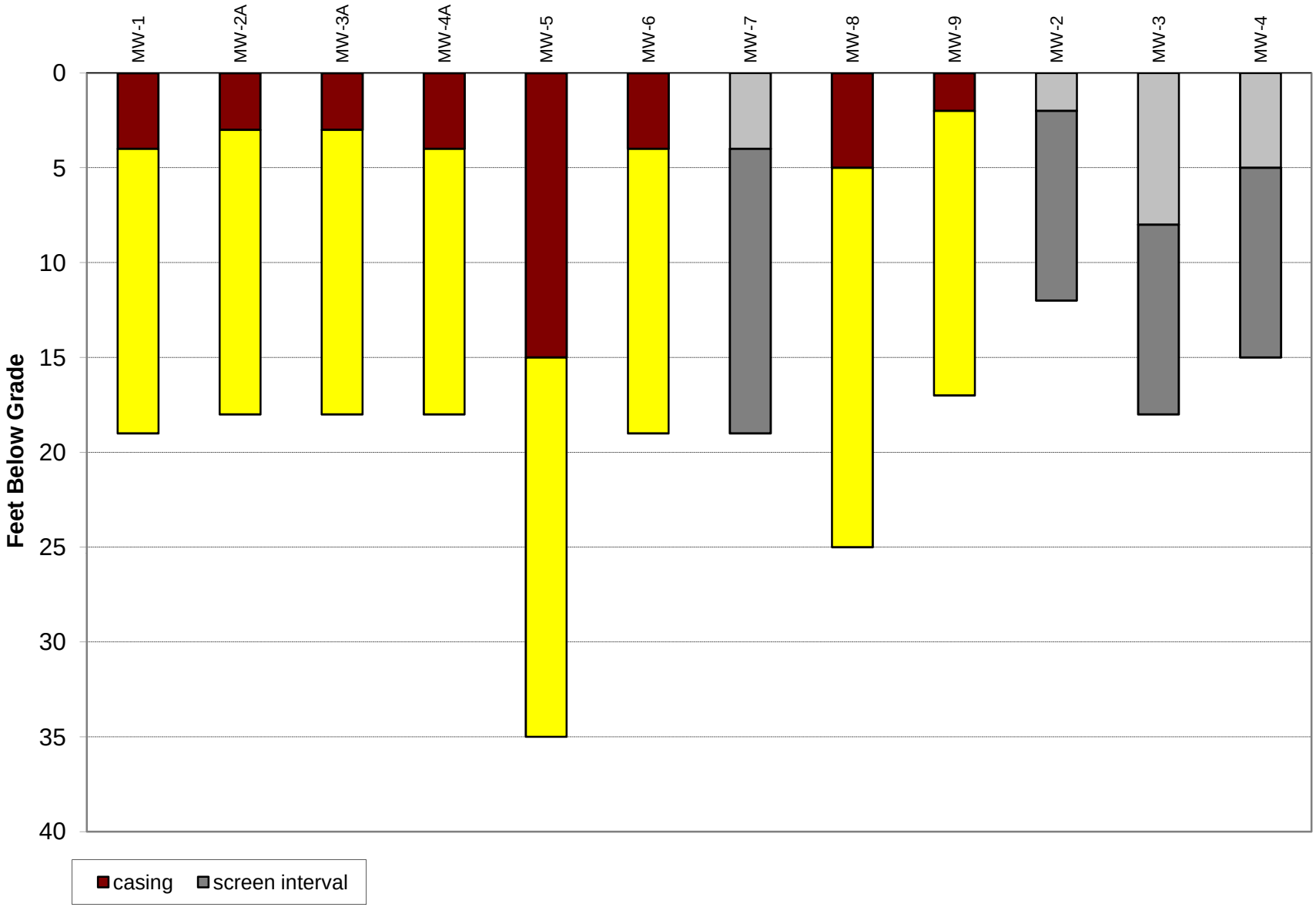
PID (ppm)	SAMPLE ID	DEPTH (fbg)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)
				Asphalt	0.3
				FILL: Roadbase; gray; dry; gravel up to 1.5-inches diameter.	1.0
				CLAY: Dark brown; dry; low plasticity; fine sand.	
			CL		
28.2	B-7 @ 3				3.5
				Sandy CLAY: Dark brown; moist; fine sand; fine gravel; low to medium plasticity.	
		5			
			CL		
94.5	B-7 @ 6			@ 6 fbg: Dark brownish gray; wet; fine to medium sand; LNAPL observed.	
103.5					
39.8	B-7 @ 6.75				
7.3	B-7 @ 7.5				8.0
				CLAY: Dark brownish gray; wet; low to medium plasticity.	
			CL		
		10			
12.8	B-7 @ 10				11.0

WELL DIAGRAM: Asphalt/Roadbase; Portland Type I/II; Bottom of Boring @ 11 fbg

WELL LOG (PID) I:\CHEVRON\3119--\311973~1\3167A9~1\311973-BORING LOGS.GPJ DEFAULT.GDT 3/14/14

Appendix F

Well Construction Details


MW-1
MW-2A
MW-3A
MW-4A
MW-5
MW-6
MW-7
MW-8
MW-9
MW-2
MW-3
MW-4
Feet Below Grade
0
5
10
15
20
25
30
35
40
casing
screen interval

Appendix G

Standard Field Procedures

STANDARD FIELD PROCEDURES FOR SOIL BORING AND MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the ASTM D2488-06 Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

Soil Boring and Sampling

Prior to drilling, the first 8 feet of the boring are cleared using an air or water knife and vacuum extraction or hand auger. This minimizes the potential for impacting utilities. Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I, II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.