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TRANSMITTAL

DATE: 9-30-10

REFERENCE NO.: 631916

PROJECT NAME: Park Street Landing (former Chevron 20-6127)

TO: Mr. Jerry Wickham
 Alameda County Environmental Health
 1131 Harbor Bay Parkway, Suite 250
 Alameda, California 94502--6577

RECEIVED
 4:17 pm, Oct 01, 2010
 Alameda County
 Environmental Health

Please find enclosed: Draft Final
 Originals Other
 Prints

Sent via: Mail Same Day Courier
 Overnight Courier Other Electronic Upload

QUANTITY	DESCRIPTION
1	Well Installation Report

As Requested For Review and Comment
 For Your Use

COMMENTS:

We appreciate the opportunity to work with you on this project. Please contact Mr. Brian Silva at (916) 889-8908 if you have any questions or require additional information.

Copy to: Mr. Mike Bauer (*electronic*)
 Ms. Julie Beck Ball
 Mr. Peter Reinhold Beck
 Mr. Monroe Wingate
 Mr. Tom Foley

Completed by: B. Silva
 [Please Print]

Signed:

Filing: Correspondence File



Mike Bauer
Project Manager
Marketing Business Unit

**Chevron Environmental
Management Company**
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September 29, 2010

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Former Signal Oil Marine Storage and Distribution Facility
(Former Chevron Bulk Plant 20-6127)
2301-2311 Blanding Avenue
Alameda, California
LOP Case RO0002466

Dear Mr. Wickham:

The purpose of this letter is to verify that as a representative for Chevron Environmental Management Company (Chevron), I reviewed, and concur with, the comments in the *Well Installation Report* for the referenced facility, prepared on behalf of Chevron by Conestoga-Rovers & Associates. I declare under penalty of perjury that the foregoing is true and correct.

Please feel free to contact me at (714) 671-3207 if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Mike Bauer".

Mike Bauer
Project Manager



WELL INSTALLATION REPORT

**FORMER SIGNAL OIL MARINE STORAGE
AND DISTRIBUTION FACILITY
(CHEVRON FACILITY 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA**

Prepared For:

**Mr. Jerry Wickham
Alameda County Health Care Services Agency
Environmental Health Services**

**SEPTEMBER 29, 2010
REF. NO. 631916 (14)**

**Prepared by:
Conestoga-Rovers
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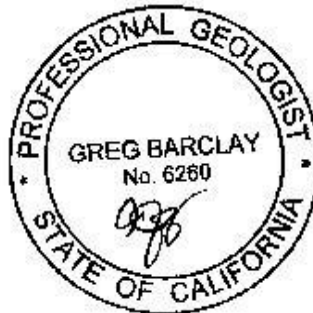


WELL INSTALLATION REPORT

FORMER SIGNAL OIL MARINE STORAGE
AND DISTRIBUTION FACILITY
(CHEVRON FACILITY 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA



Brian Silva

Greg Barclay, PG 6260

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SEPTEMBER 29, 2010
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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SITE BACKGROUND	1
2.1 SITE DESCRIPTION	1
2.2 SITE GEOLOGY AND HYDROGEOLOGY	2
2.3 PREVIOUS ENVIRONMENTAL WORK.....	2
3.0 WELL INSTALLATION ACTIVITIES	3
3.1 SITE HEALTH AND SAFETY PLAN.....	3
3.2 PERMITS AND UNDERGROUND UTILITY LOCATION.....	3
3.3 WELL INSTALLATION	3
3.4 WELL DEVELOPMENT AND SURVEYING.....	4
3.5 SOIL SAMPLING AND LABORATORY ANALYSIS.....	5
3.6 SOILS ENCOUNTERED.....	5
3.7 INVESTIGATION-DERIVED WASTE	5
4.0 ANALYTICAL RESULTS	5
4.1 SOIL ANALYTICAL RESULTS.....	6
5.0 CONCLUSIONS AND RECOMMENDATIONS	6

LIST OF FIGURES
(Following Text)

FIGURE 1 VICINITY MAP

FIGURE 2 SITE PLAN

LIST OF TABLES
(Following Text)

TABLE 1 WELL CONSTRUCTION SPECIFICATIONS

TABLE 2 SOIL ANALYTICAL RESULTS

LIST OF APPENDICES

APPENDIX A REGULATORY CORRESPONDENCE

APPENDIX B SUMMARY OF PREVIOUS ENVIRONMENTAL WORK

APPENDIX C WELL PERMITS

APPENDIX D BORING/WELL CONSTRUCTION LOGS

APPENDIX E STANDARD FIELD PROCEDURES

APPENDIX F LABORATORY ANALYTICAL REPORT

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Well Installation Report* on behalf of Chevron Environmental Management Company (Chevron) for the former Signal Oil Marine Storage and Distribution facility (Chevron facility 20-6127) located at 2301-2311 Blanding Avenue, in Alameda, California. The purpose of the work was to further evaluate shallow groundwater quality near Alameda Canal. The work was performed in accordance with CRA's *Work Plan for Further Groundwater Assessment*, dated May 11, 2010, and Alameda County Health Care Services Agency, Environmental Health Services (ACEH) letter dated May 27, 2010 (Appendix A).

This report includes a summary of the work completed, well construction details, laboratory results of soil analyses, and a summary of the site background, previous environmental work, and conclusions and recommendations. Initial monitoring and sampling of the newly installed wells and ongoing monitoring and sampling of wells MW-2 through MW-5 will be performed during the fourth quarter of this year and summarized in the associated fourth quarter 2010 groundwater monitoring report.

2.0 SITE BACKGROUND

The following sections provide a description of the site and a summary of the geologic and hydrogeologic setting at the site.

2.1 SITE DESCRIPTION

The approximately 3.5-acre site is located on the northeast side of Blanding Avenue between Oak and Park Streets in Alameda, California (Figure 1). Land use in the site vicinity is primarily commercial and industrial. The Alameda Canal and a marina are located adjacent to the north-northeast side of the site. The site is currently occupied by three large commercial buildings which are used as an office and retail center identified as Park Street Landing at 2307-2337 Blanding Avenue.

A Sanborn map dated 1897 showed the site as occupied by several residential structures and outbuildings; the southeast portion of the site was shown as occupied by a laundry facility and a blacksmith. From at least 1930 until approximately 1961, the northwestern portion of the site was occupied by a petroleum bulk plant operated by Signal Oil & Gas Company. Former bulk plant facilities consisted of one large and seven smaller gasoline aboveground storage tanks (ASTs) within concrete secondary containment,

underground piping, an office building, a loading rack, and a small structure containing gasoline pumps (Figure 2). On Sanborn maps dated between 1932 and 1950, the northeast portion of the facility was shown as occupied by a structure identified as an auto garage and also used for paint storage. A rail spur was shown to service the facilities on Blanding Avenue. The central portion of the site was occupied by two structures identified as wholesale tires and a can warehouse. An additional larger structure on the central portion of the site that was identified as vacant on the 1948 Sanborn map and as a ladder factory on the 1950 Sanborn map. Several structures appeared present in the southeast portion of the site in the 1939 aerial photograph. However, only one or two small sheds were shown in this area on the 1948 and 1950 Sanborn maps. In the 1958 aerial photograph, the ladder factory structure no longer appeared present and the southeast portion of the site appeared vacant and used for parking. Between 1957 and 1963, the buildings at the site were reportedly removed; it is assumed that the ASTs and piping were also removed at this time. In the 1965 aerial photograph, all the bulk plant facilities appear to have been removed and the majority of the site appears occupied by a construction materials yard with several small structures. Several additional structures also appear present in the southeast portion of the site. From 1973 to 1983, the northwestern portion of the site reportedly was used as a construction yard and for boat repair activities; and the southeastern portion was occupied by a restaurant, paved parking area, and a possible automobile sales lot. In 1987, the site was redeveloped with the current configuration.

2.2 SITE GEOLOGY AND HYDROGEOLOGY

Based on past investigation, soils encountered beneath the site generally consist of silty sand and clayey sand from just beneath grade to approximately 5 to 9 feet below grade (fbg). Fill consisting of black sand and debris, including concrete fragments, has been reported in several borings at shallow depths. A 4 to 5 foot-thick layer of clay with some sand underlies the silty sand and clayey sand. Below the clay is silty sand and sandy silt to the maximum depth of explored of approximately 20.5 fbg. Groundwater is typically encountered in site borings at approximately 14.5 to 15 fbg within the silty sand and sandy silt and subsequently rises in the borings/wells to approximately 7 fbg to 10 fbg.

2.3 PREVIOUS ENVIRONMENTAL WORK

Previously, five groundwater monitoring wells, six soil vapor wells, and seven sub-slab soil vapor wells had been installed at the site. Additionally, twenty eight soil borings have been advanced and three surface soil samples have been collected at the site.

Quarterly monitoring and sampling of site wells initiated in 2001 is ongoing. A summary of previous environmental work performed at the site is presented in Appendix B.

3.0 WELL INSTALLATION ACTIVITIES

To further evaluate shallow groundwater quality near Alameda Canal, CRA oversaw the replacement of well MW-1 with a more discretely screened well (MW-1RB), the installation of one shallower well (MW-1RA) adjacent to well MW-1RB, and installation of a well (MW-6) downgradient of existing well MW-5. Monitoring well locations are shown on Figure 2.

3.1 SITE HEALTH AND SAFETY PLAN

CRA created a comprehensive site health and safety plan to protect site workers. The plan was reviewed and signed by all site workers and visitors and kept onsite at all times.

3.2 PERMITS AND UNDERGROUND UTILITY LOCATION

CRA conducted work under Alameda County Public Works Agency well permits W2010-0544 through W2010-0546 for wells MW-1RA, MW-1RB, and MW-6. Copies of the permits are included in Appendix C.

Prior to drilling, CRA contacted Underground Service Alert to notify utility providers of the proposed work and to identify the locations of subsurface utilities. On July 21, 2010 a private utility locator, NorCal Geophysical of Cotati, California, surveyed the site to confirm that the boring locations were free of unknown underground utilities. Additionally, each boring location was cleared to approximately 8 fbg using air-knifing equipment and/or a hand auger.

3.3 WELL INSTALLATION

On August 2 through 4, 2010, CRA oversaw the drilling of well borings MW-1RA, MW-1RB, and MW-6 to a total depth of 20 fbg (Figure 2). Former well MW-1 was over-drilled and re-installed as MW-1RB. Wells MW-1RB and MW-6 were screened

from 16.5 to 20 fbg, and well MW-1RA was screened from 8 to 13 fbg. Penecore Drilling of Woodland, California (C57 License 906689) performed the drilling and well installation activities. Since the first 8 feet of soils were air-knifed and/or hand-augered, the soil cuttings from the borings were logged. Below 8 fbg, the borings were advanced using a direct-push Geoprobe 7822DT Track combination rig and continuously logged in accordance with the Unified Soil Classification System (USCS). Soil samples were screened in the field for the presence of volatile organic vapors using a photo-ionization detector (PID).

A 2-inch schedule 40 polyvinyl chloride (PVC) casing with 0.020-inch machine-slotted screen was installed in MW-1RB and MW-6 from 16.5 to 20 fbg. MW-1RA was backfilled from 13 to 20 fbg with neat cement and a 2-inch schedule 40 PVC casing with 0.020-inch machine-slotted screen was installed from 8 to 13 fbg. A filter pack consisting of 2/12 sand extends from the bottom of the boring to 1 foot above the well screen interval. A 3-foot thick bentonite seal was placed above the filter pack. Neat cement was placed above the bentonite seal to the surface. Each wellhead was sealed with a locking cap and contained in a traffic-rated, water-tight well box. Boring logs and well construction details for MW-1RA, MW-1RB, and MW-6 are included in Appendix D. Well construction details are summarized in Table 1. CRA's standard operating procedures are presented in Appendix E.

3.4 WELL DEVELOPMENT AND SURVEYING

CRA has scheduled the development of the newly installed wells with Gettler-Ryan of Dublin, California, to be performed prior to the fourth quarter 2010 groundwater monitoring and sampling event. Well development activities will be summarized and included in the fourth quarter 2010 groundwater monitoring and sampling report.

On August 17, 2010, Morrow Surveying of West Sacramento, California (a California state-licensed surveyor) surveyed wells MW-1RA, MW-1RB, and MW-6. The top of casing elevation of each well was surveyed to mean sea level datum. Horizontal well coordinates were measured in compliance with AB2886 (GeoTracker), and uploaded into the GeoTracker Internet database.

3.5 SOIL SAMPLING AND LABORATORY ANALYSIS

Soil samples for laboratory analysis were collected at depths ranging from 10 fbg (MW-1RA) to 15 fbg (MW-6). All soil samples were collected in an acetate liner using

the direct-push equipment. All samples were capped using Teflon tape and plastic end caps, labeled, placed in an ice-chilled cooler, and transported under chain of custody to Lancaster Laboratories, Inc. in Lancaster, Pennsylvania for the following analyses:

- Total petroleum hydrocarbons as diesel (TPHd) with silica gel cleanup by EPA Method 8015B.
- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015B modified.
- Benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8260B.

3.6 SOILS ENCOUNTERED

Soils encountered beneath the site during this investigation are generally consistent with soils encountered during previous investigations at the site. Beneath the fill, approximately 7 feet of sandy silt with clay is encountered. Underlying the silt is wet silty sand, encountered at depths of approximately 14 fbg in the borings MW-1RA and MW-6 to the total depth explored of 20 feet (Appendix D).

3.7 INVESTIGATION-DERIVED WASTE

Soil cuttings and decontamination/purge water were temporarily stored onsite in 55 gallon steel drums pending transport and disposal at a Chevron approved facility.

4.0 ANALYTICAL RESULTS

The following sections summarize the soil results obtained during this investigation. Initial groundwater analytical results from wells MW-1RA, MW-1RB, and MW-6 will be presented in the fourth quarter 2010 groundwater monitoring report. Laboratory analytical reports are included in Appendix F.

4.1 SOIL ANALYTICAL RESULTS

A total of three soil samples were collected for laboratory analysis from the borings for wells MW-1RA and MW-6. Analytical results for TPHd, TPHg, benzene, and MTBE are summarized below. Soil analytical data, including historical data, are summarized in Table 2.

Total Petroleum Hydrocarbons as Diesel

- TPHd was not detected or was below the environmental screening level (ESL) of 180 milligrams per kilogram (mg/kg) for soil samples from MW-1RA at 13.5 fbg and MW-6 at 15 fbg.
- TPHd was detected above the ESL in the soil sample from MW-1RA at 10 fbg at 260 mg/kg.

Total Petroleum Hydrocarbons as Gasoline

- TPHg was not detected in the sample collected from MW-6.
- TPHg was detected above the ESL in the soil samples collected from MW-1RA at concentrations of 380 mg/kg at 10 fbg and 490 mg/kg at 13.5 fbg.

Benzene

- Benzene was only detected above the ESL (0.27 mg/kg) in the soil sample collected from MW-1RA at 10 fbg at a concentration of 0.54 mg/kg.

Methyl Butyl Tertiary Ether

- Consistent with historical data, MTBE was not detected in any of the soil samples.

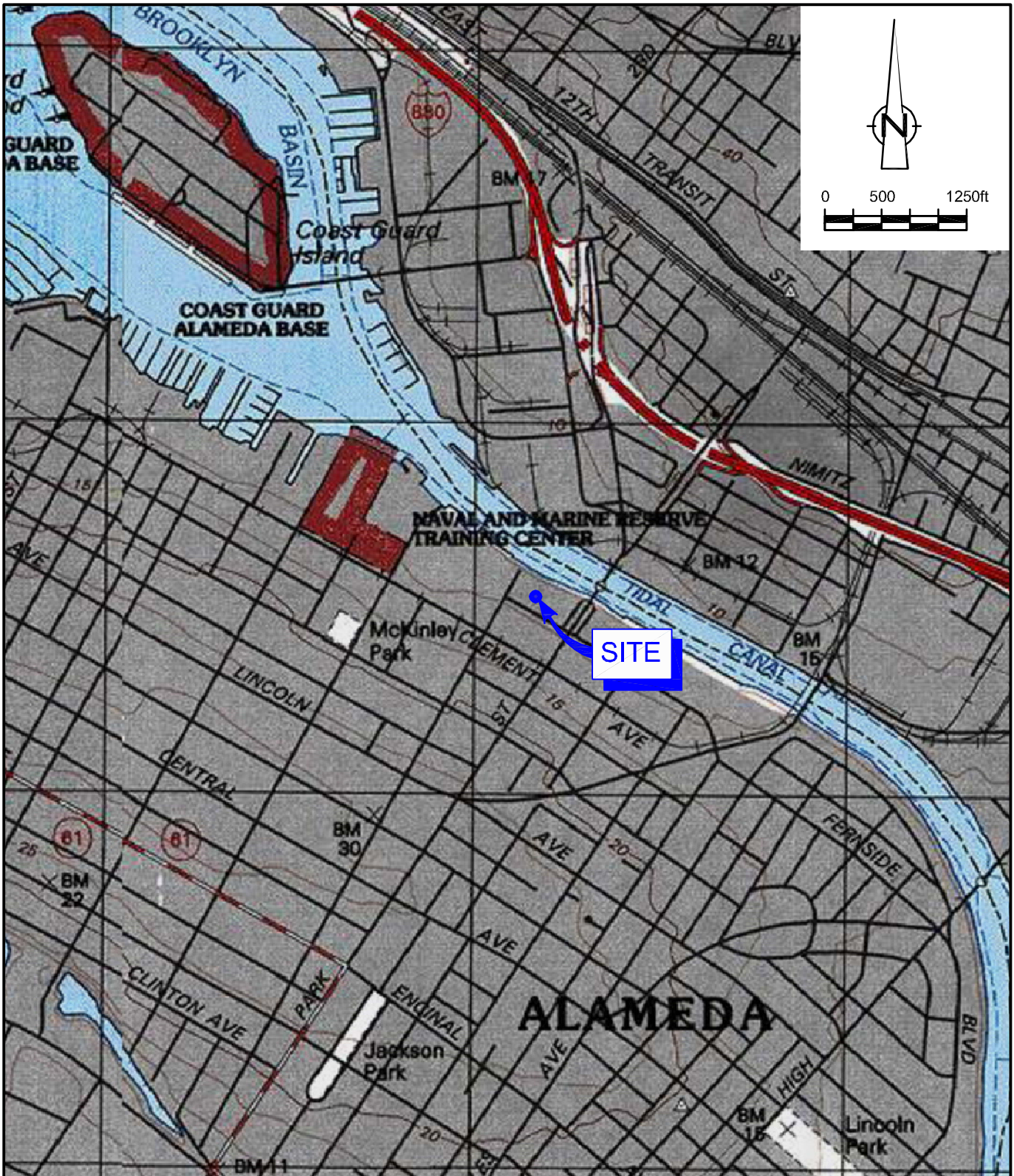
5.0 CONCLUSIONS AND RECOMMENDATIONS

Results of the laboratory analyses of soil samples collected during this investigation are generally consistent with past site soil analytical data. Currently known site historical information indicates that the bulk plant operations ceased in approximately 1961, almost 50 years ago. Relatively low concentrations of residual petroleum hydrocarbons (TPHd and TPHg) with trace concentrations of BTEX are consistent with an old release that is degrading over time. A general decline in hydrocarbon concentrations in soil with depth also suggests that the residual hydrocarbon mass remaining in soil is limited vertically.

In relation to groundwater quality, the newly installed wells have been added to the existing monitoring and sampling schedule for the site. Initial groundwater monitoring and sampling of wells MW-1RA, MW-1RB, and MW-6 and continued monitoring and sampling of existing wells will be conducted during the fourth quarter 2010. A groundwater elevation contour map and the groundwater analytical results will be included in the associated quarterly monitoring and sampling report. Once four

quarters of groundwater analytical data has been collected, CRA will evaluate the need for additional assessment and/or request that the sampling frequency be reduced to semi-annual.

FIGURES

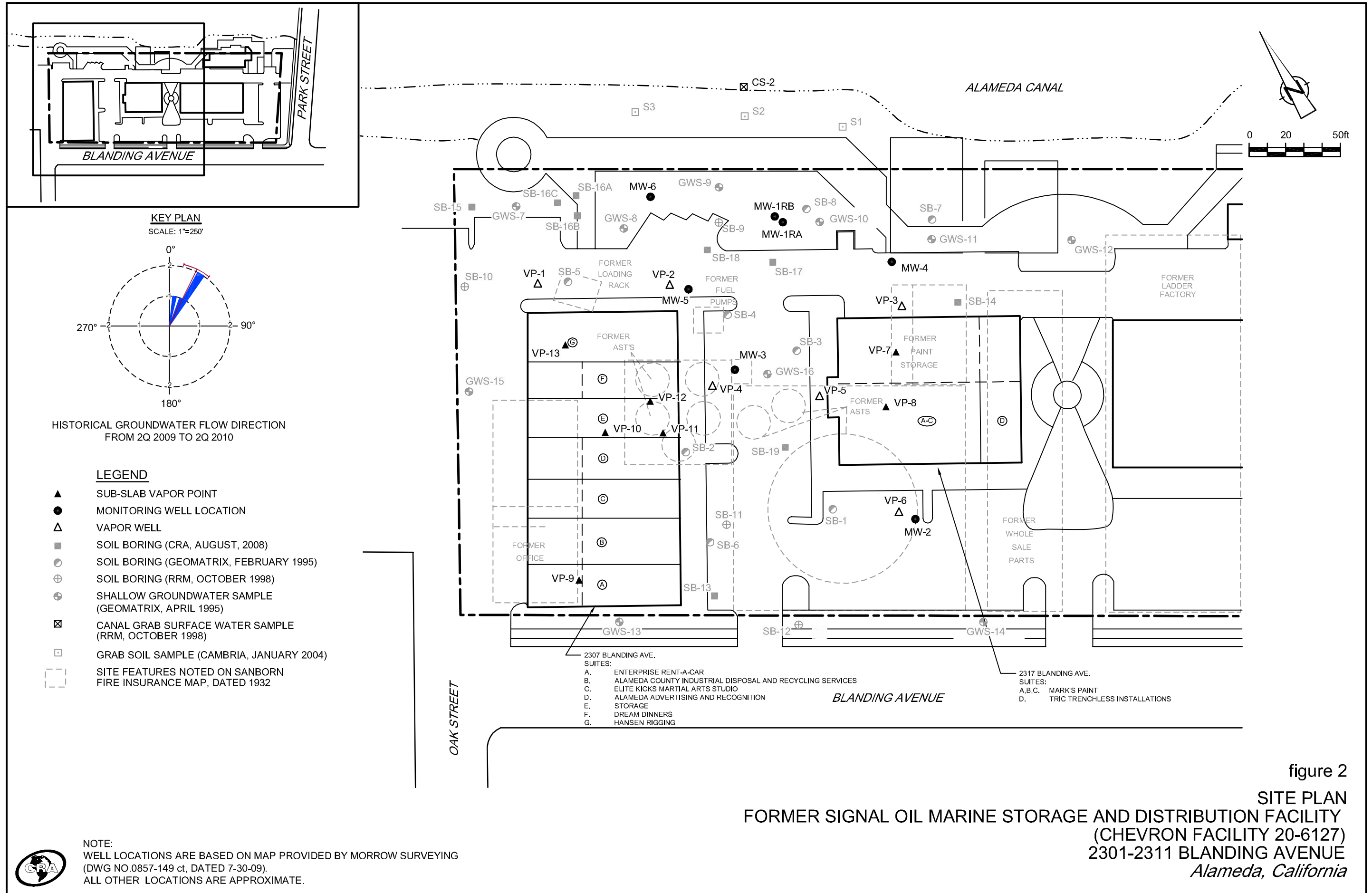


SOURCE: TOPOI MAPS.

figure 1

VICINITY MAP
 FORMER SIGNAL OIL MARINE STORAGE AND DISTRIBUTION FACILITY
 (CHEVRON FACILITY 20-6127)
 2301-2311 BLANDING AVENUE
 Alameda, California





NOTE:
 WELL LOCATIONS ARE BASED ON MAP PROVIDED BY MORROW SURVEYING
 (DWG NO.0857-149 ct, DATED 7-30-09).
 ALL OTHER LOCATIONS ARE APPROXIMATE.

TABLES

**WELL CONSTRUCTION SPECIFICATIONS
FORMER SIGNAL OIL MARINE STORAGE AND DISTRIBUTION FACILITY
(CHEVRON BULK PLANT 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA**

<i>Well ID</i>	<i>Date Installed</i>	<i>TOC</i>	<i>Total Depth (fbg)</i>	<i>Casing Diameter ¹ (inches)</i>	<i>Slot Size (inches)</i>	<i>Screen Interval (fbg)</i>	<i>Filter Pack (fbg)</i>	<i>Status</i>
<u>Monitoring Wells</u>								
MW-1	8/15/1990	13.49	19.5	2	0.020	4-19	3-19.5	Replaced w/MW-1RB
MW-1RA	8/4/2010	13.02	13	2	0.020	8-13	7-13	Active
MW-1RB	8/4/2010	13.21	20	2	0.020	16.5-20	15.5-20	Active
MW-2	6/19/2009	10.63	18	2	0.020	10.5-15.5	10-16	Active
MW-3	6/19/2009	10.72	18.5	2	0.020	13.5-18.5	12.5-18.5	Active
MW-4	6/19/2009	11.40	20.5	2	0.020	15.5-20.5	14.5-20.5	Active
MW-5	6/23/2009	10.50	18	2	0.020	13-18	12-18	Active
MW-6	8/4/2010	12.98	20	2	0.020	16.5-20	15.5-20	Active
<u>Vapor Wells</u>								
VP-1	7/9/2008	NS	4.25	1	0.020	3.75-4.25	3.5-4.5	Vapor only
VP-2	7/9/2008	NS	4.75	1	0.020	4.25-4.75	4-5	Vapor only
VP-3	7/14/2008	NS	5.75	1	0.020	5.25-5.75	5-6	Vapor only
VP-4	7/14/2008	NS	5.75	1	0.020	5.25-5.75	5-6	Vapor only
VP-5	7/14/2008	NS	5.75	1	0.020	5.25-5.75	5-6	Vapor only
VP-6	7/9/2008	NS	5.75	1	0.020	5.25-5.75	5-6	Vapor only
<u>Sub-Slab Vapor Probes</u>								
VP-7	7/17/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-8	7/17/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-9	7/22/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-10	7/22/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-11	7/17/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-12	7/22/2009	NS	0.5	0.25	NA	NA	NA	Vapor only
VP-13	7/22/2009	NS	0.5	0.25	NA	NA	NA	Vapor only

Abbreviations / Notes

TOC = Top of casing elevation (feet above mean sea level)

¹ = Schedule 40 PVC casing material

fbg = Feet below grade

NA = Not applicable

NS = Not surveyed

TABLE 2

SOIL ANALYTICAL RESULTS
FORMER SIGNAL OIL BULK PLANT
(FORMER CHEVRON FACILITY 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA

Boring ID	Depth (fbg)	Sample Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Total Xylenes	MTBE	Acetone	Carbon Disulfide	2-Butanone	Isopropylbenzene	n-Propylbenzene	1,3,5-Trimethylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Butylbenzene	Naphthalene
Concentrations reported in milligram per kilogram - mg/kg																							
SB-1	3.5	2/17/1995	110	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-1	5.5	2/17/1995	10	390	0.08 ¹	0.20 ¹	0.58 ¹	--	--	0.86 ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-1	9.5	2/17/1995	ND	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-2	3.5	2/20/1995	40	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-2	7	2/20/1995	35	2,000	3.7 ¹	34 ¹	14 ¹	--	--	46 ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-3	1.5	2/17/1995	ND	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-3	7	2/17/1995	230	150	ND ¹	0.46 ¹	0.58 ¹	--	--	0.51 ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-3	10	2/17/1995	ND	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-4	1.5	2/17/1995	20	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-4	6.5	2/17/1995	240	860	2.0 ¹	0.81 ¹	3.6 ¹	--	--	13 ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-4	7	2/17/1995	--	--	2.3 ²	8.7 ²	3.5 ²	--	--	35 ²	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-4	10	2/17/1995	ND	4	0.34 ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-5	1.5	2/17/1995	10	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-5	5.5	2/17/1995	15	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-5	6	2/17/1995	--	--	ND ²	ND ²	ND ²	--	--	ND ²	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-6	1.5	2/17/1995	40	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-6	7	2/17/1995	170	400	ND ¹	0.12 ¹	0.56 ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-7	1	2/17/1995	110	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-7	4	2/17/1995	250	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8	1	2/20/1995	75	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8	6.5	2/20/1995	ND	ND	ND ¹	ND ¹	ND ¹	--	--	ND ¹	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-8	7	2/20/1995	--	--	ND ²	ND ²	ND ²	--	--	ND ²	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-9	5	10/28/1998	3,300 ³	130	0.36 ¹	<0.12 ¹	<0.12 ¹	--	--	0.28 ¹	<0.62 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-9	13	10/28/1998	1,300 ³	900	3.3 ¹	<1.2 ¹	2.1 ¹	--	--	2.0 ¹	<12 ⁴	--	--	--	--	--	--	--	--	--	--	--	--
SB-9	15	10/28/1998	1.2 ³	<1.0	0.22 ¹	<0.0050 ¹	<0.0050 ¹	--	--	<0.0050 ¹	<0.025 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-10	5.5	10/28/1998	130 ³	<1.0	<0.0050 ¹	<0.0050 ¹	<0.0050 ¹	--	--	<0.0050 ¹	<0.025 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-11	6	10/28/1998	60 ³	140	<0.10 ¹	0.12 ¹	0.24 ¹	--	--	0.49 ¹	<0.50 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-12	5	10/28/1998	<1.0	<1.0	<0.0050 ¹	<0.0050 ¹	<0.0050 ¹	--	--	<0.0050 ¹	<0.025 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-12	7	10/28/1998	<1.0	<1.0	<0.0050 ¹	<0.0050 ¹	<0.0050 ¹	--	--	<0.0050 ¹	<0.025 ¹	--	--	--	--	--	--	--	--	--	--	--	--
SB-12	14	10/28/1998	<1.0	<1.0	<0.0050 ¹	<0.0050 ¹	<0.0050 ¹	--	--	<0.0050 ¹	<0.025 ¹	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	5	12/29/2000	30	<1.0	<0.0050	<0.0050	<0.0050	--	--	0.017	<0.050	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	10	12/29/2000	160	320	0.40	1.6	0.90	--	--	1.1	<1.2	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	15	12/29/2000	<1.0	<2.5	0.53	0.021	0.028	--	--	0.065	<0.12	--	--	--	--	--	--	--	--	--	--	--	--
S1	0.5	1/13/2004	14	<1.0	<0.0005	<0.001	<0.001	--	--	<0.001	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--
S2	0.5	1/13/2004	220	<20	<0.0005	<0.001	<0.001	--	--	<0.001	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--
S3	0.5	1/13/2004	220	<10	<0.0005	<0.001	<0.001	--	--	<0.001	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2

SOIL ANALYTICAL RESULTS
FORMER SIGNAL OIL BULK PLANT
(FORMER CHEVRON FACILITY 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA

Boring ID	Depth (fbg)	Sample Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Total Xylenes	MTBE	Acetone	Carbon Disulfide	2-Butanone	Isopropylbenzene	n-Propylbenzene	1,3,5-Trimethylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Butylbenzene	Naphthalene
Concentrations reported in milligram per kilogram - mg/kg																							
VP-1	3	7/9/2008	12	<1.0	0.001	0.003	0.002	0.004	0.002	--	<0.0005	<0.007	<0.001	<0.004	0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
VP-2*	3	7/9/2008	240	330	0.079	0.080	0.080	0.18	0.066	--	<0.026	<0.36	<0.051	<0.21	0.23	0.51	0.088	0.098	0.29	0.18	<0.051	0.22	0.28
VP-2	5	7/9/2008	2,100	670	0.52	0.16	0.36	0.46	0.085	--	<0.025	0.44	<0.50	<0.20	4.6	9.9	0.065	0.84	0.11	1.8	0.051	4.4	0.48
VP-3	2.5	7/14/2008	5.4	<1.0	<0.0005	<0.0009	<0.0009	<0.0009	<0.0009	--	<0.0005	<0.007	<0.0009	<0.004	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009
VP-3	5	7/14/2008	<4.0	<1.0	0.001	<0.0009	<0.0009	<0.0009	<0.0009	--	<0.0005	0.039	<0.0009	0.007	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009
VP-4	2.5	7/14/2008	1,700	1,300	5.0	0.54	13	8.1	0.60	--	<0.024	0.65	<0.048	<0.19	3.7	5.9	4.1	0.32	41	1.4	2.5	2.0	3.4
VP-4	5	7/14/2008	6,900	11,000	16	2.4	120	15	2.8	--	<0.093	<1.3	<0.19	<0.74	27	48	11	3.0	5.0	11	13	23	42
VP-5	2.5	7/14/2008	20	1.7	0.0008	<0.001	<0.001	<0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	0.010
VP-5	5	7/14/2008	6,000	540	0.11	0.051	0.11	0.23	0.072	--	<0.023	<0.33	<0.047	<0.19	1.1	1.6	0.13	<0.047	0.33	0.37	0.42	0.37	0.83
VP-6	3	7/9/2008	340	<10	<0.0005	<0.001	<0.001	<0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
VP-6	5	7/9/2008	350	910	<0.026	<0.053	0.31	0.37	<0.053	--	<0.026	<0.37	<0.053	0.33	2.1	3.3	0.10	0.060	<0.053	1.1	0.26	1.7	2.9
SB-13	1	7/7/2008	47	1.0	<0.0005	<0.001	<0.001	0.002	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001
SB-13	5	7/7/2008	630	350	<0.027	<0.054	<0.054	<0.054	<0.054	--	<0.027	<0.38	<0.054	<0.22	0.12	0.14	<0.054	<0.054	<0.054	0.23	<0.054	0.12	0.16
SB-13	10	7/8/2008	<4.0	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SB-14	1	7/7/2008	89	<1.0	0.002	0.004	0.002	0.005	0.003	--	<0.0005	0.018	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001
SB-14	5	7/7/2008	29	<1.0	0.002	0.003	0.002	0.003	0.002	--	<0.0005	0.026	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SB-14	10	7/8/2008	<4.0	<1.0	0.0006	0.001	<0.001	0.002	0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
SB-15	1	7/7/2008	45	<1.0	0.0007	0.001	<0.001	0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SB-15	5	7/7/2008	42	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SB-15	9.5	7/8/2008	71	1.0	0.002	0.006	0.005	0.012	0.006	--	<0.0005	<0.007	<0.001	<0.004	0.001	0.001	0.001	<0.001	0.002	<0.001	0.008	<0.001	0.001
SB-16A	1	7/7/2008	140	<10	0.004	0.012	0.008	0.024	0.013	--	<0.0005	<0.007	<0.001	<0.004	0.001	0.001	0.001	<0.001	0.003	<0.001	0.007	<0.001	<0.001
SB-16B	1	7/7/2008	83	<1.0	0.004	0.013	0.012	0.035	0.019	--	<0.0005	<0.007	<0.0009	<0.004	0.002	0.002	0.002	<0.0009	0.006	<0.0009	0.015	<0.0009	<0.0009
SB-16C	2	7/8/2008	250	<10	0.003	0.009	0.006	0.018	0.011	--	<0.0005	<0.007	<0.001	<0.004	0.001	0.001	0.002	<0.001	0.004	<0.001	0.007	<0.001	<0.001
SB-16C	3	7/8/2008	960	<40	0.005	0.008	0.006	0.018	0.011	--	<0.0005	0.063	0.002	0.012	0.001	0.002	0.003	<0.001	0.006	<0.001	0.01	<0.001	0.001
SB-17	1	7/7/2008	120	<10	0.0007	0.001	<0.001	0.002	0.001	--	<0.0005	0.015	0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
SB-17	5	7/7/2008	97	40	0.22	0.053	0.63	1.3	0.19	--	<0.025	<0.35	<0.050	<0.20	0.14	0.35	0.73	<0.050	2.7	0.063	0.18	0.13	0.96
SB-17	9.5	7/8/2008	<4.0	4.9	0.021	0.003	0.025	0.013	0.003	--	<0.0005	0.015	<0.001	<0.004	0.016	0.015	0.003	0.001	0.002	0.005	0.003	0.004	0.007
SB-18	1	7/7/2008	61	150	0.0008	0.002	0.003	0.005	0.003	--	<0.0005	<0.007	0.002	<0.004	0.003	0.003	<0.001	0.005	0.002	0.013	0.003	0.005	0.013
SB-18	5	7/7/2008	1,500	630	0.21	<0.052	0.053	0.098	<0.052	--	<0.026	<0.37	<0.052	<0.21	0.36	0.61	0.089	<0.052	0.57	0.44	0.45	0.72	4.9
SB-18	10	7/8/2008	310	160	0.056	<0.049	<0.049	<0.049	<0.049	--	<0.024	<0.34	<0.049	<0.19	0.10	0.11	<0.049	<0.049	<0.049	0.053	0.079	0.095	<0.049
SB-19	1	7/7/2008	190	<10	0.001	0.002	<0.001	0.002	0.001	--	<0.0005	<0.008	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.002	<0.001	<0.001
SB-19	5	7/7/2008	680	960	0.29	0.92	3.9	7.6	3.3	--	<0.023	0.43	<0.047	<0.19	4.5	4.7	3.2	0.28	5.3	1.4	42	2.0	3.8
SB-19	10	7/8/2008	<4.0	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.001	--	<0.0005	<0.007	<0.001	<0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	4.5	6/18/2009	480	1,100	<0.027	<0.055	0.19	--	--	0.19	<0.027	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	8.5	6/19/2009	17	4.8	<0.0005	<0.001	<0.001	--	--	<0.001	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2

SOIL ANALYTICAL RESULTS
FORMER SIGNAL OIL BULK PLANT
(FORMER CHEVRON FACILITY 20-6127)
2301-2311 BLANDING AVENUE
ALAMEDA, CALIFORNIA

Boring ID	Depth (fbg)	Sample Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Total Xylenes	MTBE	Acetone	Carbon Disulfide	2-Butanone	Isopropylbenzene	n-Propylbenzene	1,3,5-Trimethylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Butylbenzene	Naphthalene
Concentrations reported in milligram per kilogram - mg/kg																							
MW-3	4	6/18/2009	610	700	0.64	0.099	6.1	--	--	0.85	<0.026	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	6	6/18/2009	170	960	0.39	0.069	2.5	--	--	0.67	<0.025	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	8.5	6/19/2009	16	66	0.062	0.003	0.058	--	--	0.012	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	15	6/19/2009	<4.0	<1.0	<0.0005	<0.0009	<0.0009	--	--	<0.0009	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	7	6/19/2009	500	520	0.076	<0.049	0.061	--	--	<0.080	<0.024	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10.5	6/23/2009	36	170	0.043	<0.048	<0.048	--	--	0.048	<0.024	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	14	6/23/2009	270	170	0.075	<0.047	<0.047	--	--	<0.047	<0.023	--	--	--	--	--	--	--	--	--	--	--	--
MW-1RA ⁵	10	8/4/2010	260 ³	380	0.54	<0.050	0.43	--	--	0.12	<0.025	--	--	--	--	--	--	--	--	--	--	--	--
MW-1RA ⁵	13.5	8/4/2010	120 ³	490	0.24	<0.050	0.068	--	--	0.057	<0.025	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	15	8/4/2010	<4.0 ³	1.2	0.12	0.002	0.003	--	--	0.003	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--
ESLs			180	180	0.27	9.3	4.7	11	11	11	8.4	0.5	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	2.8

Abbreviations and Notes:

fbg = Feet below grade

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015

<x = not detected at or above stated laboratory reporting limit

¹ = EPA Method 8020² = EPA Method 8240³ = Additional analyses were performed with silica gel cleanup⁴ = RRM reported as a false positive associated with EPA Method 8020⁵ = The GC/MS volatile analysis was performed according to the high level soil method due to the level of non-target compounds. Therefore, the reporting limits were raised.

-- = Not Analyzed

* 1,2,3-Trichlorobenzene also detected at 0.067 mg/kg

ND = Not detected

VOCs = Volatile organic compounds by EPA method 8260B

Note: Other VOCs not included in the table were not detected in any of the samples.

ESL = Environmental screening level for shallow soil (<3m fbg) at commercial/industrial sites where groundwater is not a current or potential source of drinking water (Table B)-RWQCB May 2008

NE = Not established

Benzene, toluene, ethylbenzene, and xylenes EPA Method 8260B

MTBE = Methyl tertiary butyl ether EPA Method 8260B

APPENDIX A
REGULATORY CORRESPONDENCE



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

May 27, 2010

Mr. Mike Bauer
Chevron Environmental Management Company
145 S. State College Blvd.
Brea, CA 92821

Ms. Julie Beck Ball
Mr. Peter Reinhold Beck
2720 Broderick Street
San Francisco, CA 94123

Subject: SLIC Case No. RO0002466 and Geotracker Global ID T06019744728, Park Street Landing 2301-2337 Blanding Avenue, Alameda, CA 94501 – Conditional Work Plan Approval

Dear Mr. Bauer and Ms. Ball:

Alameda County Environmental Health (ACEH) staff has reviewed the Spills, Leaks, Investigations, and Cleanups (SLIC) case file for the above referenced site including the recently submitted document entitled, "*Work Plan for Further Groundwater Assessment,*" dated May 11, 2010. The document, which was prepared on Chevron's behalf by Conestoga-Rovers & Associates, proposes the installation of one new groundwater monitoring well and replacement of well MW-1.

The proposed scope of work is conditionally approved and may be implemented provided that the technical comments below are incorporated during the proposed activities. Submittal of a revised Work Plan or Work Plan Addendum is not required unless an alternate scope of work outside that described in the Work Plan and technical comment below is proposed. We request that you address the following technical comment, perform the proposed work, and send us the reports described below.

TECHNICAL COMMENTS

1. **Proposed Well MW-6.** The proposed location of well MW-6 is acceptable. We concur with constructing well MW-6 within the silty sand layer typically encountered at 11 to 14 feet bgs across the site. However, we request some modifications to the construction of MW-6. We request that the filter pack be no longer than 6 feet and be installed discretely within the silty sand layer typically encountered at 11 to 14 feet bgs. Soils are to be logged continuously during well installation to adjust the screen and filter pack intervals as necessary to avoid extending screen and filter packs through potential fine-grained confining layers. Please present the results of the well installation and initial groundwater sampling in the Well Installation Report requested below.
2. **Re-installation of Well MW-1.** We generally concur with re-installation of well MW-1 but request modifications. Overdrilling well MW-1 and re-installing the well to a depth of 20 feet bgs is acceptable. However, we request that the re-installed well, which is referred to as MW-1RB, be installed with a filter pack that extends from 14 to 20 feet bgs in order to target the silty sand layer. We request that a shallower well be installed to monitor shallow groundwater that may potentially be discharging to the Alameda Canal. The second shallower well, which is referred to as MW-1RA, is to

Mr. Mike Bauer
Ms. Julie Beck Ball
RO0002466
May 27, 2010
Page 2

be installed with a filter pack that is no longer than 6 feet and extends no deeper than 15 feet bgs. During drilling of well MW-1RA, soils are to be logged continuously to adjust the screen and filter pack intervals as necessary to avoid extending screen and filter packs through potential fine-grained confining layers. Please present the results of the well installation and initial groundwater sampling in the Well Installation Report requested below

3. **Groundwater Monitoring.** We concur with the proposal in the "First Quarter 2010 Groundwater Monitoring Report," to continue quarterly groundwater and surface water monitoring. Please include newly installed wells MW-6 and replacement wells for MW-1 in the quarterly monitoring program. Discontinuing analysis for MTBE in future groundwater monitoring events is acceptable.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **30 days after end of each quarter** – Groundwater Monitoring Report
- **July 23, 2010** – Soil Vapor, Sub-slab, and Indoor Air Sampling Report
- **September 29, 2010** – Well Installation Report

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Mr. Brian Silva, Conestoga-Rovers & Associates, 10969 Trade Center Drive, Suite 107, Rancho Cordova, CA 95670 (*Sent via E-mail to: bsilva@croworld.com*)

Mr. Monroe Wingate, C/o Alan Wingate, 18360 Carriger Road, Sonoma, CA 95476

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH
Geotracker, File

Attachment 1
Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

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.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and [other](#) data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml).

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, 6835, 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, later 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 SLIC)	ISSUE DATE: July 5, 2005
	REVISION DATE: March 27, 2009
	PREVIOUS REVISIONS: December 16, 2005, October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) 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

- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- 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)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

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 dehloptoxic@acgov.org
 - Or
 - ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
 - 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 and Firefox browsers will not open the FTP site.
 - b) Click on File, then on Login As.
 - 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 dehloptoxic@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.

APPENDIX B
SUMMARY OF PREVIOUS ENVIRONMENTAL WORK

**PREVIOUS ENVIRONMENTAL INVESTIGATION
FORMER SIGNAL OIL MARINE STORAGE AND DISTRIBUTION
FACILITY 20-6127(CHEVRON 20-6127)**

Site History

A Sanborn map dated 1897 showed the site as occupied by several residential structures and outbuildings; the southeast portion of the site was shown as occupied by a laundry facility and a blacksmith. From at least 1930 until approximately 1961, the northwestern portion of the site was occupied by a petroleum bulk plant operated by Signal Oil & Gas Company. Former bulk plant facilities consisted of one large and seven smaller gasoline aboveground storage tanks (ASTs) within concrete secondary containment, underground piping, an office building, a loading rack, and a small structure containing gasoline pumps (Figure 2). The northeast portion of the facility was shown as occupied by a structure identified as an auto garage and also used for paint storage on Sanborn maps dated between 1932 and 1950. A rail spur was shown to service the facilities on Blanding Avenue. The central portion of the site was shown as occupied by two structures identified as wholesale tires and a can warehouse. An additional larger structure was shown in the central portion of the site that was identified as vacant on the 1948 Sanborn map and as a ladder factory on the 1950 Sanborn map. Several structures appeared to be present in the southeast portion of the site in the 1939 aerial photograph. However, only one or two small sheds were shown in this area on the 1948 and 1950 Sanborn maps. In the 1958 aerial photograph, the ladder factory structure no longer appeared present and the southeast portion of the site appeared vacant and used for parking. Between 1957 and 1963, the buildings at the site were reportedly removed; it is assumed that the ASTs and piping were also removed at this time. In the 1965 aerial photograph, all the bulk plant facilities appear to have been removed and the majority of the site appears occupied by a construction materials yard with several small structures. Several additional structures also appear present in the southeast portion of the site. From 1973 to 1983, the northwestern portion of the site reportedly was used as a construction yard and for boat repair activities; and the southeastern portion was occupied by a restaurant, paved parking area, and a possible automobile sales lot. In 1987, the site was redeveloped with the current configuration.

1995 Soil and Groundwater Investigation

In February 1995, Geomatrix Consultants, Inc. (Geomatrix) advanced eight soil borings (SB-1 through SB-8) to approximately 10 feet below grade (fbg) in the northwestern portion of the site to evaluate if previous site uses had impacted soil and groundwater quality. Groundwater was not encountered in the borings. Two to three soil samples were collected at various depths from each boring for laboratory analysis. Nineteen samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd); and benzene, toluene, ethylbenzene, and xylenes (BTEX). TPHg was detected in six of the samples at concentrations ranging from 4.0 to 2,000 milligrams per kilogram (mg/kg). TPHd was detected in the majority of the samples at concentrations ranging from 10 to 250 mg/kg. BTEX were also detected in several of the samples (benzene up to 3.7 mg/kg). The highest concentrations of petroleum hydrocarbons generally were detected in borings SB-2 and SB-4 located in the vicinity of the former ASTs and gasoline pump, respectively, between 4 and 7 fbg. One sample from each boring (depths

ranging from 0.5 to 3 fbg) was also analyzed for CAM 17 metals. The detected metals concentrations generally appeared to be within the range of natural background levels with the exception of slightly elevated arsenic in a few samples. Arsenic was detected in the samples collected at 1 fbg from borings SB-3, SB-4, and SB-6 at 68 mg/kg, 46 mg/kg, and 130 mg/kg, respectively. As a result, deeper samples collected from borings SB-3 (6.5 fbg) and SB-6 (8 fbg) were also analyzed for arsenic; arsenic was not detected in the sample collected from SB-3, but was detected at 2.5 mg/kg in the sample collected from SB-6. Based on these results, the soil impacted with arsenic appeared to be of limited vertical extent. Three soil samples (SB-4-7', SB-5-6', and SB-8-7') were also analyzed for VOCs, which were not detected. Based on the soil analytical results, a shallow groundwater survey was recommended to evaluate if groundwater had been impacted by petroleum hydrocarbons.

In April 1995, Geomatrix collected grab-groundwater samples from 10 shallow borings (GWS-7 through GWS-16) drilled to depths of 15 to 21.5 fbg at the site. Borings GWS-7 through GWS-12 were located in the northeastern portion of the site adjacent to Alameda Canal to evaluate if impacted groundwater was flowing toward the canal; based on an assumed groundwater flow direction toward the canal. Borings GWS-13 through GWS-15 were located on the southwest and northwest property boundaries in the assumed upgradient and perimeter crossgradient directions to evaluate the quality of groundwater coming onto the site. Boring GWS-16 was located to the northeast of the former ASTs and was drilled approximately 6 feet deeper than the remaining borings to evaluate deeper groundwater quality. The groundwater samples were analyzed for TPHg, BTEX, and TPHd; the samples were filtered by the laboratory to remove turbidity and a silica-gel cleanup was performed to remove non-petroleum organic matter prior to the TPHd analysis. TPHg was detected in the samples collected from borings GWS-8 through GWS-11 and GWS-16 at concentrations ranging from 70 (GWS-16) to 22,000 micrograms per liter ($\mu\text{g/L}$) (GWS-9). TPHd was detected in the samples collected from borings GWS-8 through GWS-11 at concentrations ranging from 60 (GWS-8) to 1,200 $\mu\text{g/L}$ (GWS-9). Benzene was detected in the samples collected from borings GWS-8 through GWS-10 and GWS-16 at concentrations of 36 $\mu\text{g/L}$, 6,200 $\mu\text{g/L}$, and 880 $\mu\text{g/L}$, respectively. Toluene, ethylbenzene, and xylenes (up to 1,200 $\mu\text{g/L}$) were also detected in several of the samples. The maximum concentrations were detected in boring GWS-9 located downgradient of the gasoline pump and loading rack. Petroleum hydrocarbons were not detected in the upgradient borings GWS-13 through GWS-15. The deeper sample (GWS-16) contained only low to trace hydrocarbon concentrations.

A black granular material was encountered in boring GWS-7 in the northern corner of the site from approximately 2.5 to 6 fbg. This material appeared similar to a small pile of black granular material observed on the northwestern property boundary that appeared to have originated from the adjacent property (a metal fabrication company). A sample of this material was collected and analyzed for TPHd, VOCs, semi-VOCs, and CAM 17 metals. An elevated concentration of copper (1,700 mg/kg) was detected in the sample. The detected concentration did not exceed the Total Threshold Limit Concentration (TTL) of 2,500 mg/kg, which is the concentration above which a waste may be considered hazardous in California. The sample was also analyzed for soluble copper using the Waste Extraction Test (WET) method; which was detected at 0.04 milligrams per liter (mg/L). The detected soluble lead concentration did

not exceed the Soluble Threshold Limit Concentration (STLC) of 25 mg/L, which is also the concentration above which a waste may be considered hazardous in California. Details of this investigation were presented in the report titled *Soil Investigation and Shallow Groundwater Survey, Northwestern Portion of the Park Street Landing Site*, prepared by Geomatrix and dated September 1995.

1998 RBCA Tier 1 Evaluation

In July 1998, RRM, Inc. (RRM) performed a Tier 1 Risk-Based Corrective Action (RBCA) assessment to evaluate the potential health risks posed by residual petroleum hydrocarbons in soil and groundwater at the site. Based on the results, RRM recommended the collection of site-specific data to complete a Tier 2 RBCA evaluation; the identification of the beneficial uses of groundwater beneath the site; an evaluation of background water quality in Alameda Canal; and to provide evidence that biodegradation was reducing hydrocarbon concentrations. Details of this investigation were presented in the report entitled *Risk-Based Corrective Action (RBCA) Tier 1 Evaluation, Park Street Landing Site*, prepared by RRM and dated July 24, 1998.

1998 Soil and Groundwater Investigation

In October 1998, RRM performed an additional soil and groundwater investigation at the site. The purpose of the investigation was to

1) collect site-specific data to complete a Tier 2 RBCA evaluation; 2) identify the beneficial uses of groundwater beneath the site; 3) evaluate the background water quality in Alameda Canal; and 4) evaluate whether biodegradation of petroleum hydrocarbons was occurring beneath the site. Four additional borings (SB-9 through SB-12) were advanced to depths of 15 to 18 fbg during the investigation. A total of eight soil samples were collected at various depths from the borings and analyzed for TPHg, TPHd, BTEX, and methyl tertiary butyl ether (MTBE). TPHg was detected in the soil samples collected at 5 and 13 fbg from boring SB-9 (130 and 900 mg/kg, respectively); and in the sample collected at 6 fbg from boring SB-11 (140 mg/kg). TPHd was detected in the soil samples collected at 5, 13, and 15 fbg from boring SB-9 (3,300 mg/kg, 1,300 mg/kg, and 1.2 mg/kg, respectively); in the sample collected at 5.5 fbg from boring SB-10 (130 mg/kg); and in the sample collected at 6 fbg from boring SB-11 (60 mg/kg). BTEX (up to 3.3 mg/kg) were detected in the soil samples collected from borings SB-9 and SB-11; MTBE (using EPA Method 8020) was only detected in the sample collected at 13 fbg from boring SB-9 (12 mg/kg). Following the initial TPHd analysis, two rounds of silica gel cleanup followed by TPHd analysis were performed on the soil samples from boring SB-9. The detected TPHd concentrations were reduced after each round, indicating that biodegradation was occurring, and natural organic matter was present in the subsurface.

Grab-groundwater samples were collected from each boring and analyzed for TPHg, TPHd, BTEX, and MTBE. TPHg was only detected in the samples collected from borings SB-9 (14,000 µg/L) and SB-11 (310 µg/L). TPHd was detected in the samples collected from borings SB-9 (83,000 µg/L), SB-10 (97 µg/L), and SB-11 (270 µg/L). Benzene and MTBE (using EPA Method 8020) were only detected in the sample collected from boring SB-9 (1,400 and 260 µg/L, respectively); the sample was re-analyzed for MTBE using EPA Method 8260, and MTBE was not detected. Toluene, ethylbenzene, and xylenes (up to 630 µg/L) were detected in the

samples collected from borings SB-9 and SB-11. As with the soil samples, a silica-gel cleanup reduced the detected TPHd concentrations. Based on the depth to water in the borings, and the elevation of the borings, the groundwater flow direction was calculated to be northerly. Based on natural biodegradation indicator parameters in groundwater (dissolved oxygen, oxidation-reduction potential, nitrate, and sulfate), it appeared that petroleum hydrocarbons were being degraded both aerobically and anaerobically; although it appeared that anaerobic processes dominated.

Three grab-water samples (CS-1 through CS-3) were collected from Alameda Canal (Figure 2) and analyzed for TPHg, TPHd, BTEX, and MTBE; which were not detected. Water level measurements were collected from the Alameda Canal and the four temporary wells placed in borings SB-9 through SB-12 to evaluate potential tidal influence on groundwater beneath the site. The fluctuations in borings SB-10 through SB-12 were minimal indicating that groundwater was tidally influenced to a limited degree in these areas. A more significant fluctuation was observed in SB-9; suggesting that groundwater in this area was tidally influenced, and tidal fluctuations would tend to stabilize the petroleum hydrocarbon plume in this area. Two concrete sea walls separated shallow groundwater beneath the site from canal water; likely causing the limited tidal influence. Based on the site data, relevant beneficial uses, and associated water quality parameters, the most applicable beneficial use of groundwater beneath the site was determined to be freshwater replenishment to surface water.

A well survey was performed for a ½-mile radius around the site. Nine wells were identified within the search radius (one recovery well, one irrigation well, five extraction wells, and two industrial wells). All the wells were either located up-gradient of the site or across the Alameda Canal. Based on the results of the Tier 2 RBCA evaluation, soil and groundwater petroleum hydrocarbon concentrations at the site did not exceed the site-specific target levels (SSTLs). Details of this investigation were presented in the report entitled *Soil and Groundwater Investigation Results, Former Signal Oil Marine Terminal*, prepared by RRM and dated May 7, 1999.

2000 Monitoring Well Installation

In December 2000 Gettler-Ryan Inc., under the supervision of Delta Environmental Consultants, Inc. (Delta), installed one groundwater monitoring well (MW-1) along the northeastern portion of the site adjacent to the Alameda Canal. Soil samples were collected at depths of 5, 10, and 15 fbg from the well boring and analyzed for TPHg, TPHd, BTEX, and MTBE. TPHg was only detected in the sample collected at 10 fbg (320 mg/kg). TPHd was only detected in the samples collected at 5 and 10 fbg (30 and 160 mg/kg, respectively). Low concentrations of BTEX were detected in all the samples; MTBE was not detected in any of the samples. The initial groundwater sample collected from the well contained TPHg, TPHd, and benzene at 5,210 µg/L, 1,100 µg/L, and 868 µg/L, respectively. Details of this investigation were presented in the report entitled *Monitoring Well Installation Report*, prepared by Delta and dated April 10, 2001.

2004 Soil Investigation

In January 2004, Cambria Environmental Technology, Inc. (Cambria) collected three surface soil samples (S1, S2, and S3) from the bank above the western shore of the Alameda Canal. Sample S2 was collected directly down-slope of well MW-1 near a water seep observed on the slope above the canal. Samples S1 and S3 were collected approximately 70 feet east and 90 feet north of well MW-1, respectively, to evaluate background concentrations. The three samples were analyzed for TPHg, TPHd, BTEX, and MTBE. TPHg, BTEX, and MTBE were not detected in any of the samples. TPHd was detected in samples S1, S2, and S3 at 14 mg/kg, 220 mg/kg, and 220 mg/kg, respectively. The laboratory chromatographs indicated that the hydrocarbon pattern observed in these soil samples was not typical of diesel fuel. Therefore, it was concluded the TPHd detections may have represented either highly-degraded diesel fuel from various historical onsite and nearby operations, or residual organic material of unknown origin present in local fill material. Details of this investigation were presented in the report entitled *Soil Sampling Report*, prepared by Cambria and dated February 18, 2004.

Based on generally decreasing petroleum hydrocarbon concentrations in well MW-1 observed during quarterly monitoring, Cambria submitted a case closure request to ACEH dated January 10, 2006. In response to this request, and in a letter dated October 17, 2007, the ACEH requested the collection of additional data to substantiate the conclusion that petroleum hydrocarbons were not migrating and discharging into Alameda Canal. In addition, the potential for vapor intrusion was to be evaluated. Therefore, CRA prepared and submitted *Soil Boring and Vapor Point Installation Work Plan*, dated January 10, 2008. In a letter dated January 30, 2008, the ACEH approved the work plan, with several provisions.

2008 Site Investigation

In July 2008, CRA advanced six soil borings (SB-13 through SB-15 and SB-17 through SB-19) to a maximum depth of 16 fbg, and installed and sampled six permanent soil vapor wells (VP-1 through VP-6) to depths of 4.5 to 6 fbg. Soil boring SB-16 was cleared to 3 fbg but could not be completed due to refusal encountered at three locations (16A, B, and C). Soil boring SB-16 was cleared to 3 fbg but could not be completed due to refusal encountered at three locations (16A, B, and C).

Soil analytical data indicated that the majority of TPHd and TPHg concentrations in soil are generally located in the area of and downgradient of the former ASTs. The highest concentrations were detected in boring VP-4 at 5 fbg. Relatively low concentrations of TPHd and TPHg were detected in the perimeter borings. Low concentrations of petroleum-related VOCs were also detected in the majority of the soil samples. The BTEX and VOC concentrations generally did not exceed the ESLs, with the exception of a few samples. Concentrations generally appeared to attenuate or were significantly reduced at 10 fbg. Generally, concentrations of metals were consistent with background levels and only exceeded the ESLs in a few of the samples. Metals in shallow soil across the northwest portion of the site do not appear to be a result of former bulk plant operations. The metals do not appear to have impacted groundwater as only barium was detected in well MW-1.

The highest concentrations of hydrocarbons in groundwater were generally located downgradient of the former ASTs. TPHd, TPHg, and benzene were detected in downgradient boring SB-18 at 19,000 µg/L, 3,800 µg/L, and 590 µg/L, respectively; but only at 1,600 µg/L, 650 µg/L, and 3 µg/L, respectively, in boring SB-19 adjacent to the former large AST. Only relatively low concentrations of TPHd (up to 750 µg/L) were detected in perimeter borings SB-13, SB-14, and SB-15; and as evidenced by the work performed by RRM, some or most of the detected TPHd may be due to natural organic matter. The extent of the impacted groundwater is well-defined by borings GWS-7, GWS-12 through GWS-15, SB-10 (following silica gel cleanup), and SB-12. Chlorinated solvents were not detected in any of the soil samples collected, and generally were not detected in the groundwater samples with the exception of low concentrations of TCE, cis-1,2-DCE, and vinyl chloride in the sample collected from boring SB-15 in the northeast corner of the site.

The highest hydrocarbon concentrations in soil gas were detected in vapor wells VP-4, VP-5, and VP-6 located in the area of the former ASTs. Significantly lower concentrations were detected in vapor wells VP-1 and VP-2 located downgradient of VP-4. Chlorinated solvents were not detected in the soil vapor samples. Additional details of this investigation are presented in CRA's report entitled *Site Investigation Report*, dated October 2008.

2009 Monitoring Well Installation and Sub-Slab Vapor Sampling

In June 2009, CRA installed monitoring wells MW-2 through MW-5 to total depths of 16 to 20.5 fbg in order to further evaluate groundwater quality beneath the site. The new monitoring wells were installed within the former ASTs (MW-3), and north (MW-5), south (MW-2), and east (MW-4) of the former ASTs. Soil analytical data indicated that the majority of TPHd and TPHg concentrations in soil are located north to south through the former ASTs and generally decreases with depth. The highest TPHd concentration detected was from well boring MW-3 at 4 fbg at a concentration of 610 mg/kg. The highest TPHg concentration detected was from well boring MW-2 at 4.5 fbg at 1,100 mg/kg. No petroleum hydrocarbons were detected in perimeter well boring MW-4. No grab-groundwater samples were collected.

CRA also installed sub-slab vapor points beneath the two western buildings at the site in order to further evaluate potential vapor intrusion beneath the buildings. Two sub-slab vapor points (VP-7 and VP-8) were installed inside 2317 Blanding Avenue and five sub-slab vapor points (VP-9 through VP-13) were installed inside 2307 Blanding Avenue. The highest hydrocarbon concentrations in soil gas were detected in vapor points VP-9 and VP-13, located west-southwest of the former ASTs. Lower concentrations were detected in vapor points VP-8, and VP-10 through VP-12. All detected concentrations were below the shallow soil gas ESL of 29,000 micrograms per cubic meter (µg/m³). Target chlorinated solvents were not detected in the soil vapor samples. Additional details of this investigation are presented in CRA's *Well Installation and Sub-Slab Vapor Sampling Report*, dated September 8, 2009.

2009 Vapor Sampling

In October 2009, CRA re-install and re-sample sub-slab vapor points VP-9 through VP-13 due to ambient air leaks detected during the initial sampling and to further evaluate the elevated soil vapor concentrations detected in vapor wells VP-1 through VP-6. The results of the re-sampling

of the vapor wells VP-1 through VP-5 located outside of the buildings were consistent with previous results for vapor wells VP-3 through VP-5. However, results of the re-sampling of vapor wells VP-1 and VP-2 indicated no TPHg or benzene vapor concentrations at each of these locations, which is not consistent with the initial sample results from August 2008. Additional details of this investigation are presented in CRA's *Vapor Sampling Report*, dated December 2, 2009.

APPENDIX C
WELL PERMITS

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 07/20/2010 By jamesy

Permit Numbers: W2010-0544 to W2010-0546
Permits Valid from 07/26/2010 to 07/29/2010

Application Id: 1279321839059
Site Location: 2301-2311 Blanding Avenue, Alameda, CA
Project Start Date: 07/26/2010
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

City of Project Site:Alameda

Completion Date:07/29/2010

Applicant: Conestoga Rovers & Associates - Brian Silva
10969 Trade Center Dr, Rancho Cordova, CA 95670
Property Owner: Julie Beck Ball & Peter Reinhold Beck
2720 Broderick St., San Francisco, CA 94123
Client: Chevron Environmental Manageemt Co.
1455 State College Blvd., Brea, CA 92821

Phone: 916-889-8900

Phone: --

Phone: --

	Total Due:	\$1191.00
Receipt Number: WR2010-0256	Total Amount Paid:	\$1191.00
Payer Name : Conestoga Rovers	Paid By: CHECK	PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 3 Wells
Driller: PeneCore - Lic #: 906899 - Method: hstem

Work Total: \$1191.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2010-0544	07/20/2010	10/24/2010	MW-1RA	8.00 in.	2.00 in.	6.00 ft	15.00 ft
W2010-0545	07/20/2010	10/24/2010	MW-1RB	10.00 in.	2.00 in.	11.00 ft	20.00 ft
W2010-0546	07/20/2010	10/24/2010	MW-6	8.00 in.	2.00 in.	11.00 ft	20.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

Alameda County Public Works Agency - Water Resources Well Permit

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
 5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
 6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
 8. Minimum surface seal thickness is two inches of cement grout placed by tremie
 9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
 10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-

APPENDIX D
BORING/WELL CONSTRUCTION LOGS

Boring/Well Log Legend

KEY TO SYMBOLS/ABBREVIATIONS

- First encountered groundwater
- Static groundwater
- Soils logged by hand-auger or air-knife cuttings
- Soils logged by drill cuttings or disturbed sample
- Undisturbed soil sample interval
- Soil sample retained for submittal to analytical laboratory
- No recovery within interval
- Hydropunch screen interval

- PID = Photo-ionization detector or organic vapor meter reading in parts per million (ppm)
- fbg = Feet below grade
- Blow Counts = Number of blows required to drive a California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch sample interval
- (10YR 4/4) = Soil color according to Munsell Soil Color Charts
- msl = Mean sea level
- Soils logged according to the USCS.

UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

Major Divisions		Graphic	Group Symbol	Typical Description	
Coarse-Grained Soils (>50% Sands and/or Gravels)	Gravel and Gravelly Soils		GW	Well-graded gravels, gravel-sand mixtures, little or no fines	
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines	
		Gravels with Fines (≥15% fines)	GM	Silty gravels, gravel-sand-silt mixtures	
			GC	Clayey gravels, gravel-sand-clay mixtures	
	Sand and Sandy Soils	Clean Sands (≤5% fines)		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sand, little or no fines
Sands with Fines (≥15% fines)		SM	Silty sands, sand-silt mixtures		
	SC	Clayey sands, sand-clay mixtures			
Fine-Grained Soils (>50% Silts and/or Clays)	Silts and Clays		ML	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity	
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
			OL	Organic silts and organic silty clays of low plasticity	
	Silts and Clays		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils	
			CH	Inorganic clays of high plasticity	
			OH	Organic clays of medium to high plasticity, organic silts	
Highly Organic Soils			PT	Peat, humus, swamp soils with high organic contents	

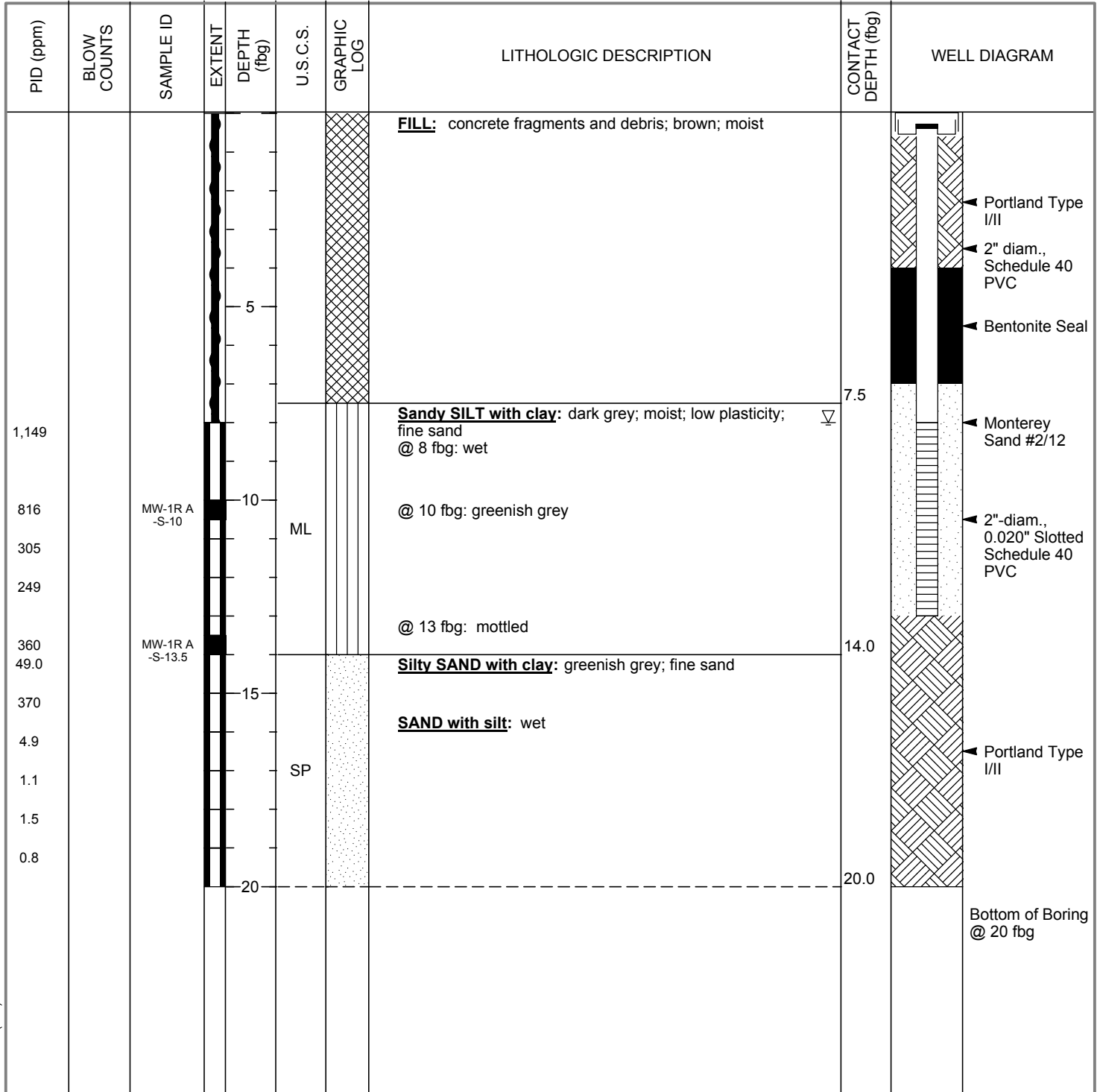


Conestoga Rovers & Associates
 10969 Trade Center Drive, Suite 107
 Rancho Cordova, California
 Telephone: 916-889-8900
 Fax: 916-889-8999

BORING/ WELL LOG

CLIENT NAME	<u>Chevron Environmental Management Co.</u>	BORING/WELL NAME	<u>MW-1RA</u>
JOB/SITE NAME	<u>Former Signal Oil Bulk Plant (Chevron 20-6127)</u>	DRILLING STARTED	<u>04-Aug-10</u>
LOCATION	<u>2301-2311 Blanding Avenue, Alameda, CA</u>	DRILLING COMPLETED	<u>04-Aug-10</u>
PROJECT NUMBER	<u>631916</u>	WELL DEVELOPMENT DATE (YIELD)	<u>NA</u>
DRILLER	<u>Penecore</u>	GROUND SURFACE ELEVATION	<u>13.68 ft above msl</u>
DRILLING METHOD	<u>Hollow-stem auger</u>	TOP OF CASING ELEVATION	<u>13.02 ft above msl</u>
BORING DIAMETER	<u>8"</u>	SCREENED INTERVALS	<u>8 to 13 fbg</u>
LOGGED BY	<u>B. Yifru</u>	DEPTH TO WATER (First Encountered)	<u>8.0 fbg (04-Aug-10)</u> ▾
REVIEWED BY	<u>G. Barclay</u>	DEPTH TO WATER (Static)	<u>NA</u> ▾
REMARKS	<u>Cleared to 8 fbg with Air Knife</u>		

WELL LOG (PID) I:\CHEVRON\631916-1\631916-1\631916-GINT-082010.GPJ DEFAULT.GDT 9/15/10





Conestoga Rovers & Associates
 10969 Trade Center Drive, Suite 107
 Rancho Cordova, California
 Telephone: 916-889-8900
 Fax: 916-889-8999

BORING/ WELL LOG

CLIENT NAME	<u>Chevron Environmental Management Co.</u>	BORING/WELL NAME	<u>MW-1RB</u>
JOB/SITE NAME	<u>Former Signal Oil Bulk Plant (Chevron 20-6127)</u>	DRILLING STARTED	<u>04-Aug-10</u>
LOCATION	<u>2301-2311 Blanding Avenue, Alameda, CA</u>	DRILLING COMPLETED	<u>04-Aug-10</u>
PROJECT NUMBER	<u>631916</u>	WELL DEVELOPMENT DATE (YIELD)	<u>NA</u>
DRILLER	<u>Penecore</u>	GROUND SURFACE ELEVATION	<u>13.65 ft above msl</u>
DRILLING METHOD	<u>Hollow-stem auger</u>	TOP OF CASING ELEVATION	<u>13.21 ft above msl</u>
BORING DIAMETER	<u>8"</u>	SCREENED INTERVALS	<u>16.5 to 20 fbg</u>
LOGGED BY	<u>B. Yifru</u>	DEPTH TO WATER (First Encountered)	<u>8.0 fbg (04-Aug-10)</u> ▽
REVIEWED BY	<u>G. Barclay</u>	DEPTH TO WATER (Static)	<u>NA</u> ▽
REMARKS	<u>Cleared to 8 fbg with Air Knife; re-installed well, previously MW-1</u>		

WELL LOG (PID) I:\CHEVRON\631916-1\631916-1\631916-GINT-082010.GPJ DEFAULT.GDT 9/15/10

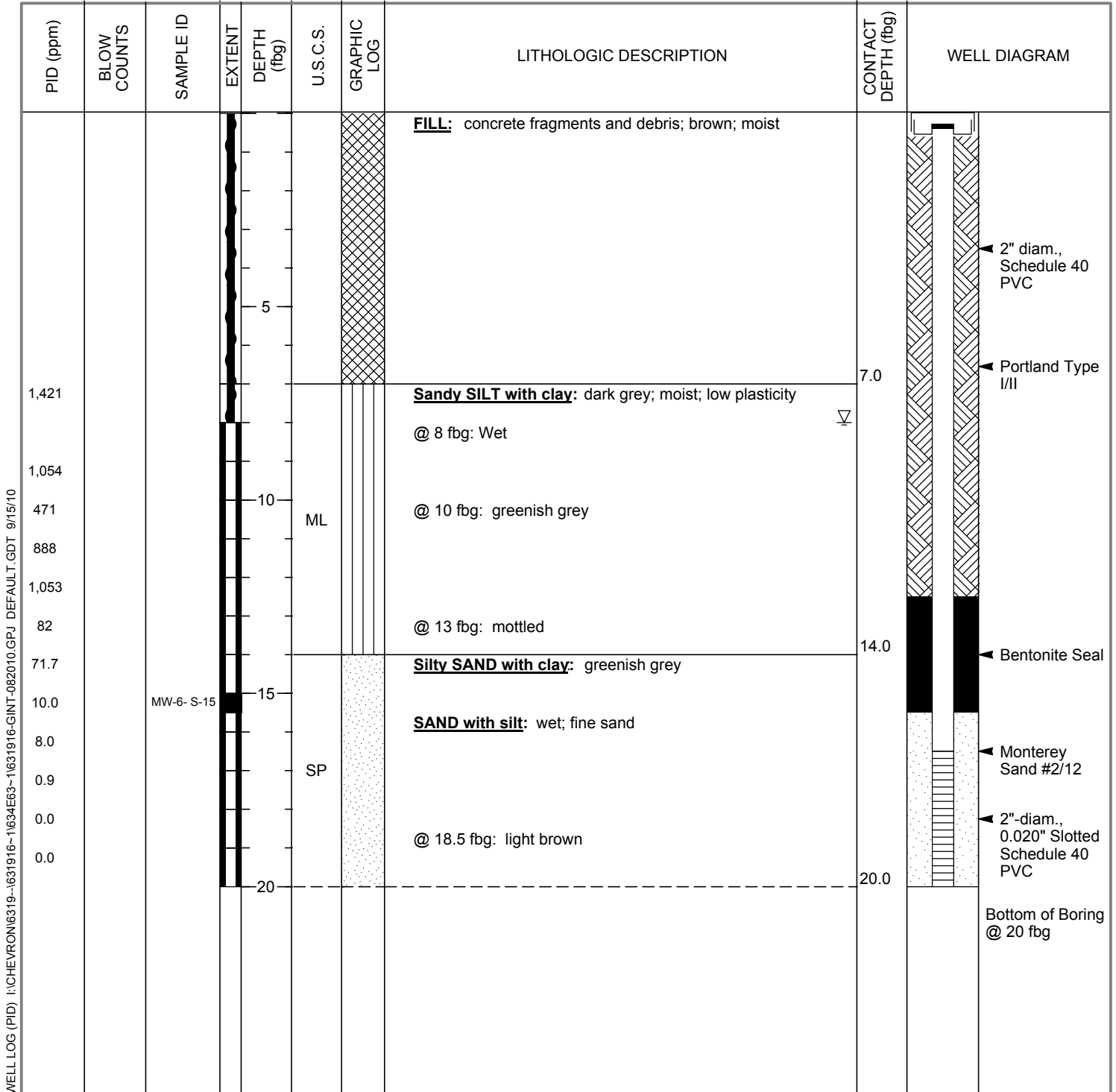
PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
						Please refer to boring log MW-1RA for lithology.		



Conestoga Rovers & Associates
 10969 Trade Center Drive, Suite 107
 Rancho Cordova, California
 Telephone: 916-889-8900
 Fax: 916-889-8999

BORING/ WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-6
JOB/SITE NAME	Former Signal Oil Bulk Plant (Chevron 20-6127)	DRILLING STARTED	04-Aug-10
LOCATION	2301-2311 Blanding Avenue, Alameda, CA	DRILLING COMPLETED	04-Aug-10
PROJECT NUMBER	631916	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Penecore	GROUND SURFACE ELEVATION	13.21 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	12.98 ft above msl
BORING DIAMETER	8"	SCREENED INTERVALS	16.5 to 20 fbg
LOGGED BY	B. Yifru	DEPTH TO WATER (First Encountered)	8.0 fbg (04-Aug-10)
REVIEWED BY	G. Barclay	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg with Air Knife		



APPENDIX E
STANDARD FIELD PROCEDURES

Conestoga-Rovers & Associates

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 Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

Soil Boring and Sampling

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.

Conestoga-Rovers & Associates

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.

Conestoga-Rovers & Associates

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.

APPENDIX F
LABORATORY ANALYTICAL REPORT

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

August 11, 2010

Project: 206127

Submittal Date: 08/06/2010
Group Number: 1206392
PO Number: 0015060859
Release Number: BAUER
State of Sample Origin: CAClient Sample DescriptionMW-IRA-S-13.5-100804 Grab Soil
MW-6-S-15-100804 Grab Soil
MW-IRA-S-10-100804 Grab SoilLancaster Labs (LLI) #6051562
6051563
6051564

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Chevron
COPY TO
ELECTRONIC CRA
COPY TO

Attn: CRA EDD

Attn: Brian Silva

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300 Ext. 1903

Respectfully Submitted,



Robin C. Runkle
Senior Specialist



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: MW-IRA-S-13.5-100804 Grab Soil
Facility# 206127 CRAW
 2301-2337 Blanding-Alameda T06019744728 MW-IRA

LLI Sample # SW 6051562
LLI Group # 1206392
Account # 10880

Project Name: 206127

Collected: 08/04/2010 12:55 by AR

ChevronTexaco

6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

Submitted: 08/06/2010 09:30

Reported: 08/11/2010 17:05

Discard: 09/11/2010

IRA-1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B						
10950	Benzene	71-43-2	0.24	0.025	0.25	50.3
10950	Ethylbenzene	100-41-4	0.068	0.050	0.25	50.3
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.025	0.25	50.3
10950	Toluene	108-88-3	N.D.	0.050	0.25	50.3
10950	Xylene (Total)	1330-20-7	0.057	0.050	0.25	50.3

The GC/MS volatile analysis was performed according to the high level soil method due to the level of non-target compounds. Therefore, the reporting limits were raised.

GC Volatiles	SW-846 8015B modified	mg/kg	mg/kg	mg/kg		
01725	TPH-GRO N. CA soil C6-C12	n.a.	490	19	19	484.97
GC Extractable TPH SW-846 8015B						
w/Si Gel						
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	120	4.0	12	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10950	BTEX/MTBE 8260 Soil	SW-846 8260B	1	Q102211AA	08/09/2010 21:50	Kristen D Pelliccia	50.3
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:14	Scott W Freisher	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	10222A31A	08/10/2010 18:50	Elizabeth J Marin	484.97
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201021821951	08/06/2010 22:15	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	102190014A	08/10/2010 01:20	Melissa McDermott	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3550B	1	102190014A	08/09/2010 11:30	Olivia Arosemena	1

*=This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: MW-6-S-15-100804 Grab Soil
 Facility# 206127 CRAW
 2301-2337 Blanding-Alameda T06019744728 MW-6

LLI Sample # SW 6051563
 LLI Group # 1206392
 Account # 10880

Project Name: 206127

Collected: 08/04/2010 09:30 by AR

ChevronTexaco

6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

Submitted: 08/06/2010 09:30

Reported: 08/11/2010 17:05

Discard: 09/11/2010

61276

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B						
10950	Benzene	71-43-2	0.12	0.0005	0.005	0.99
10950	Ethylbenzene	100-41-4	0.003	0.001	0.005	0.99
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.99
10950	Toluene	108-88-3	0.002	0.001	0.005	0.99
10950	Xylene (Total)	1330-20-7	0.003	0.001	0.005	0.99
GC Volatiles SW-846 8015B modified						
01725	TPH-GRO N. CA soil C6-C12	n.a.	1.2	1	1	24.7
GC Extractable TPH SW-846 8015B						
w/Si Gel						
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	N.D.	4.0	12	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10950	BTEX/MTBE 8260 Soil	SW-846 8260B	1	B102211AA	08/09/2010 14:27	Emily R Styer	0.99
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:20	Scott W Freisher	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	10222A31A	08/10/2010 17:37	Elizabeth J Marin	24.7
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201021821951	08/06/2010 22:21	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	102190014A	08/10/2010 01:41	Melissa McDermott	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3550B	1	102190014A	08/09/2010 11:30	Olivia Arosemena	1

*=This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: MW-IRA-S-10-100804 Grab Soil
Facility# 206127 CRAW
 2301-2337 Blanding-Alameda T06019744728 MW-IRA

LLI Sample # SW 6051564
LLI Group # 1206392
Account # 10880

Project Name: 206127

Collected: 08/04/2010 12:50 by AR

ChevronTexaco

6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

Submitted: 08/06/2010 09:30

Reported: 08/11/2010 17:05

Discard: 09/11/2010

IRA-2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B						
10950	Benzene	71-43-2	0.54	0.025	0.25	49.8
10950	Ethylbenzene	100-41-4	0.43	0.050	0.25	49.8
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.025	0.25	49.8
10950	Toluene	108-88-3	N.D.	0.050	0.25	49.8
10950	Xylene (Total)	1330-20-7	0.12	0.050	0.25	49.8

The GC/MS volatile analysis was performed according to the high level soil method due to the level of non-target compounds. Therefore, the reporting limits were raised.

GC Volatiles	SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
01725	TPH-GRO N. CA soil C6-C12	n.a.	380	38	959.69

GC Extractable TPH w/Si Gel	SW-846 8015B	mg/kg	mg/kg	mg/kg	
02222	TPH-DRO soil C10-C28 w/Si Gel	n.a.	260	4.0	12

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10950	BTEX/MTBE 8260 Soil	SW-846 8260B	1	Q102211AA	08/09/2010 21:04	Kristen D Pelliccia	49.8
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201021821951	08/06/2010 22:53	Scott W Freisher	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201021821951	08/06/2010 22:24	Scott W Freisher	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	10222A31A	08/10/2010 19:26	Elizabeth J Marin	959.69
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201021821951	08/06/2010 22:25	Scott W Freisher	n.a.
02222	TPH-DRO soil C10-C28 w/Si Gel	SW-846 8015B	1	102190014A	08/10/2010 02:03	Melissa McDermott	1
11210	DRO by 8015 Microwave w/ SG	SW-846 3550B	1	102190014A	08/09/2010 11:30	Olivia Arosemena	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

 Client Name: ChevronTexaco
 Reported: 08/11/10 at 05:05 PM

Group Number: 1206392

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: B102211AA	Sample number(s): 6051563								
Benzene	N.D.	0.0005	0.005	mg/kg	102	89	80-120	14	30
Ethylbenzene	N.D.	0.001	0.005	mg/kg	95	80	80-120	17	30
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005	mg/kg	90	78	74-121	15	30
Toluene	N.D.	0.001	0.005	mg/kg	96	83	80-120	14	30
Xylene (Total)	N.D.	0.001	0.005	mg/kg	96	82	80-120	16	30
Batch number: Q102211AA	Sample number(s): 6051562,6051564								
Benzene	N.D.	0.025	0.25	mg/kg	96	97	80-120	1	30
Ethylbenzene	N.D.	0.050	0.25	mg/kg	94	94	80-120	0	30
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25	mg/kg	94	94	74-121	1	30
Toluene	N.D.	0.050	0.25	mg/kg	98	98	80-120	0	30
Xylene (Total)	N.D.	0.050	0.25	mg/kg	95	96	80-120	0	30
Batch number: 10222A31A	Sample number(s): 6051562-6051564								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	94	100	67-119	6	30
Batch number: 102190014A	Sample number(s): 6051562-6051564								
TPH-DRO soil C10-C28 w/Si Gel	N.D.	4.0	12	mg/kg	91	92	76-117	1	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
 Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: B102211AA	Sample number(s): 6051563 UNSPK: P052233								
Benzene	111		55-143						
Ethylbenzene	98		44-141						
Methyl Tertiary Butyl Ether	92		55-129						
Toluene	105		50-146						
Xylene (Total)	97		44-136						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs by 8260B - Solid
 Batch number: B102211AA

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 08/11/10 at 05:05 PM

Group Number: 1206392

Surrogate Quality Control

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6051563	100	105	98	96
Blank	103	106	96	87
LCS	101	109	101	101
LCSD	100	105	100	99
MS	98	99	104	94

Limits: 71-114 70-109 70-123 70-111

Analysis Name: VOCs by 8260B - Solid
Batch number: Q102211AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6051562	81	90	99	99
6051564	84	91	98	96
Blank	95	104	98	90
LCS	93	101	96	92
LCSD	93	99	97	93

Limits: 71-114 70-109 70-123 70-111

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 10222A31A

	Trifluorotoluene-F
6051562	488*
6051563	83
6051564	366*
Blank	96
LCS	91
LCSD	97

Limits: 61-122

Analysis Name: TPH-DRO soil C10-C28 w/Si Gel
Batch number: 102190014A

	Orthoterphenyl
6051562	94
6051563	94
6051564	97
Blank	97
LCS	105
LCSD	109

Limits: 59-129

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Chevron California Region Analysis Request/Chain of Custody



080514-04 P. 2012

For Lancaster Laboratories use only

240433

Acct. #: 10880

Sample #: 6051562-64

SCR#: _____

1206392

Facility #: 20-6127
 Site Address: 2301-2311 Blanding Ave Alameda California
 Chevron PM: Mike Bauer Lead Consultant: CRA
 Consultant/Office: Rafael Cordova
 Consultant Prj. Mgr.: Brian Silva
 Consultant Phone #: (916) 887-8908 Fax #: _____
 Sampler: ALMAROSE ROMUALDO
 Service Order #: _____ Non SAR: _____

Analyses Requested

Preservation Codes

Preservative Codes
 H = HCl T = Thiosulfate
 N = HNO₃ B = NaOH
 S = H₂SO₄ O = Other

J value reporting needed
 Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
 Confirm highest hit by 8260
 Confirm all hits by 8260
 Run ___ oxy's on highest hit
 Run ___ oxy's on all hits

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX + MTBE 8260 <input type="checkbox"/> 8021 <input type="checkbox"/>	TPH 8015 MOD GRO	TPH 8015 MOD DRO <input checked="" type="checkbox"/> Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 <input type="checkbox"/> 7421 <input type="checkbox"/>
MW-1RA	SOIL		13.5	2010-8-4	1255	Y	X		1	X	X	X			
MW-6	SOIL	---	15	2010-8-4	12---										
MW-6	SOIL		15	2010-8-4	0930	Y	X		1	X	X	X			
MW-1RA	SOIL		10	2010-8-4	1250	Y	X		1	X	X	X			

Comments / Remarks
 EDF to
 donave@cravorld.com
 cc
 kidapler@cravorld.com
 cc
 bsilva@cravorld.com

Turnaround Time Requested (TAT) (please circle)

STD. TAT 72 hour 48 hour
 24 hour 4 day 5 day

Data Package Options (please circle if required)

QC Summary Type I - Full
 Type VI (Raw Data) Coelt Deliverable not needed
 WIP (RWQCB)
 Disk

Relinquished by: <u>ALMAROSE ROMUALDO</u>	Date <u>08/5/10</u>	Time <u>1544</u>	Received by: <u>Cr. Alvarez</u>	Date <u>05 AUG 10</u>	Time <u>1500</u>
Relinquished by: <u>Cr. Alvarez</u>	Date <u>05 AUG 10</u>	Time <u>1630</u>	Received by: FEDEX	Date	Time
Relinquished by: _____	Date	Time	Received by: _____	Date	Time
Relinquished by Commercial Carrier: UPS <input checked="" type="checkbox"/> FedEx Other _____	Date	Time	Received by: <u>[Signature]</u>	Date <u>8/6/10</u>	Time <u>0930</u>
Temperature Upon Receipt <u>13.39</u> °C	Custody Seals Intact? Yes No				

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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