CONESTOGA-ROVERS & ASSOCIATES

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Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: July 16, 2012

REFERENCE NO.: 060727

PROJECT NAME: Former 76 Service Station 351644

TO: Keith Nowell
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California

RECEIVED
5:14 pm, Jul 25, 2012
Alameda County
Environmental Health

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

Sent via:
- ☐ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other Geotracker and ACEH ftp site.

QUANTITY	DESCRIPTION
1	Closure Request

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

COMMENTS:
Please call Kiersten Hoey at 510-420-3347 with any questions or comments

Copy to: Ms Roya Kambin (electronic copy)

Ms. Barbara Bee Allen
4567 Enterprise St
Fremont, CA 94538

Completed by: Kiersten Hoey [Please Print]

Signed: Kiersten Hoey

Filing: **Correspondence File**

Roya Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6270
RKambin@Chevron.com

July 16, 2012

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

Re: Former 76 Service Station No. 351644
66 MacArthur Boulevard
Oakland, California
ACHCS Case NO 0455

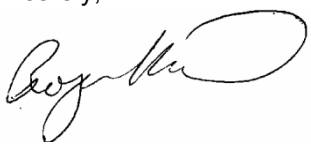
I accept the **Closure Request** dated July 16, 2012.

I agree with the conclusions and recommendations presented in this document. The information included is accurate to the best of my knowledge, and appears to meet local agency and Regional Board guidelines. This **Closure Request** was prepared by Conestoga Rovers & Associates, upon whose assistance and advice I have relied.

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

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

Sincerely,



Roya Kambin
Project Manager

Attachment: **Closure Request**

CLOSURE REQUEST

76 PRODUCTS SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
ACEH CASE 0455

Prepared For:

Ms. Barbara Jakub
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Prepared by:
Conestoga-Rovers & Associates

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JULY 16, 2012
REF. NO. 060727 (6)
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CLOSURE REQUEST

76 PRODUCTS SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
ACEH CASE 0455

Kiersten Hoey

Greg Barclay, PG 6260

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1.0 INTRODUCTION

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), Conestoga-Rovers & Associates (CRA) is submitting this *Closure Request.* Based on our review of the available site background and conditions documented in historical reports, this site meets the San Francisco Bay Region-Regional Water Quality Control Board (RWQCB-SF) definition of a low-risk fuel site described in their memorandum "Interim Guidance on Required Clean-up at Low-Risk Fuel Sites" dated January 5, 1996. The site background, site conditions, and our request for closure based on the low-risk fuel site criteria are presented below.

2.0 SITE DESCRIPTION

2.1 SITE BACKGROUND

The site is a former 76 Products Service Station currently branded as a QuikStop Service Station located on the north corner of MacArthur Boulevard and Harrison Avenue in Oakland, California (Figure 1). The station facilities include a station building, two fuel underground storage tanks (USTs), four dispenser islands, and associated piping (Figures 2 and 3). Land use in the vicinity of the site is mixed residential and commercial with Interstate 580 located to the west, and residences beyond the Interstate. A Former BP Service Station (RO0000456) currently branded as a 76 Products Service Station is located to the south (crossgradient).

Environmental investigations have been ongoing since 1992 when dispenser islands and product piping were upgraded. Since then, 11 monitoring wells have been installed (four have been subsequently destroyed), and 14 soil borings have been advanced (Figures 2 and 3). The used-oil UST, dispensers, and associated product piping have been replaced twice, and the fuel USTs have been replaced once. During the 1998 UST replacements, approximately 2,100 tons of soil was excavated and disposed offsite. In 2002, an ozone injection system and eight microsparge wells were installed and activated at the site. A summary of previous environmental investigation and remediation is included in Appendix A.

2.2 SITE GEOLOGY AND HYDROGEOLOGY

The site is located approximately 80 feet above mean seal level (amsl) in the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain is characterized by westward sloping alluvial fan deposits. The cumulative aquifer thickness in the region is approximately 1,000 feet, consisting of unconsolidated sediments. Groundwater in this region has been designated beneficial for potential commercial, industrial and residential uses.[1]

Subsurface sediments consist of clay to approximately 5 to 7 feet below grade (fbg), underlain by a mixture of silt, silty sand, and poorly graded sand lenses to approximately 16 fbg. Clay and silt were encountered beneath these layers to the total explored depth of 60 fbg. Historic depths to groundwater have ranged between approximately 5 and 18 fbg and groundwater generally flows toward the southwest. The nearest surface water body is Glen Echo Creek approximately 1,000 feet northwest. Boring logs are included in Appendix B and geologic cross-sections are presented as Figures 4 and 5.

3.0 SENSITIVE RECEPTOR SURVEY

On February 28, 2012, CRA conducted a search of California Department of Water Resources (DWR) records to locate any municipal or domestic wells located within a one-half mile radius of the site. Two monitoring wells were located approximately one-half mile west of the site at a former Chevrolet car dealership, but no water supply wells were located. The nearest surface waters are Glen Echo Creek, approximately 1,000 feet northwest of the site, and Lake Merritt, approximately 4,300 feet south.

No other potential receptors (schools, hospitals, etc) were identified within one quarter mile distance of the site during the 2012 sensitive receptor evaluation.

4.0 HYDROCARBON REMEDIATION

In May 1992, the dispenser islands and associated product piping were removed and replaced and approximately 18 cubic yards of soil was removed and disposed of at a landfill. In August 1994, a 280-gallon single-walled steel used-oil UST was removed and replaced with a 550-gallon double-walled steel used-oil UST. Due to observed soil

[1] San Francisco Bay Basin (Region 2), Water Quality Control Plan (Basin Plan), December 31, 2011

staining, soil was over-excavated to 14 fbg over an area of 9 feet by 8 feet. In May 1998, the two 12,000-gallon double-wall steel gasoline USTs, 550-gallon double-walled steel used-oil UST, two hydraulic lifts, two dispenser islands and associated single-walled product piping were removed. A total of 1,253 tons of soil were removed from the site during removal activities and transported to a landfill. North of the former gasoline UST pit, 875 tons of soil were excavated (44 feet by 22 feet by 13 fbg) for the location of the current gasoline USTs.

In March and April 2002, ozone microsparge wells SP-A, SP-BS/BD, SP-C, SP-DS/DD, SP-E, SP-F, SP-G and SP-H were installed to depths ranging from 25 to 30 fbg, and an ozone injection system was installed and activated at the site. As of May 28, 2012 the ozone sparge system has operated a total of 52,615 hours.[2]

5.0 HYDROCARBON DISTRIBUTION

The primary constituents of concern (COCs) are total petroleum hydrocarbon as gasoline (TPHg), benzene, and methyl tertiary butyl ether (MTBE). Other COCs are total oil and grease (TOG), total petroleum hydrocarbon as diesel (TPHd), toluene, ethylbenzene, xylenes, and tertiary butyl alcohol (TBA).

5.1 SOIL

Based on analytical results from soil samples collected during UST removals, excavation sampling, and subsurface investigations, the distribution of hydrocarbons in soil has been adequately defined. TOG, TPHd, and metals were only analyzed in soil samples collected during the used-oil UST removals and from MW-4, EB1, and EB2, located adjacent to former used-oil UST. Based on data from EB1 and EB2, TOG and TPHd appear to be localized to the area of the former used-oil UST and MW-4, and concentrations are vertically defined to 14 fbg by sample WO1. Metal concentrations are low and below Environmental Screening Levels (ESLs)[3] for direct contact to both construction and commercial workers.

---

2 Environ Strategy Consultant Inc., *May 2012 Monthly 76 Service Station No. 1871 (351644) Ozone Air Sparge O&M Report Workbook.*

3 Environmental Screening Levels from California Regional Water Quality Control Board San Francisco Bay Region *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* Interim Final – November 2007 (Revised May 2008)

The highest TPHg and benzene concentrations were historically detected in SW3 and SW4 along the western edge of the former gasoline UST pit; however, these sample locations were over-excavated. Residual TPHg and benzene concentrations are centered around the former gasoline UST pit and dispenser islands and in downgradient well boring MW-6, with the highest concentrations of 1,700 milligrams per kilogram (mg/kg) TPHg and 3.10 mg/kg benzene, detected in dispenser island sample D3-A. Concentrations are laterally (Figure 6) and vertically (Figures 4 and 5) defined. Residual MTBE concentrations are detected around the former gasoline USTs and dispenser islands and extend downgradient, but are laterally defined to the extent practicable (Figure 6) and vertically defined onsite by CPT1 and downgradient by MW-11.

Cumulative soil analytical data are presented in Table 1. The vertical extent of hydrocarbons in soil is illustrated on geologic cross-sections Figures 4 and 5 and the lateral extent of maximum soil concentrations are presented on Figure 6.

5.2 GROUNDWATER

Dissolved TPHd was analyzed in well MW-4, located adjacent to the former used-oil UST, on seven sampling events from 1996 through 1998, and was only detected twice at a maximum concentration of 210 micrograms per liter (µg/L). The highest dissolved TPHg and benzene concentrations were historically detected in well MW-1, located at the southeast corner of the former gasoline UST pit. Concentrations extended to the west and southwest to wells MW-2, MW-3, MW-5, MW-6, MW-7, and MW-8; however, concentrations have decreased three orders of magnitude and are now only detected in well MW-1 at 2,700 µg/L TPHg and 4.7 µg/L benzene. The distribution of dissolved TPHg and benzene are laterally defined by the other six monitoring wells (Figures 7 and 8).

The highest dissolved MTBE concentrations were historically detected in wells MW-1 through MW-7; however, concentrations have decreased by four orders of magnitude with the highest concentrations detected in offsite well MW-9, located on the west side of Santa Clara Avenue. No groundwater sample was collected from MW-9 during the April 2012 sampling event, but 63 µg/L was detected during the previous sampling event. Dissolved MTBE is defined in all directions except west of MW-9 (Figure 9). CRA attempted to define MTBE in this direction but no boring was advanced due to the steepness of the grade (drill rig was unable to level out).

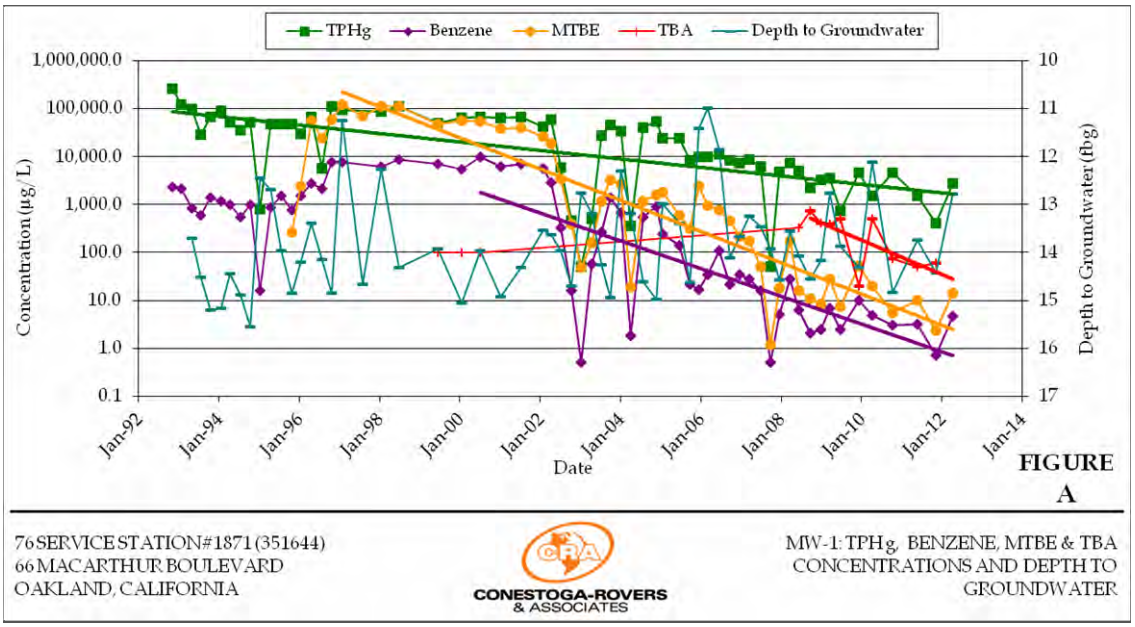
Dissolved hydrocarbon concentrations detected during the April 12, 2012 sampling event are listed in Table A. Grab-groundwater analytical data are presented in Table 2 and current and historical groundwater data are included in Appendix C.

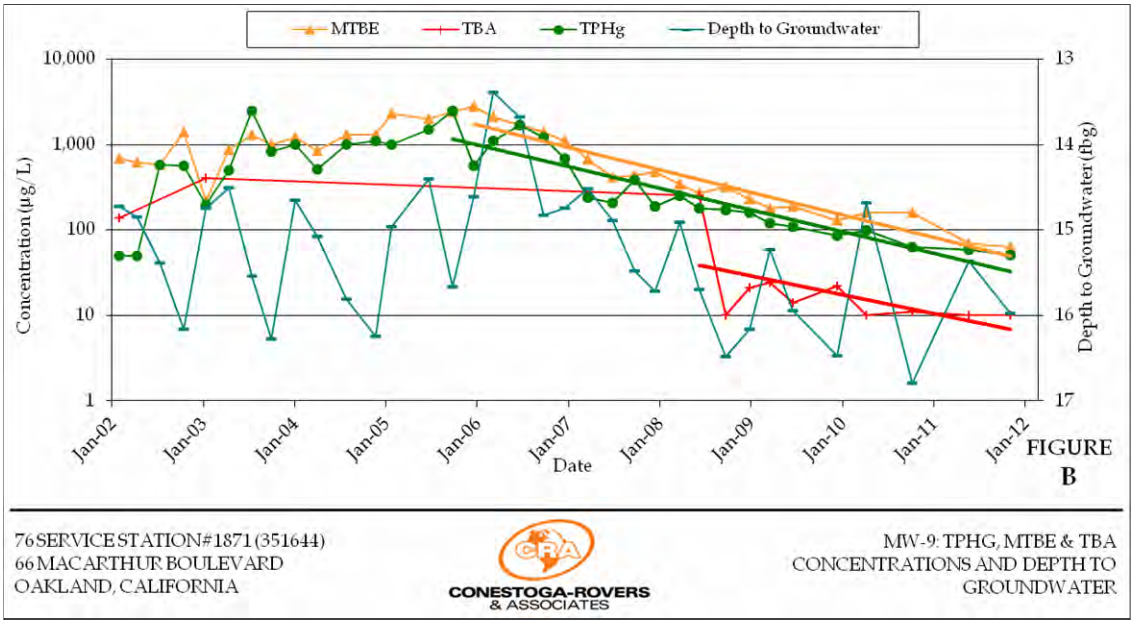
TABLE A
HYDROCARBON CONCENTRATIONS IN GROUNDWATER (APRIL 12, 2012)

	TPHg	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*TBA*
ESLs	***Concentrations in µg/L***						
(Table F-1a)	***100***	***1.0***	***40***	***30***	***20***	***5.0***	***12***
MW-1	**2,700**	**4.7**	<0.50	**130**	7.5	**14**	**170**
MW-6	<50	<0.50	<0.50	<0.50	<1.0	0.96	<10
MW-7	<50	<0.50	<0.50	<0.50	<1.0	4.7	<10
MW-8	<50	<0.50	<0.50	<0.50	<1.0	1.4	<10
MW-9	Not Sampled – Unable to Locate						
MW-10	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-11	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10

Dissolved Hydrocarbon Trends and Projections

Residual dissolved TPHg and benzene are detected only in onsite well MW-1, and the highest residual dissolved MTBE concentrations are centered in offsite well MW-9. Figures A and B below illustrate the rapidly decreasing trends toward the ESLs in these wells. Dissolved TPHg, benzene, MTBE, and TBA have either never been detected or have decreased to below laboratory detection limits and/or ESLs several years ago in wells MW-6, MW-7, MW-8, MW-10, and MW-11. Residual dissolved TPHg, benzene, MTBE, and TBA near or below ESLs are detected in well MW-1, and residual dissolved TPHg and MTBE near or below ESLs are detected in well MW-9. All other constituents have decreased below laboratory detection limits or ESLs in these wells.





CRA used the guidance provided within the United States Environmental Protection Agency (EPA) document *Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies* (November 2002) to estimate the time to reach water quality objectives. Additionally, CRA used the EPA document *On-line Tools for Assessing Petroleum Releases* (September 2004) to assess the proper methodology of determining where to begin a trend analysis. As described in the latter document on page 24, a receptor (in this case, a monitoring well) is located some distance from the source, and no impact to the receptor is seen when the release first occurs. The analytes take time to

travel to the receptor. The first data points that show an analyte detection is called the first arrival time. The first arrival time varies for each receptor based upon distance from the receptor and the transport rates through the heterogeneous medium. As the analyte plume expands and stabilizes, the analyte concentration will reach the maximum concentration. If the source of the release is finite (i.e, a single release from an underground storage tank), the concentration will eventually decrease from the maximum to below the concentration of concern. This period is called the duration.

CRA evaluated the groundwater monitoring data from each well (the receptor) and created a degradation trend analysis for each analyte from the maximum detection through the latest sampling date. The starting point can vary from the maximum detection if the transport mechanisms are not sufficiently linear. For example, groundwater monitoring data may show that the maximum concentration occurred at some point in the past and that degradation seemed to be occurring. However, due to the heterogeneous nature of the subsurface and seasonal groundwater level fluctuations, the duration does not demonstrate a steady degradation behavior. The concentrations of the analyte may increase one or more times before showing consistent attenuation towards the concentration objective.

CRA calculated dissolved TPHg, benzene, MTBE and TBA concentration trends to meet the San Francisco RWQCB's ESLs presented in the Interim Final – November 2007 (Revised May 2008) *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. These ESLs are 100 µg/L TPHg, 1 µg/L benzene, 5 µg/L MTBE, and 12 µg/L TBA. CRA used the following first order exponential decay rate calculation[4] to estimate the time to meet the applicable ESLs:

$$y = be^{(ax)}$$

Where "a" is a decay constant, "b" is a concentration at time (x), y is concentration (WQG) and "x" is time. A summary of historical maximum concentrations and current concentrations for the two wells of concern (MW-1 and MW-9) and projections to meet the ESLs are presented in Table B. Trend graphs and degradation calculations are presented in Appendix D.

[4] EPA-Groundwater Issue; Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies; Charles J. Newell, et al., 2002.

TABLE B SUMMARY OF DEGRADATION RATE CALCULATIONS						
Well	*Analyte*	*Maximum Concentration (ug/L)*	*Current Concentration (ug/L)*	*ESL*	*Date to Reach ESL*	*Years to reach ESL*
MW-1	TPHg	260,000	2,700	100	2026	14
	Benzene	9,910	4.7	1	Near ESL	Near ESL
	MTBE	120,000	14	5	Reached	Reached
	TBA	740	170	12	2014	2
MW-9	TPHg	1,700	51	100	Reached	Reached
	Benzene	<25	<0.50	1	NA	NA
	MTBE	2,800	63	5	2015	3
	TBA	250	<10	12	Reached	Reached

TPHg and TBA in well MW-1 are calculated to reach drinking water ESLs within 14 and 2 years, respectively. MTBE in well MW-1 is fluctuating above and below the ESL and in MW-9 is calculated to reach the drinking water ESL within 3 years. These calculated timeframes are considered reasonable. All other constituents in these wells have already decreased to below the laboratory detection limit or ESL.

5.3 VAPOR

No vapor samples have been collected at this site, however this is an active service station and benzene concentrations in groundwater are two orders of magnitude less than the ESL for potential vapor intrusion to indoor air. Therefore, there does not appear to be a significant risk of vapor intrusion to indoor air of the station building or surrounding buildings.

5.4 LIGHT NON-AQUEOUS PHASE LIQUID

No LNAPL has been detected beneath the site.

6.0 LOW RISK GROUNDWATER CASE CLOSURE CRITERIA

Based on the information presented above, the site meets the RWQCB-SF criteria for a low-risk fuel site. As described by the January 5, 1996 RWQCB-SF memorandum Regional Board Supplemental Instructions to State Water Board December 8, 1995,

Interim Guidance on Required Cleanup at Low-Risk Fuel Sites, a low-risk groundwater case has the following general characteristics:

- The leak was stopped and ongoing sources, including LNAPL, have been removed or remediated to the maximum extent practicable;
- The site has been adequately characterized;
- The dissolved petroleum hydrocarbon plume is not migrating;
- No municipal or private water wells, deeper drinking water aquifers, surface waters, or other sensitive receptors will be affected by any residual concentrations on-site; and,
- The site presents no significant risk to human health or the environment.

Each of the low-risk groundwater case characteristics, as they relate to the site, are discussed below.

6.1 THE LEAK WAS STOPPED AND ONGOING SOURCES, INCLUDING LNAPL HAVE BEEN REMOVED

During the 1994 used-oil UST replacement, hydrocarbon-bearing soil was excavated over an area of 9 feet by 9 feet by 14 feet deep. Dispensers and product piping were replaced in 1992 and again in 1998 when the two 12,000-gallon double-wall steel gasoline USTs, one 550-gallon double wall steel used-oil UST, and two hydraulic lifts were removed. During the 1998 station redevelopment, a total of 2,428 tons of soil was removed and disposed of at an approved landfill. No LNAPL has been observed at the site. In April 2002, an ozone injection system which sparges into wells SP-A, SP-BS/BD, SP-C, SP-DS/DD, SP-E, SP-F, SP-G and SP-H was installed and activated at the site. As of May 28, 2012 the ozone sparge system has operated a total of 52,615 hours.

6.2 THE SITE HAS BEEN ADEQUATELY CHARACTERIZED

Since 1998, 14 soil borings have been advanced and 11 groundwater monitoring wells and 8 microsparge wells have been installed. Based on 71 soil samples collected during well and boring advancement and UST, dispenser, and piping removals, residual petroleum hydrocarbons in soil are minimal, limited in extent and are laterally and vertically defined to the extent practical (Figures 4, 5, and 6). Twenty years of groundwater monitoring data from 11 wells indicates dissolved hydrocarbon concentrations are limited in extent (Figures 7, 8, and 9) and are rapidly declining as a

result of source removal, natural attenuation, and ozone sparging (Appendix D). Therefore, the site has been adequately characterized.

6.3 THE DISSOLVED PETROLEUM HYDROCARBON PLUME IS NOT MIGRATING

Twenty years of groundwater data from 11 groundwater monitoring wells indicates dissolved hydrocarbons are decreasing; and the plume is defined and not migrating. Dissolved TPHg, benzene, and TBA concentrations are limited to well MW-1, and MTBE concentrations above ESLs are limited to wells MW-1 and MW-9.

6.4 NO MUNICIPAL OR PRIVATE WATER WELLS, DEEPER DRINKING WATER AQUIFERS, SURFACE WATERS, OR OTHER SENSITIVE RECEPTORS WILL BE AFFECTED BY ANY RESIDUAL CONCENTRATION ONSITE

Groundwater in this region has been designated beneficial for potential commercial, industrial and residential uses; however, no water production wells were identified within ½-mile of the site. The nearest surface water is Glen Ellen Creek, located 1,000 feet northwest (crossgradient) of the site, which is well beyond the reach of the shrinking dissolved hydrocarbon plume originating at the site. Dissolved hydrocarbons in shallow groundwater are near or below laboratory detection limits and/or ESLs, no hydrocarbons were detected in soil deeper than 29 fbg, and the site is underlain by clay, inhibiting vertical migration; therefore, it is unlikely deeper water aquifers will be affected by any residual petroleum hydrocarbons originating at the site. Therefore, there is no significant risk to sensitive receptors from any residual hydrocarbons originating at the site.

6.5 THE SITE PRESENTS NO SIGNIFICANT RISK TO HUMAN HEALTH OR THE ENVIRONMENT

The subject property is currently an operating 76 service station, and is expected to remain a service station in the foreseeable future. Possible exposure pathways include ingestion, direct contact with soil and groundwater, and vapor intrusion to indoor air. A discussion of each pathway is included below.

Ingestion

Groundwater in this region has been designated beneficial for potential commercial, industrial and residential uses; however, no water production wells were identified within ½-mile of the site. Additionally, the dissolved hydrocarbon plume is located in a shallow water-bearing zone within clay, and is not migrating; as such, it is unlikely that any future drinking water wells or deeper aquifers will be affected by hydrocarbons originating at the site. Therefore, ingestion is not an exposure pathway.

Direct Contact

Direct exposure by a commercial worker or construction/trench workers is possible in the future; however, hydrocarbon concentrations detected in soil are deeper than 5 fbg and with the exception of 17,000 mg/kg TOG at 9 fbg in the former used-oil UST pit, no concentrations exceed the direct exposure ESLs for construction/trench workers. Therefore, there is no significant risk to any future construction workers.

Vapor Intrusion

No vapor samples have been collected at this site; however, this is an active service station and no dissolved hydrocarbon concentrations exceed the groundwater screening levels for evaluation of potential vapor intrusion concerns (ESL Table E-1). Therefore, risk of vapor intrusion into the station building or surrounding developments is unlikely.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our review of site conditions and analytical data, this site satisfies the January 5, 1996 RWQCB-SF criteria for a low-risk fuel site. Hydrocarbon concentrations in groundwater are low, decreasing, and limited in extent. Hydrocarbon mass flux from soil to groundwater is decreasing and groundwater conditions are predicted to reach water quality objectives in a reasonable timeframe.

Site conditions also meet the January 31, 2012 State Water Resources Control Board *UST Low-Threat Closure Policy* criteria for a low-threat case closure that passed on May 1, 2012. Although this policy has not yet received final approval and adoption, it presents criteria for low-risk cases and this site was evaluated against this policy to ensure compliance with anticipated future directive for cases such as this. This site satisfies all seven general criteria:

- The site is located in the East Bay Municipal Utility District.

- Only petroleum releases have occurred.
- Releases from the fuel system have stopped (all USTs were removed in 1998).
- No LNAPL has ever been detected.
- Recent reports, including the present report, have presented and updated the site conceptual model.
- Secondary source removal occurred when soil around the former used-oil UST was over-excavated and an ozone injection system was operated.
- Soil was tested for MTBE since the 1998 UST and piping removal and MTBE has been analyzed in groundwater since 1995.
- The site does not present a nuisance.

Site conditions also meet the media-specific criteria for:

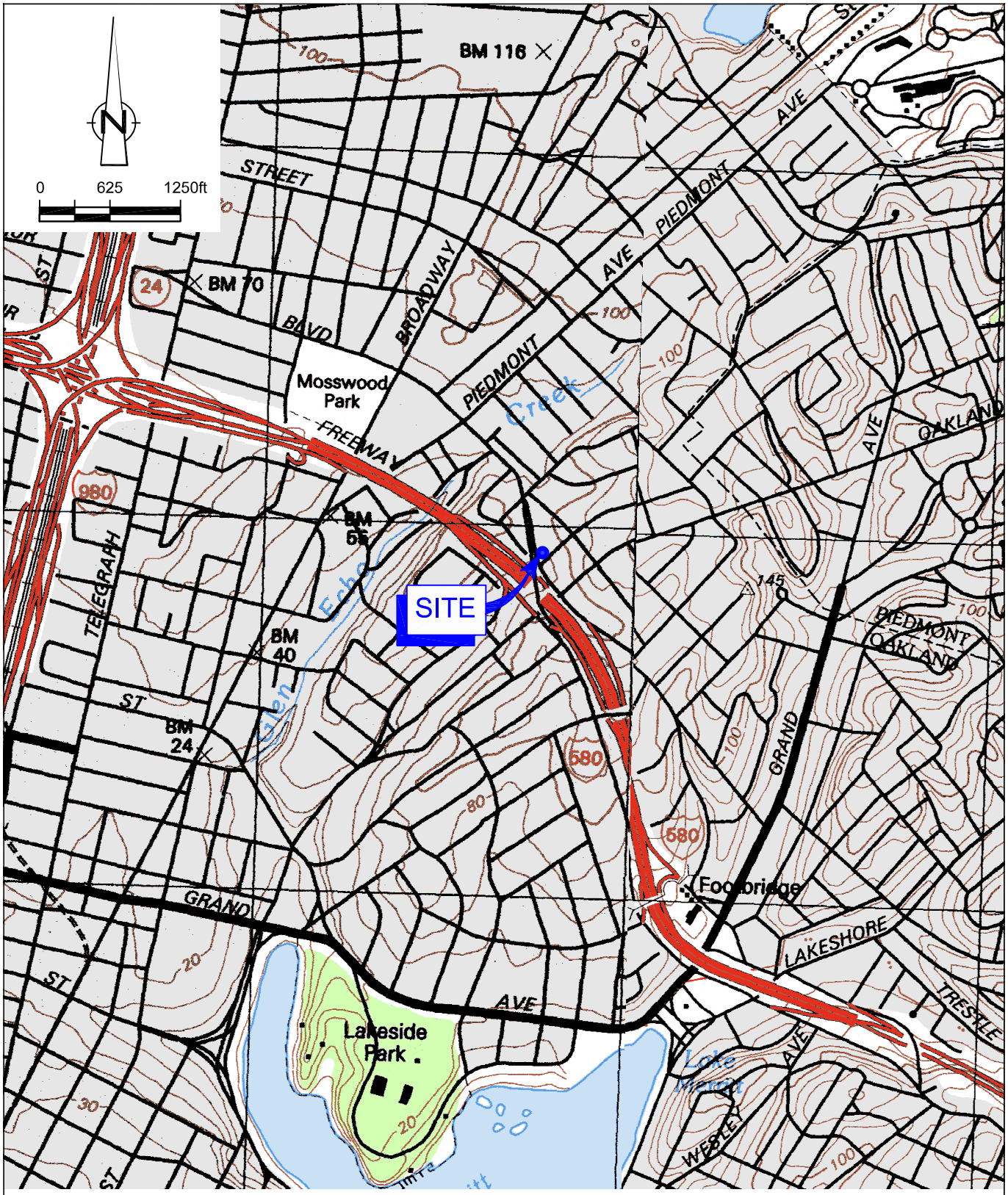
Groundwater: This site meets criteria (1): the hydrocarbon plume that exceeds water quality objectives is less than 100 feet in length, has no LNAPL, and the nearest water supply well or surface water is over 250 feet from the plume boundary.

Soil Vapor: Does not apply to active fueling facilities and dissolved benzene is only detected in well MW-1, 100 feet from the service station.

Direct contact: The site meets criteria (a): maximum petroleum constituent concentrations in soil are less than or equal to those in Table 1 for the specified depth below ground surface.

The site satisfies the January 5, 1996 RWQCB-SF criteria for a low-risk fuel site, and meets the January 31, 2012 State Water Resources Control Board *UST Low-Threat Closure Policy* criteria for a low-threat case closure. Therefore, on behalf of Union Oil, CRA requests no further action and low-risk case closure for the site.

FIGURES



SOURCE: USGS QUADRANGLE MAPS: OAKLAND WEST, CA. & OAKLAND EAST, CA.

Figure 1

VICINITY MAP
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2011(006)GN-EM001 JUL 16/2012

LEGEND
MONITORING WELL
ABANDONED WELL
SOIL BORING
CPT BORING LOCATION
SOIL SAMPLE LOCATION
PROPERTY BOUNDARY LINE
CONCRETE BRIDGE COLUMN
EXTENT OF EXCAVATION

N
0 15 30ft

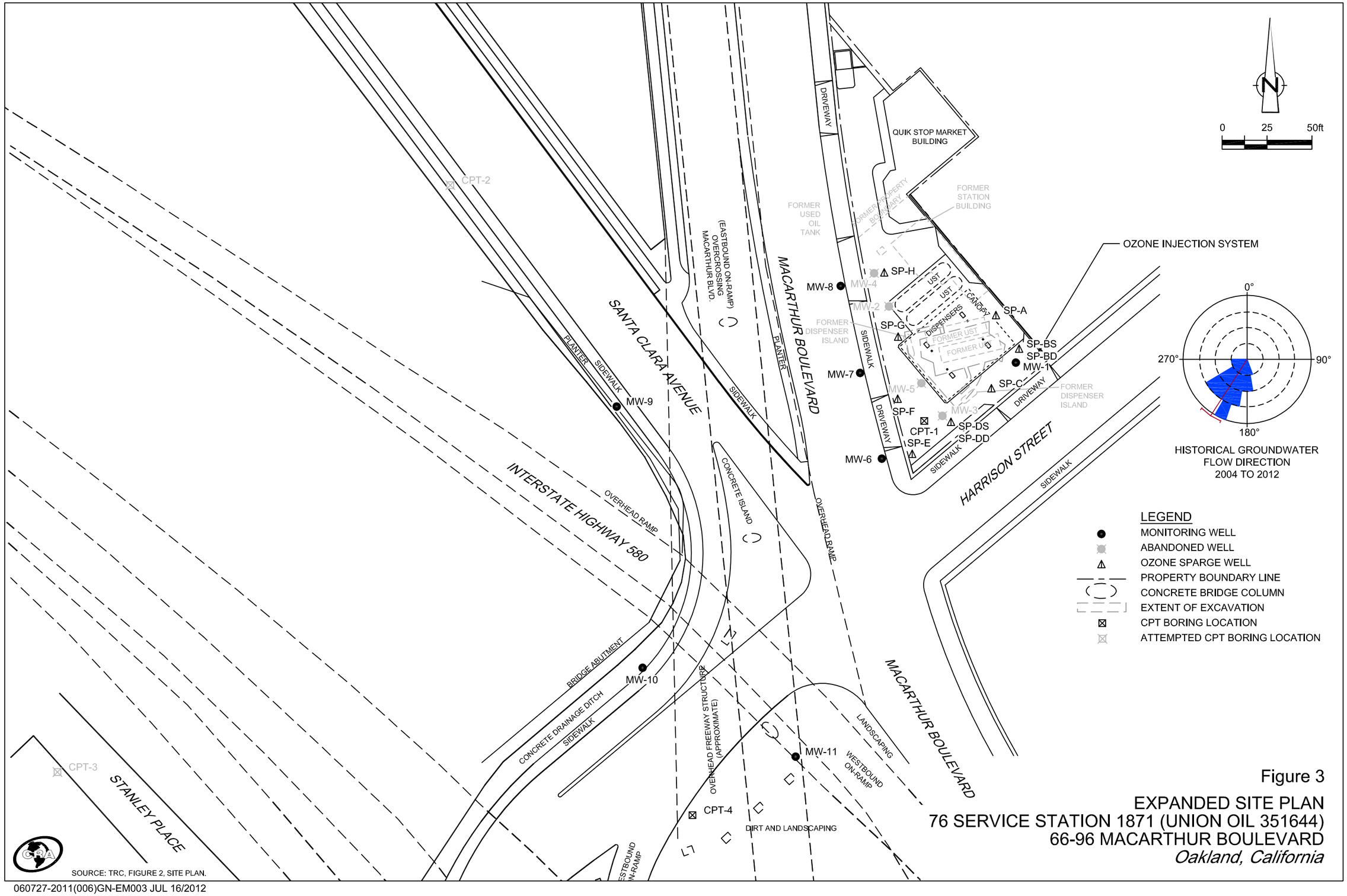
0°
270° 90°
180°
HISTORICAL GROUNDWATER FLOW DIRECTION NOVEMBER 2004 TO 2012

DRIVEWAY
QUIK STOP MARKET BUILDING
FORMER PROPERTY BOUNDARY
FORMER USED OIL TANK
FORMER STATION BUILDING
WOSW4
WOSW3
H-1
EB-1
EB-3
H-2
WO1(9)\WO1(14)
WO1
WOSW1
WOSW2
MW-4
EB-2
MW-8
UST
UST
CANOPY
MW-2
P1
FORMER UST
DISPENSERS
SW1
B-10
FORMER DISPENSER ISLAND
D1
SW4
FORMER UST
SW2
SW4-5
MW-1
D2
SW3
MW-7
SW3-5
66 MACARTHUR BLVD. (FORMERLY 96 MACARTHUR)
MW-5
P2
D4
FORMER DISPENSER ISLAND
DRIVEWAY
CPT-1
D3\D3-A
MW-3
B-6
DRIVEWAY
MW-6
SIDEWALK
HARRISON STREET
SIDEWALK
B-5
B-4
(EASTBOUND ON-RAMP) OVERCROSSING MACARTHUR BLVD.
COL.
MACARTHUR BOULEVARD
SIDEWALK
PLANTER
B-7
SANTA CLARA AVENUE
SIDEWALK
PLANTER
MW-9
B-11
INTERSTATE HIGHWAY 580
OVERHEAD RAMP
CONCRETE ISLAND
COL.
B-12
OVERHEAD RAMP
BRIDGE ABUTMENT
COL.
BRIDGE ABUTMENT
B-8
MW-10
CONCRETE DRAINAGE DITCH
SIDEWALK
OVERHEAD FREEWAY STRUCTURE (APPROXIMATE)
COL.
B-9
LANDSCAPING
BRIDGE ABUTMENT
MW-11
MACARTHUR BOULEVARD
CPT-4
COL.

SOURCE: TRC, FIGURE 2, SITE PLAN.

Figure 2
SITE PLAN
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2011(006)GN-EM002 JUL 16/2012



SOURCE: TRC, FIGURE 2, SITE PLAN.

060727-2011(006)GN-EM003 JUL 16/2012

Figure 3

EXPANDED SITE PLAN
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

LEGEND

MW-9 — WELL DESIGNATION

GROUND SURFACE

OBSERVATION WELL INSTALLATION

STRATIGRAPHIC BOUNDARY

CL — TYPICAL SOIL CLASSIFICATION

SCREENED INTERVAL

BOTTOM OF BORING

APPROXIMATE SOIL SAMPLE LOCATION

TPHg
BENZENE
MTBE
DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)

GROUNDWATER DEPTH (4/12/12)

TPHg
BENZENE
MTBE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L) - (04/12/12)

GROUNDWATER ELEVATION

FILL

AS - ASPHALT
CO - CONCRETE

SP - POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
SW - WELL-GRADED SAND, GRAVELLY SANDS, LITTLE OR NO FINES

ML - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY

SM/SC - SILTY SANDS, SAND-SILT MIXTURES, CLAYEY SANDS, SAND-CLAY MIXTURES

CL - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS

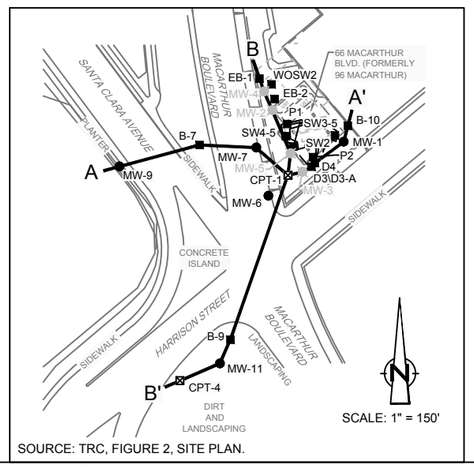
GM - SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES

1,000 — TOTAL PETROLEUM HYDROCARBON AS GASOLINE CONTOUR, DASHED WHERE INFERRED (mg/kg)

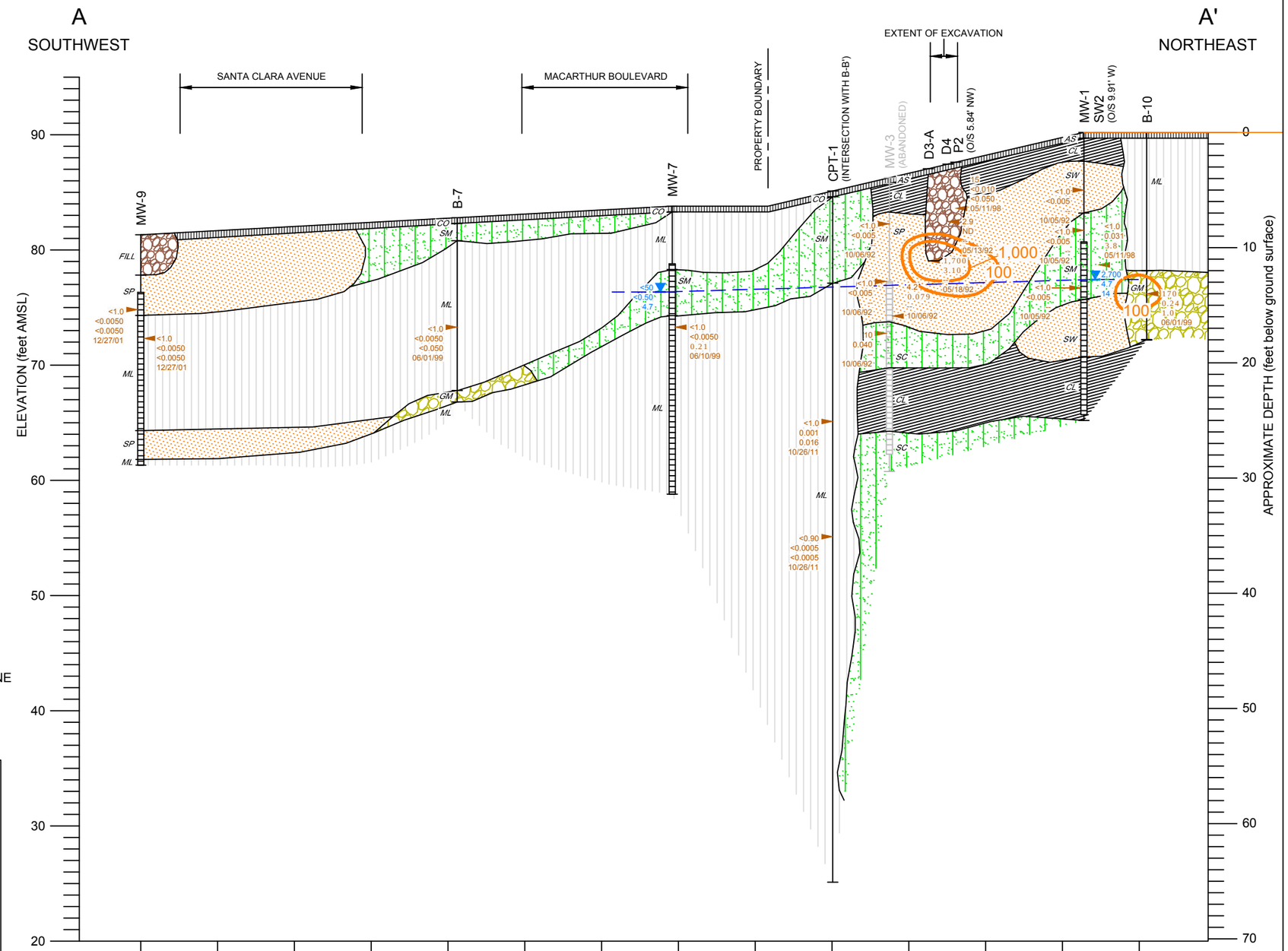
-- NOT ANALYZED

ND NOT DETECTED

O/S OFFSET



SOURCE: TRC, FIGURE 2, SITE PLAN.



SCALE: HORZ. 1" = 30'
VERT. 1" = 10'

Figure 4

GEOLOGIC CROSS-SECTION A-A'
76 SERVICE STATION 1871 (UNION OIL 351644)
66-99 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM004 JUL 02/2012

B

SOUTHWEST

B'

NORTHWEST

FORMER USED-OIL TANK

EXTENT OF EXCAVATION

HARRSION STREET

PROPERTY BOUNDARY

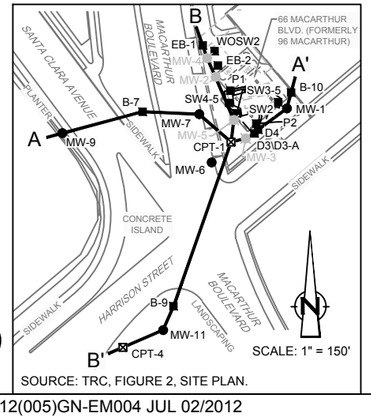
EB-1 | WOSW2 (O/S 9.32' NE) | MW-4 (ABANDONED) | EB-2 (O/S 6.67' NE) | MW-2 (ABANDONED) | P1 (O/S 8.25' NE) | SW4-5 (O/S 2.26' NE) | SW3-5 (O/S 5.50' NE) | MW-5 (ABANDONED) | CPT-1 (INTERSECTION WITH A-A') | MW-6 (O/S 11.62' NW) | B-9 | MW-11 | CPT-4

ELEVATION (feet AMSL)

APPROXIMATE DEPTH (feet below ground surface)

DISTANCE (feet)

SCALE: HORZ. 1" = 30'
VERT. 1" = 10'



SOURCE: TRC, FIGURE 2, SITE PLAN.

LEGEND

- MW-11 — WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- APPROXIMATE SOIL SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- GROUNDWATER DEPTH (4/12/12)
- TPHg / BENZENE / MTBE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L) - (4/12/12)
- GROUNDWATER ELEVATION
- *FILL*
- *AS* - ASPHALT
- *CO* - CONCRETE
- *SP* - POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
- *SW* - WELL-GRADED SAND, GRAVELLY SANDS, LITTLE OR NO FINES
- *ML* - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
- *SM* - SILTY SANDS, SAND-SILT MIXTURES
- *CL* - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- *GC* - CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
- *GP* - POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
- 100 — TOTAL PETROLEUM HYDROCARBON AS GASOLINE CONTOUR, DASHED WHERE INFERRED (mg/kg)
- -- NOT ANALYZED
- ND NOT DETECTED
- O/S OFFSET

Figure 5

GEOLOGIC CROSS-SECTION B-B'
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM004 JUL 02/2012

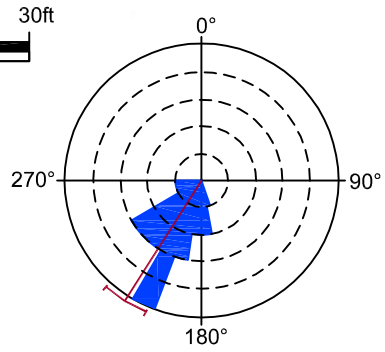
LEGEND

- MONITORING WELL
- ABANDONED WELL
- SOIL BORING
- CPT SOIL BORING
- SOIL SAMPLE LOCATION
- PROPERTY BOUNDARY LINE
- (COL.) CONCRETE BRIDGE COLUMN
- EXTENT OF EXCAVATION
- 40 SAMPLE DEPTH
- 0.23 TPHg CONCENTRATION (mg/kg)
- <0.0050 BENZENE CONCENTRATION (mg/kg)
- <0.0050 MTBE CONCENTRATION (mg/kg)
- 05/11/98 SAMPLE DATE
- -- NOT ANALYZED

N

0 15 30ft

HISTORICAL GROUNDWATER FLOW DIRECTION NOVEMBER 2004 TO 2012



MACARTHUR BOULEVARD

DRIVEWAY

QUIK STOP MARKET BUILDING

66 MACARTHUR BLVD. (FORMERLY 96 MACARTHUR)

SANTA CLARA AVENUE

INTERSTATE HIGHWAY 580

HARRISON STREET

MACARTHUR BOULE

(EASTBOUND ON-RAMP) OVERCROSSING MACARTHUR BLVD.

OVERHEAD RAMP

CONCRETE ISLAND

BRIDGE ABUTMENT

PLANTER

SIDEWALK

UST

CANOPY

FORMER USED OIL TANK

FORMER DISPENSER ISLAND

FORMER UST

FORMER DISPENSERS

FORMER PROPERTY BOUNDARY

OVERHEAD FREEWAY STRUCTURE (APPROXIMATE)

LANDSCAPING

WESTBOUND ON-RAMP

EB1
ALL
<1.0
<0.0050
--
03/20/96

EB2
10
5.7
<0.0050
--
03/20/96

MW-2
ALL
<1.0
<0.005
--
10/05/92

WO1
9
46
0.12
--
08/03/94

WO1
11
<1.0
<0.010
<0.050
05/11/98

MW-8
10.5
<1.0
<0.0050
0.18
06/04/99

P1
4
<1.0
<0.010
0.74
05/11/98

B-10
14
170
0.24
1.0
06/01/99

MW-4
9.5
24
<0.0050
--
03/20/96

WOSW2
9
960
2.2
--
08/03/94

SW1
11.5
<1.0
<0.010
1.9
05/11/98

MW-1
ALL
<1.0
<0.005
--
10/05/92

SW2
11.5
<1.0
0.031
3.8
05/11/98

B-7
9.5
<1.0
<0.0050
<0.050
06/01/99

MW-7
10.5
<1.0
<0.0050
0.21
06/10/99

SW4-5
11
<1.0
0.080
12
05/12/98

CPT-1
20
<1.0
0.001
0.16
10/26/11

B-6
11.4
<1.0
<0.0050
<0.050
06/01/99

MW-9
ALL
<1.0
<0.0050
<0.0050
12/27/01

D1
2
ND
ND
--
05/13/92

D2
2
ND
ND
--
05/13/92

B-11
29
<1.0
0.014
0.25
06/03/99

MW-6
11
210
1.6
3.3
06/04/99

MW-5
9
<1.0
0.023
--
03/20/96

MW-3
13.5-15
10
0.040
--
10/06/92

SW3-5
11
5.0
0.049
6.6
05/12/98

D3-A
8
1,700
3.10
--
05/18/92

D4
5
2.9
ND
--
05/13/92

P2
4
15
<0.010
<0.050
05/11/98

B-5
10.5
<1.0
<0.0050
<0.050
06/01/99

B-4
9
<1.0
<0.0050
<0.050
06/01/99

B-12
ALL
<1.0
<0.0050
<0.050
06/04/99

B-8
8
<1.0
0.0066
0.053
06/01/99

MW-10

B-9
13
<1.0
<0.0050
0.062
06/01/99

MW-11
ALL
<1.0
<0.0050
<0.0050
12/27/01

CPT-4

SOURCE: TRC, FIGURE 2, SITE PLAN.

Figure 6

MAXIMUM CONCENTRATIONS IN SOIL
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM006 JUL 16/2012

LEGEND

- MONITORING WELL
- ABANDONED WELL
- SOIL BORING
- CPT BORING LOCATION
- PROPERTY BOUNDARY LINE
- (COL.) CONCRETE BRIDGE COLUMN
- EXTENT OF EXCAVATION
- 100 TPHg CONCENTRATION CONTOUR DASHED WHERE INFERRED
- (1,200) TPHg CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L)
- (NS) NOT SAMPLED - UNABLE TO LOCATE

N

0 15 30ft

0° 90° 180° 270°

HISTORICAL GROUNDWATER FLOW DIRECTION NOVEMBER 2004 TO 2012

DRIVEWAY
QUIK STOP MARKET BUILDING
FORMER PROPERTY BOUNDARY
FORMER USED OIL TANK
FORMER STATION BUILDING
EB-1
EB-3
MW-4
EB-2
MW-8 (<50)
MW-2
UST
UST
CANOPY
SIDEWALK
FORMER UST
FORMER DISPENSER ISLAND
DISPENSERS
FORMER UST
B-10
100
1000
MW-1 (2,700)
MW-7 (<50)
MW-5
DRIVEWAY
FORMER DISPENSER ISLAND
CPT-1
MW-3
DRIVEWAY
B-6
MW-6 (<50)
SIDEWALK
HARRISON STREET
SIDEWALK
B-5
B-4
(EASTBOUND ON-RAMP) OVERCROSSING MACARTHUR BLVD.
(COL.)
SIDEWALK
PLANTER
MACARTHUR BOULEVARD
SIDEWALK
SANTA CLARA AVENUE
B-7
MW-9 (NS)
B-11
OVERHEAD RAMP
INTERSTATE HIGHWAY 580
CONCRETE ISLAND
(COL.)
B-12
BRIDGE ABUTMENT
OVERHEAD RAMP
BRIDGE ABUTMENT
CONCRETE DRAINAGE DITCH
SIDEWALK
B-8
MW-10 (<50)
COL.
COL.
MACARTHUR BOULEVARD
OVERHEAD FREEWAY STRUCTURE (APPROXIMATE)
B-9
LAN
COL.
BRIDGE ABUTMENT
MW-11 (<50)
CPT-4
COL.

SOURCE: TRC, FIGURE 2, SITE PLAN.

Figure 7

TPHg CONCENTRATIONS IN GROUNDWATER
APRIL 12, 2012
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM007 JUL 16/2012

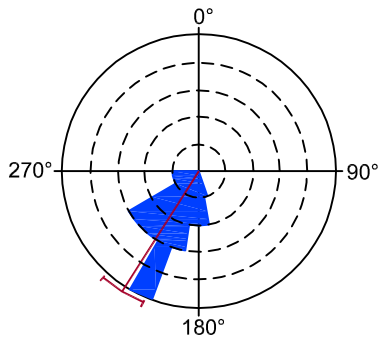
LEGEND

- MONITORING WELL
- ABANDONED WELL
- SOIL BORING
- CPT BORING LOCATION
- PROPERTY BOUNDARY LINE
- (COL.) CONCRETE BRIDGE COLUMN
- EXTENT OF EXCAVATION
- 1 BENZENE CONCENTRATION CONTOUR DASHED WHERE INFERRED
- (1,200) BENZENE CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L)
- (NS) NOT SAMPLED - UNABLE TO LOCATE

N

0 15 30ft

HISTORICAL GROUNDWATER FLOW DIRECTION NOVEMBER 2004 TO 2012



QUIK STOP MARKET BUILDING
DRIVEWAY
FORMER PROPERTY BOUNDARY
FORMER USED OIL TANK
FORMER STATION BUILDING
EB-1
EB-3
MW-4
EB-2
MW-8 (<0.50)
MW-2
UST
UST
CANOPY
FORMER UST
DISPENSERS
FORMER UST
FORMER DISPENSER ISLAND
B-10
MW-1 (4.7)
MW-7 (<0.50)
MW-5
FORMER DISPENSER ISLAND
DRIVEWAY
CPT-1
MW-3
B-6
MW-6 (<0.50)
SIDEWALK
HARRISON STREET
SIDEWALK
B-5
B-4
SIDEWALK
PLANTER
SANTA CLARA AVENUE
B-7
PLANTER
MACARTHUR BOULEVARD
SIDEWALK
MW-9 (NS)
B-11
OVERHEAD RAMP
INTERSTATE HIGHWAY 580
CONCRETE ISLAND
(COL.)
B-12
BRIDGE ABUTMENT
(EASTBOUND ON-RAMP) OVERCROSSING MACARTHUR BLVD.
(COL.)
BRIDGE ABUTMENT
CONCRETE DRAINAGE DITCH
SIDEWALK
B-8
MW-10 (<0.50)
OVERHEAD FREEWAY STRUCTURE (APPROXIMATE)
B-9
MACARTHUR BOUL
MW-11 (<0.50)
CPT-4
SOURCE: TRC, FIGURE 2, SITE PLAN.

Figure 8

BENZENE CONCENTRATIONS IN GROUNDWATER
APRIL 12, 2012
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM008 JUL 16/2012

LEGEND

- MONITORING WELL
- ABANDONED WELL
- SOIL BORING
- CPT BORING LOCATION
- PROPERTY BOUNDARY LINE
- (COL.) CONCRETE BRIDGE COLUMN
- EXTENT OF EXCAVATION
- 10 MTBE CONCENTRATION CONTOUR DASHED WHERE INFERRED
- (1,200) MTBE CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L)
- (NS) NOT SAMPLED - UNABLE TO LOCATE

N

0 15 30ft

0° 90° 180° 270°

HISTORICAL GROUNDWATER FLOW DIRECTION NOVEMBER 2004 TO 2012

SANTA CLARA AVENUE
INTERSTATE HIGHWAY 580
MACARTHUR BOULEVARD
HARRISON STREET
OVERHEAD RAMP
(EASTBOUND ON-RAMP) OVERCROSSING MACARTHUR BLVD.
OVERHEAD FREEWAY STRUCTURE (APPROXIMATE)
CONCRETE ISLAND
CONCRETE DRAINAGE DITCH
BRIDGE ABUTMENT
SIDEWALK
PLANTER
DRIVEWAY
QUIK STOP MARKET BUILDING
FORMER PROPERTY BOUNDARY
FORMER USED OIL TANK
FORMER STATION BUILDING
FORMER UST
FORMER DISPENSER ISLAND
DISPENSERS
UST
CANOPY
MW-1 (14)
MW-2
MW-3
MW-4
MW-5
MW-6 (0.96)
MW-7 (4.7)
MW-8 (1.4)
MW-9 (NS)
MW-10 (<0.50)
MW-11 (<0.50)
CPT-1
CPT-4
EB-1
EB-2
EB-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
5

SOURCE: TRC, FIGURE 2, SITE PLAN.

Figure 9

MTBE CONCENTRATIONS IN GROUNDWATER
APRIL 12, 2012
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BOULEVARD
Oakland, California

060727-2012(005)GN-EM009 JUL 16/2012

TABLES

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Location	Date	Depth (fbg)	TOG	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPHhf	HVOCs	SVOCs	Ca	Cr	Ni	Pb	Zn	Notes
			Concentrations in milligrams per kilogram (mg/kg)																
ESL																			
Table G	*Soil Leaching (Drinking Water Resource)*		*NE*	*83*	*83*	*0.044*	*2.9*	*3.3*	*2.3*	*0.023*	*NE*	*Varies*	*Varies*	*NE*	*NE*	*NE*	*NE*	*NE*	
Table K-2	*Commerical/Industrial Worker Direct Exposure (<5 fbg)*		*3,700*	*450*	*450*	*0.27*	*210*	*5*	*100*	*650*	*NE*	*Varies*	*Varies*	*7.4*	*NE*	*3,400*	*750*	*61,000*	
Table K-3	*Construction / Trench Worker Direct Exposure*		*12,000*	*4,200*	*4,200*	*12*	*6,500*	*210*	*420*	*2,800*	*NE*	*Varies*	*Varies*	*390*	*NE*	*2,600*	*750*	*230,000*	
Site Assessment Report (1992)																			
D1	05/13/92	2	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	2.4	--	
D2	05/13/92	2	--	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	2.6	--	
~~D3~~	~~05/13/92~~	~~4~~	~~--~~	~~--~~	~~58~~	~~0.20~~	~~0.087~~	~~0.52~~	~~0.91~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~23~~	~~--~~	Overexcavated on 5/18/1992
D4	05/13/92	5	--	--	2.9	ND	ND	ND	0.0070	--	--	--	--	--	--	--	4.8	--	
D3-A	05/18/92	8	--	--	**1,700**	**3.10**	1	**11**	**5.4**	--	--	--	--	--	--	--	18	--	
MW-1	10/05/92	5-6.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-1	10/05/92	8.5-10	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-1	10/05/92	13.5-15	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-2	10/05/92	3.5-5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-2	10/05/92	8.5-10	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-3	10/06/92	4-5.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	--	--	--	--	
MW-3	10/06/92	9-10.5	--	--	<1.0	<0.005	0.0088	<0.005	0.0060	--	--	--	--	--	--	--	--	--	
MW-3	10/06/92	12-13.5	--	--	4.2	**0.079**	0.010	0.16	**0.26**	--	--	--	--	--	--	--	--	--	
MW-3	10/06/92	13.5-15	--	--	10	0.040	0.013	0.40	**0.73**	--	--	--	--	--	--	--	--	--	
Used Oil Tank Removal and Soil Sampling (1994)																			
~~WO1~~	~~08/03/94~~	~~9~~	~~1,400~~	~~97~~	~~46~~	~~0.12~~	~~0.11~~	~~0.12~~	~~0.47~~	~~--~~	~~--~~	~~ND[1]~~	~~ND[2]~~	~~<0.50~~	~~28~~	~~31~~	~~21~~	~~34~~	Overexcavated on 8/3/1994
WO1	08/03/94	14	<50	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	
WOSW1	08/03/94	9	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
WOSW2	08/03/94	9	**17,000**	**1,400**	**960**	**2.2**	2.6	**9.5**	**22**	--	--	ND[3]	ND[4]	1.2	33	35	39	42	
WOSW3	08/03/94	9	**2,200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
WOSW4	08/03/94	9	**2,400**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Continued Soil and Groundwater Investigation (1996)																			
EB1	03/20/96	5	<1.0	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	ND[5]	ND	--	--	--	--	--	
EB1	03/20/96	10	<1.0	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	ND	ND	--	--	--	--	--	
EB2	03/20/96	5	<1.0	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	ND	ND	--	--	--	--	--	
EB2	03/20/96	10	540	73	5.7	<0.0050	0.0094	<0.0050	0.035	--	--	ND	ND[6]	--	--	--	--	--	
MW-4	03/20/96	5	<1.0	1.1	<1.0	<0.0050	<0.0050	0.0052	**0.019**	--	--	ND[7]	ND	--	--	--	--	--	

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Location	*Date*	*Depth (fbg)*	*TOG*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*TPHhf*	*HVOCs*	*SVOCs*	*Ca*	*Cr*	*Ni*	*Pb*	*Zn*	*Notes*
			Concentrations in milligrams per kilogram (mg/kg)																
	ESL																		
Table G	*Soil Leaching (Drinking Water Resource)*		*NE*	*83*	*83*	*0.044*	*2.9*	*3.3*	*2.3*	*0.023*	*NE*	*Varies*	*Varies*	*NE*	*NE*	*NE*	*NE*	*NE*	
Table K-2	*Commerical/Industrial Worker Direct Exposure (<5 fbg)*		*3,700*	*450*	*450*	*0.27*	*210*	*5*	*100*	*650*	*NE*	*Varies*	*Varies*	*7.4*	*NE*	*3,400*	*750*	*61,000*	
Table K-3	*Construction / Trench Worker Direct Exposure*		*12,000*	*4,200*	*4,200*	*12*	*6,500*	*210*	*420*	*2,800*	*NE*	*Varies*	*Varies*	*390*	*NE*	*2,600*	*750*	*230,000*	
MW-4	03/20/96	9.5	**1,000**	**350**	24	<0.0050	0.74	0.15	**0.48**	--	--	ND[8]	ND[9]	--	--	--	--	--	
MW-5	03/20/96	5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	
MW-5	03/20/96	9	--	--	<1.0	0.023	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	
Soil Sampling during UST and Piping Removal (1998)																			
SW1	05/11/98	11.5	--	--	<1.0	<0.010	<0.010	<0.010	<0.010	**1.9**	--	--	--	--	--	--	--	--	
SW2	05/11/98	11.5	--	--	<1.0	0.031	<0.010	<0.010	0.015	**3.8**	--	--	--	--	--	--	--	--	
~~SW3~~	~~05/11/98~~	~~11.5~~	~~--~~	~~--~~	~~2,000~~	~~9.7~~	~~29~~	~~38~~	~~150~~	~~16~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	Overexcavated on 5/12/1998
~~SW4~~	~~05/11/98~~	~~11.5~~	~~--~~	~~--~~	~~1,800~~	~~5.5~~	~~82~~	~~49~~	~~290~~	~~15~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	Overexcavated on 5/12/1998
SW3-5*	05/12/98	11	--	--	5.0	0.049	0.051	0.050	0.20	**6.6**	--	--	--	--	--	--	--	--	
SW4-5*	05/12/98	11	--	--	<1.0	**0.080**	<0.010	<0.010	0.039	**12**	--	--	--	--	--	--	--	--	
WO1	05/11/98	11	140	<1.0	<1.0	<0.010	<0.010	<0.010	<0.010	<0.050	--	--	--	<0.50	18	21	1.0	61	
P1	05/11/98	4	--	--	<1.0	<0.010	<0.010	<0.010	<0.010	**0.74**	--	--	--	--	--	--	--	--	
P2	05/11/98	4	--	--	15	<0.010	0.056	0.10	**0.19**	<0.050	--	--	--	--	--	--	--	--	
H-1	05/12/98	8	--	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	
H-2	05/12/98	8	--	--	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	
Collected for RBCA evaluation (Missing Laboratory Analytical Report and documentation of findings) (Referenced in Gettler-Ryan report1999)																			
EB3	09/16/98	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Limited Subsurface Investigation Report (1999)																			
B-4	06/01/99	9	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
B-5	06/01/99	10.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
B-6	06/01/99	11.4	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
B-7	06/01/99	9.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
B-8	06/01/99	8	--	--	<1.0	0.0066	0.0096	<0.0050	<0.0050	0.053	--	--	--	--	--	--	--	--	
B-9	06/01/99	13	--	--	<1.0	<0.0050	0.0075	<0.0050	0.011	0.062	--	--	--	--	--	--	--	--	
B-10	06/01/99	14	--	--	**170**	**0.24**	1.1	1.9	**14**	**1.0**	--	--	--	--	--	--	--	--	
B-11	06/03/99	14	--	--	<1.0	0.0058	0.015	<0.0050	0.015	**1.1**	--	--	--	--	--	--	--	--	

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Location	*Date*	*Depth (fbg)*	*TOG*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*TPHhf*	*HVOCs*	*SVOCs*	*Ca*	*Cr*	*Ni*	*Pb*	*Zn*	*Notes*
			Concentrations in milligrams per kilogram (mg/kg)																
ESL																			
Table G	*Soil Leaching (Drinking Water Resource)*		*NE*	*83*	*83*	*0.044*	*2.9*	*3.3*	*2.3*	*0.023*	*NE*	*Varies*	*Varies*	*NE*	*NE*	*NE*	*NE*	*NE*	
Table K-2	*Commerical/Industrial Worker Direct Exposure (<5 fbg)*		*3,700*	*450*	*450*	*0.27*	*210*	*5*	*100*	*650*	*NE*	*Varies*	*Varies*	*7.4*	*NE*	*3,400*	*750*	*61,000*	
Table K-3	*Construction / Trench Worker Direct Exposure*		*12,000*	*4,200*	*4,200*	*12*	*6,500*	*210*	*420*	*2,800*	*NE*	*Varies*	*Varies*	*390*	*NE*	*2,600*	*750*	*230,000*	
B-11	06/03/99	29	--	--	<1.0	0.014	0.046	<0.0050	0.018	**0.25**	--	--	--	--	--	--	--	--	
B-12	06/04/99	11.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
B-12	06/04/99	25.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	
MW-6	06/04/99	11	--	--	**210**	**1.6**	7.3	**6.4**	**25**	**3.3**	--	--	--	--	--	--	--	--	
MW-6	06/04/99	15.5	--	--	1.1	0.014	0.048	0.029	0.12	**0.31**	--	--	--	--	--	--	--	--	
MW-6	06/04/99	20.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	**0.062**	--	--	--	--	--	--	--	--	
MW-6	06/04/99	24	--	--	<1.0	<0.0050	<0.0050	<0.0050	0.017	**0.18**	--	--	--	--	--	--	--	--	
MW-7	06/10/99	10.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	**0.21**	--	--	--	--	--	--	--	--	
MW-8	06/04/99	10.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	**0.18**	--	--	--	--	--	--	--	--	
Offiste Subsrface Investigation Report (2001)																			
MW-9	12/27/01	6.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	
MW-9	12/27/01	9	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	
MW-11	12/27/01	16	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	
MW-11	12/27/01	24.5	--	--	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	
Subsurface Investigation Report (2011)																			
CPT-1	10/26/11	20	--	--	<1.0	0.001	<0.001	<0.001	<0.001	0.016[10]	--	--	--	--	--	--	--	--	
CPT-1	10/26/11	30	--	--	<0.90	<0.0005	<0.001	<0.001	<0.001	<0.0005[10]	--	--	--	--	--	--	--	--	

TABLE 1

CUMULATIVE SOIL ANALYTICAL DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Location	Date	Depth (fbg)	TOG	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPHhf	HVOCs	SVOCs	Ca	Cr	Ni	Pb	Zn	Notes
			Concentrations in milligrams per kilogram (mg/kg)																
	ESL																		
Table G	Soil Leaching (Drinking Water Resource)		NE	83	83	0.044	2.9	3.3	2.3	0.023	NE	Varies	Varies	NE	NE	NE	NE	NE	
Table K-2	Commerical/Industrial Worker Direct Exposure (<5 fbg)		3,700	450	450	0.27	210	5	100	650	NE	Varies	Varies	7.4	NE	3,400	750	61,000	
Table K-3	Construction / Trench Worker Direct Exposure		12,000	4,200	4,200	12	6,500	210	420	2,800	NE	Varies	Varies	390	NE	2,600	750	230,000	

Abbreviations and Notes:

Bold = Concentration exceeds ESL
Feet below grade (fbg)
Total oil and grease (TOG) analyzed by EPA method 9071B
Total petroleum hydrocarbons as diesel (TPHd) and TPH as gasoline (TPHg) analyzed by EPA Method 8015B
Benzene, toluene, ethylbenzene and xylenes (BTEX) analyzed by EPA Method 8260B
Methyl tertiary butyl ether (MTBE)
Total petroleum hydrocarbons as hydraulic fluid (TPHhf)
Halogenated Volatile Organic Compounds (HVOCs) analyzed by EPA Method 8010
Semi-Volatile Organic Compounds (SVOCs) analyzed by EPA Method 8070
Cadmium (Ca), Chromium (Cr), Nickel (Ni), Lead (Pb) and Zinc (Zn)
Milligrams per kilogram (mg/kg)
Not analyzed (--)
5 feet lateral distance from initial sample (*)
NE = Not established
<x.xx or ND = Not detected above the method detection limit x
Halogenated Volatile Organic Compounds (HVOCs) by EPA Method 8010
ESL = Environmental Screening Level from California Regional Water Quality Control Board San Francisco Bay Region's Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final - November 2007 (Revised May 2008)
~~x.xx~~ = Overexcavated

All EPA 2010 and 8070 constituents were non-detectable except for the following compounds. See table 1 for correlating sample.

[1] 1,2-Dichorobenzene (22 mg/kg)

[2] Acenaphthene (6,500 mg/kg), Anthracene (9,900 mg/kg), Benzo(a)anthracene (5,300 mg/kg), Benzo(a)pyrene (4,300), Chrysene (7,500 mg/kg), Dibenzofuran (3,400 mg/kg), Fluoranthene (25,000 mg/kg), Fluorene (6,600 mg/kg), 2-Methylnaphthalene (8,500 mg/kg), Naphalene (4,700 mg/kg), Phenoanthrene (38,000), Pyrene (24,000 mg/kg)

[3] Bromoform (220 mg/kg), 1,2-Dichlorobenzene (1,800 mg/kg), 1,3-Dichlorobenzene (63 mg/kg), 1,4- Dicholorbenzene (540 mg/kg)

[4] Acenaphthene (3,300 mg/kg), Anthracene (6,100 mg/kg), Benzo(a)anthracene (4,000 mg/kg), Benzo(a)fluoranthene (3,300 mg/kg), Benzo(a)pyrene (2,900 mg/kg), Crysene (4,800 mg/kg), Fluoranthene (15,000 mg/kg), Fluorene (3,800 mg/kg), 2-Methylnapthalene (28,000 mg/kg), Napthalene (10,000 mg/kg), Phenathrene (22,000

[5] 1,1-Dichloroethene (6.0 mg/kg)

[6] Benzo(k)fluoranthene (190 mg/kg), Chrysene (180 mg/kg), Fluoranthene (610 mg/kg), Phenanthrene (100 mg/kg), Pyrene (690 mg/kg)

[7] 1,2-Dichloroethene (11 mg/kg), Tetrachloroethene (8.7 mg/kg)

[8] 1,2-Dichlorobenzene (37 mg/kg), 1,4 - Dichlorobenzene (12 mg/kg)

[9] Acenaphthene (170 mg/kg), Anthracene (350 mg/kg), Benzo(a)anthracene (260 mg/kg), Benzo(a)fluoranthene (240 mg/kg), Benzo(a)pyrene (160 mg/kg), Crysene (290 mg/kg), Fluorenthene (860 mg/kg), Fluorene (190 mg/kg), Napthalene (150 mg/kg), Phenanthrene (1,300 mg/kg), Pyrene (960 mg/kg)

[10] Fuel oxygenates (t-Butyl alcohol, di-Isopropyl ether, Ethyle t-butyl ether, t-Amyl methyl ether, 1-2 Dichloroethane, 1,2-Dibromoethane) were below laboratory detetion limits.

TABLE 2

CUMULATIVE GRAB-GROUNDWATER DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*TOG*	*HVOCs*	*SVOCs*	*Ca*	*Cr*	*Ni*	*Pb*	*Zn*
			Concentrations in micrograms per liter (µg/L)														
ESL Table F-1a	***Drinking Water Resource***		***100***	***100***	***1.0***	***40***	***30***	***20***	***5.0***	***NE***	***Varies***	***Varies***	***0.25***	***50***	***8.2***	***2.5***	***811***
Continued Soil and Groundwater Investigation (1996)																	
EB1	3/20/1996	--	<50	<50	<0.50	<0.50	<0.50	1.3	--	<1000	ND[1]	ND	--	--	--	--	--
EB2	3/20/1996	--	**410**	**1,400**	**690**	**41**	**25**	**64**	--	<1000	ND	ND[2]	--	--	--	--	--
Soil Sampling during UST and Piping Removal (1998)																	
FT (Gasoline pit)	05/11/98	--	--	**620,000**	<0.50	**18,000**	**13,000**	**83,000**	<2.5	--	--	--	--	--	--	--	--
WO (Waste oil pit)	05/11/98	--	**890****	90***	<0.50	<0.50	<0.50	<0.50	<2.5	<1000	ND[3]	ND	10	53	55	<20	65
Limited Subsurface Investigation Report (1999)																	
B-4	06/01/99	10.5	--	<50	<0.50	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--
B-5	06/01/99	11.35	--	<50	<0.50	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--
B-6	06/01/99	11.7	--	<50	0.54	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--
B-7	06/01/99	10	--	<50	<0.50	<0.50	<0.50	<0.50	***2,300/ 3,000**	--	--	--	--	--	--	--	--
B-8	06/01/99	8.5	--	<50	<0.50	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--
B-9	06/01/99	13.5	--	<50	<0.50	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--
B-10	06/03/99	15.2	--	**95,000**	**10,000**	**14,000**	**3,900**	**11,000**	***220,000/ 270,000**	--	--	--	--	--	--	--	--
B-11	06/03/99	16.2	--	<50	<0.50	<0.50	<0.50	<0.50	***14,000/ 15,000**	--	--	--	--	--	--	--	--
B-12	06/04/99	19.5	--	<50	<0.50	<0.50	<0.50	<0.50	*<2.5 / <2.0	--	--	--	--	--	--	--	--

TABLE 2

CUMULATIVE GRAB-GROUNDWATER DATA
76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth*	*TPHd*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*TOG*	*HVOCs*	*SVOCs*	*Ca*	*Cr*	*Ni*	*Pb*	*Zn*
		(fbg)	*Concentrations in micrograms per liter (µg/L)*														
ESL Table F-1a	***Drinking Water Resource***	***100***	***100***	***1.0***	***40***	***30***	***20***	***5.0***	***NE***	***Varies***	***Varies***	***0.25***	***50***	***8.2***	***2.5***	***811***

Abbreviations and Notes:

Feet below grade (fbg)

Total petroleum hydrocarbons as gasoline (TPHg) and TPH as diesel (TPHd)

Benzene, toluene, ethylbenzene and xylenes (BTEX)

Methyl tertiary butyl ether (MTBE)

Total oil and grease (TOG)

Halogenated Volatile Organics (HVOCs) analyzed by EPA Method 8010

Semi-Volatile Organics (SVOCs) analyzed by EPA Method 8270

Cadmium (Ca), Chromium (Cr), Nickel (Ni), Lead (Pb) and Zinc (Zn)

Not analyzed (--)

NE = Not established

<x.xx or ND = Not detected above the method detection limit x

*MTBE by 8020/8260

**Laboratory reports indicate unidentified hydrocarbons <C14

***Laboratory reports indicates gasoline and discrete peaks

ESL = Environmental Screening Level from California Regional Water Quality Control Board San Francisco Bay Region's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* , Interim Final - November 2007

All EPA 2010 and 8070 constituents were non-detectable except for the following compounds. See table for correlating sample.

[1] None of the analytes detected except 1,1-dichloroethane (0.54 µg/L).

[2]None of the anayltes detected except fluoranthene (2.2 µg/L), napthalene (26 µg/L), pyrene (2.4 µg/L), and 2-methylnapthalene (2.2 µg/L).

[3] None of the analytes detected except bromodichloromethane (5.8 µg/L), chloroform (14 µg/L), dibromochloromethane (1.9 µg/L), 1.4-dichlorobenzene (0.89 µg/L), 1,2-dichlorobenzene (2.8 µg/L), and tetrachloroethene (1.7 µg/L).

Bold = Concentration exceeds ESL

APPENDIX A

SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATION AND REMEDIATION

SUMMARY OF ENVIRONMENTAL INVESTIGATIONS AND REMEDIATION
FORMER 76 SERVICE STATION 1871 (UNION OIL 351644)
66-96 MACARTHUR BLVD, OAKLAND, CALIFORNIA

1992 Dispenser and Piping Replacement

In May 1992, Roux Associates (Roux) removed and replaced the dispenser islands and associated product piping and collected soil samples D1 through D4, and D3-A from beneath the dispenser. During the product piping and dispenser replacement, approximately 18 cubic yards of soil was removed and transferred to the Redwood Landfill facility for disposal. An Underground Storage Unauthorized Release report was filed on July 16, 1992.

1992 Monitoring Well Installation

In October 1992, Roux installed onsite 4-inch diameter groundwater monitoring wells MW-1 through MW-3. Hydrocarbons were only detected in soil from MW-3, but were detected in groundwater from all three wells. Details are presented in Roux's December 17, 1992 *Site Assessment Report.*

1994 Used-Oil UST Removal

In August 1994, Kaprealian Engineering Inc (KEI) removed a 280-gallon single-wall steel used-oil UST and replaced it with a 550-gallon double-walled steel UST. No holes or cracks were observed on the tank. Soil samples WO1 was collected a 9 feet below grade (fbg) from beneath the tank. Due to observed soil staining, soil was overexcavated to 14 fbg over an area of 9 feet by 8 feet. Soil sample WO1(14) was collected at the bottom of the excavation and samples WOSW1 through WOSW4 were collected on the sidewalls of the excavation at 9 fbg. Details are presented in KEI's September 13, 1994 *Soil Sampling Report.*

In February 1996, the Alameda County Department of Environmental Health (ACEH) approved Unocal's request to reduce the groundwater monitoring and sampling frequency from quarterly to semiannually.

1996 Monitoring Well Installation

In March 1996, KEI installed monitoring wells MW-4 and MW-5 and advanced exploratory borings EB1 and EB2. Details are presented in KEI's May 17, 1996 *Continuing Soil and Groundwater Investigation Report.*

1998 Station Upgrade

In May 1998, Gettler-Ryan, Inc (G-R) observed John's Excavating of Santa Rosa, California remove two 12,000-gallon double-wall steel gasoline USTs, one 550-gallon double-wall steel used-oil UST, two hydraulic lifts, two dispenser islands and associated single-wall product piping, and one service station building. No holes or cracks were observed in the tanks. G-R

personnel collected soil samples SW1 through SW-4, SW3-5 and SW-4-5 from the gasoline UST pit at 11 to 11.5 fbg, WO1 from the used-oil UST pit at 11 fbg, and P1 and P2 from beneath the dispensers at 4 fbg, and grab-groundwater samples Water-FT from the gasoline UST pit and Water-WO from the used-oil UST pit. A total of 1,252.78 tons of soil were removed from the site during demolition activities and transported to Forward Landfill for disposal. Details are presented in G-R's October 19, 1998 *Underground Storage Tank and Product Piping Removal Report*. Prior to the excavation for the new gasoline USTs, on August 2, 1999, Gettler-Ryan collected soil samples Comp-1 at 7 and 12 fbg, Comp-2 at 5 and 10 fbg, Comp-3 at 7 and 12 fbg, and Comp-4 at 8 and 12 fbg from potholes in the vicinity of the location of the new gasoline USTs for soil disposal characterization. On August 6, 1999, Gettler-Ryan excavated the new gasoline UST pit over an area of approximately 44 feet by 22 feet to a depth of 13 fbg. A total of 874.43 tons of soil were transported to Forward, Inc. in Manteca, California. Details are presented in Gettler-Ryan's September 3, 1999 Soil Sampling and Disposal Report.

1998 Well Destruction, Soil Boring, and RBCA

In September 1998, G-R destroyed wells MW-2 through MW-5 that were damaged during site demolition activities and backfilled the boreholes with neat cement to grade. In addition, G-R advanced onsite soil boring EB-3 to a total depth of 16.5 fbg and collected soil and groundwater samples for development of a Risk Based Corrective Action (RBCA). The RBCA evaluation concluded that, since the site was scheduled for construction of a fuel dispensing facility covered with concrete and asphalt and no groundwater receptors were located within a 1/4 mile radius of the site, the potential threat to public health and environment was not of significant concern. The RBCA was submitted on February 25, 1999 and subsequently revised in documents dated April 6, 19, and 20, 1999. The RBCA evaluation was approved by the ACEH in a letter dated May 4, 1999.

1999 Monitoring Well and Boring Investigation

In June 1999, G-R installed offsite monitoring wells MW-6 through MW-8, and advanced soil borings B-4 through B-12 on and near the site. Soil and groundwater samples were collected from all borings. Details are presented in G-R's August 6, 1999 *Limited Subsurface Investigation Report*.

2001 Monitoring Well Installation

In December 2001, G-R installed offsite monitoring wells MW-9 through MW-11 in CalTrans right-of-way to delineate dissolved hydrocarbons downgradient of the site. Details are presented in G-R's May 16, 2002 *Offsite Subsurface Investigation Report*.

2002 Ozone System Installation

In March 2002, G-R installed ozone microsparge wells SP-A, SP-BS/BD, SP-C, SP-DS/DD, SP-E, SP-F, SP-G and SP-H to depths ranging from 25 to 30 fbg. Wells SP-BS/BD and SP-DS/DD

were constructed as dual completion wells. In April 2002, an ozone injection system was installed and activated at the site. Details are presented in G-R's May 20, 2002 *Ozone Microsparge Well and System Installation Report*.

As of August 31, 2011 the ozone sparge system has operated a total of 46,111 hours.

2007 Site Conceptual Model

At the request of the ACEH, TRC submitted a Site Conceptual Model dated November 1, 2007.

2011 CPT Borings

In October 2011, Conestoga-Rovers & Associates (CRA) advanced boring CPT-1 onsite, and CPT-4 southwest (downgradient) of the site on the southern shoulder of Harrison Street, beneath I-580. Proposed offsite borings CPT-2 and CPT-3 were not completed. Borehole clearance in the area of proposed CPT-2 on the west side of Santa Clara Avenue failed after several attempts due refusal in fill material consisting of clay and large gravels. Without borehole clearance to confirm the absence of underground utilities, the boring could not be safely advanced. The area of proposed CPT-3 on the east side of Stanley Place was too steep for the CPT rig to operate safety. No soil samples were collected in CPT-4 based on its close proximity to MW-11 and no groundwater was encountered. Soil samples were collected from CPT-1; however no deep groundwater was encountered. Details are presented in CRA's December 22, 2011 *Subsurface Investigation Report*.

APPENDIX B

BORING LOGS

ROUX

SYMBOL KEY

LITHOLOGIC SYMBOL KEY
(Unified Soil Classification System)

		*Fill*
	*SW*	*Well Graded Sand*
	*SP*	*Poorly Graded Sand*
	*SM*	*Silty Sand*
	*SC*	*Clayey Sand*
	*PT*	*Peat*
	*OL*	*Low Plasticity Organic Silt*
	*OH*	*High Plasticity Organic Silt*
	*ML*	*Low Plasticity Silt*
	*MH*	*High Plasticity Silt*
	*GW*	*Well Graded Gravel*
	*GP*	*Poorly Graded Gravel*
	*GM*	*Silty Gravel*
	*GC*	*Clayey Gravel*
	*CL*	*Low Plasticity Clay*
	*CH*	*High Plasticity Clay*

SAMPLER SYMBOL KEY

 *Continuous Core Barrel*

 *Standard Penetration Test*

 *Modified California Sampler*

 *Shelby Sampler*

 *Auger Cuttings*

WELL CONSTRUCTION SYMBOL KEY

 *Sand Pack w/Slotted Casing*

 *Sand Pack*

 *Concrete Grout/Fill*

 *Bentonite Grout/Seal*

 *Cement/Bentonite Grout*

WATER LEVEL SYMBOL KEY

Water Level at Time of Drilling.

Stabilized Water Level.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions			Group Symbols	Typical Names	Field Identification Procedures (excluding particles larger than 3 inches and basing fractions on estimated weights)			Information Required for Describing Soils
1	2		3	4	5			6
Coarse-grained Soils: More than half of material is larger than No. 200 sieve size.	Gravels: More than half of coarse fraction is larger than No. 4 sieve size. (For visual classification, the 1/4-in. size may be used as equivalent to the No. 4 sieve size.)	Clean Gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.	Wide range in grain sizes and substantial amounts of all intermediate particle sizes.			For undisturbed soils add information on stratification, degree of compactness, cementation, moisture conditions, and drainage characteristics.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.	Predominantly one size or a range of sizes with some intermediate sizes missing.			
		Gravels with Fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixture.	Nonplastic fines or fines with low plasticity (for identification procedures see ML below)			Give typical name: indicate approximate percentage of sand and gravel, maximum size; angularity, surface condition, and hardness of the coarse grains; local or geologic name and other pertinent descriptive information; and symbol in parentheses.
			GC	Clayey gravels, gravel-sand-clay mixtures.	Plastic fines (for identification see CL below)			
	Sands: More than half of coarse fraction is smaller than No. 4 sieve size	Clean Sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.	Wide range in grain size and substantial amounts of all intermediate particle sizes.			Example: Silty sand, gravelly; about 20% hard, angular gravel particles 1/2 in. maximum size; rounded and subangular sand grains, coarse to fine; about 15% nonplastic fines with low dry strength; well compacted and moist in place; alluvial sand; (SM).
			SP	Poorly graded sands or gravelly sands, little or no fines.	Predominantly one size or a range of sizes with some intermediate sizes missing.			
		Sands with Fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures.	Nonplastic fines or fines with low plasticity (for identification procedures see ML below)			
			SC	Clayey sands, sand-clay mixtures.	Plastic fines (for identification procedures see CL below)			
Fine-grained Soils: More than half of material is smaller than No. 200 sieve size. The No. 200 sieve size is about the smallest particle visible to the naked eye.					Identification Procedures on Fraction Smaller than No. 40 Sieve Size			
					Dry Strength (Crushing characteristics)	Dilatancy (Reaction to shaking)	Toughness (Consistency near PL)	
	Silts and Clays: Liquid limit is less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	None to slight	Quick to slow	None	For undisturbed soils add information on structure, stratification, consistency in undisturbed and remolded states, moisture and drainage conditions.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	Medium to high	None to very slow	Medium	
			OL	Organic silts and organic silty clays of low plasticity.	Slight to medium	Slow	Slight	Give typical name; indicate degree and character of plasticity; amount and maximum size of coarse grains; color in wet condition; odor, if any; local or geologic name and other pertinent descriptive information; and symbol in parentheses.
	Silts and Clays: Liquid limit is greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.	Slight to medium	Slow to none	Slight to medium	
			CH	Inorganic clays of high plasticity, fat clays.	High to very high	None	High	
			OH	Organic clays and silts of medium to high plasticity.	Medium to high	None to very slow	Slight to medium	Example: Clayey silt, brown; slightly plastic; small percentage of fine sand; numerous vertical root holes; firm and dry in place; loess; (ML).
Highly Organic Soils			Pt	Peat and other highly organic soils.	Readily identified by color, odor, spongy feel and frequently by fibrous texture.			

ROUX

Project: UNOCAL SERVICE STATION #1871 96 MACARTHUR BLVD., OAKLAND	**Log of Well No.** MW-1
Date Started: 10/5/92 **Completed:** 10/5/92	**Measuring Point Elevation (ft):** 81.18 **Total Depth (ft):** 25.0
Logged By: K. Bishop **Checked By:** T. Ramsden	**Water Level During Drilling (ft):** 14.5 **Stabilized (ft):** 16.6
Drilling Co: Gregg Drilling	**Casing:** 4" Schedule 40 PVC **Drill Bit Diameter (in):** 10
Drilling Method: Hollow Stem Auger	**Perforation:** 0.020 from 24.5 ft to 9.5 ft
Drilling Equipment: Mobile B-61	**Pack:** #3 Lone Star Sand from 24.5 ft to 8.5 ft
Sampler: CA Modified Split Spoon	**Seal:** Bentonite Pellets from 8.5 ft to 6.5 ft
	Cement Grout from 6.5 ft to 0 ft

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt Basecrock SILTY CLAY, Light brown, 90% clay, 10% silt, damp, no odor, some minor gravels and rootlets. SILTY CLAY, Blue black, 90% clay, 10% silt, damp, sewer odor, some rootlets. SILTY SAND, Light brown, 80% sand, 20% silt, dry, no odor, some 1/8"-1/4" gravels.	CL SW						-- OVM malfunction; no readings taken.
5	GRAVELLY SAND, Yellow brown, 90% coarse sand, 10% angular gravel, dry, no odor				22 50/5"	--	44	
	SILTY SAND, Light brown, 70% sand, 20% silt, 10% clay, poorly sorted, moist, no odor,	SM			17 57 30/2"	--	67	
10								
					25 50/5"	--	44	
15	GRAVELLY SAND, Green-blue, 60% sand, 40% gravel, wet, slight odor, 1/4" gravel.	SW						
						--	66	
20	SILTY CLAY, Medium brown, 90% clay, 10% silt, wet, no odor.	CL						
					12 25 50/4"	--	89	
25	Bottom of Hole at 25.0 feet.							

ROUX

Project: UNOCAL SERVICE STATION #1871 96 MACARTHUR BLVD., OAKLAND	Log of Well No. MW-2
Date Started: 10/5/92 Completed: 10/5/92	Measuring Point Elevation (ft): 76.61 Total Depth (ft): 25.0
Logged By: K. Bishop Checked By: T. Ramsden	Water Level During Drilling (ft): 14.0 Stabilized (ft): 12.4
Drilling Co: Gregg Drilling	Casing: 4" Schedule 40 PVC Drill Bit Diameter (in): 10
Drilling Method: Hollow Stem Auger	Perforation: 0.020 from 25 ft to 10 ft
Drilling Equipment: Mobile B-61	Pack: #3 Lone Star Sand from 25 ft to 9 ft
Sampler: CA Modified Split Spoon	Seal: Bentonite Pellets from 9 ft to 7 ft
	Cement Grout from 7 ft to 0 ft

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt Basecrock SILTY SAND, Medium brown, 80% sandy, 20% silt, dry, no odor.	SM						– OVM malfunction; no readings taken.
	CLAY, Grey blue, 90 clay, 10 silt, damp, no odor, red/brown weathering. SANDY CLAY, Medium brown, 80% clay, 20% sand, damp, no odor, some 1/4" gravel. CLAYEY SAND, Light brown, 60% sand, 40% clay, damp, no odor, red/brown staining.	CL			5 16 32	--	67	
5		GP						
	GRAVELLY SAND, Yellow brown with blue-grey weathering, 60% sand, 40% gravel, damp, no odor.				25 30 34	–	67	
10								
	SANDY GRAVEL, Grey blue, 50% sand, 50% gravel, wet, no odor. GRAVELLY SAND, Yellow brown with blue-grey weathering, 60% sand, 40% gravel, damp, no odor.				37 50 50/3	–	56	
15		CL						
	SILTY CLAY, Medium brown, 90% clay, 10% silt, wet, no odor.				5 10 15	--	100	
20								
	Cuttings- SILTY CLAY, Medium brown, 90% clay, 10% silt, wet, no odor.				10 15 25		100	
25	Bottom of Hole at 25.0'							

ROUX

Project: UNOCAL SERVICE STATION #1871 96 MACARTHUR BLVD., OAKLAND	Log of Well No. MW-3
Date Started: 10/6/92 Completed: 10/6/92	Measuring Point Elevation (ft): 77.48 Total Depth (ft): 25.5
Logged By: K. Bishop Checked By: T. Ramsden	Water Level During Drilling (ft): 15.0 Stabilized (ft): 14.6
Drilling Co: Gregg Drilling	Casing: 4" Schedule 40 PVC Drill Bit Diameter (in): 10
Drilling Method: Hollow Stem Auger	Perforation: 0.020 from 24 ft to 9 ft
Drilling Equipment: Mobile B-61	Pack: #3 Lone Star Sand from 24 ft to 8 ft
Sampler: CA Modified Split Spoon	Seal: Bentonite Pellets from 8 ft to 6 ft
	Cement Grout from 6 ft to 0 ft

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt Basecrock GRAVELLY CLAYEY SAND, Dark brown, 40% sand 40% gravel, 20% clay, damp, no odor.	GC						– OVM malfunction; no readings taken.
	SANDY CLAY, Black, 80% clay, 20% sand, damp, no odor.	CL			8	--	100	
	GRAVELLY COARSE SAND, Light brown, damp, no odor, 1/4" gravel.	SP			27 32			
	Same as above.				27 30 32	–	67	
5								
	Same as above.				27 39 50/5	--	67	
	GRAVELLY SAND, Blue-grey, 60% coarse sand, 30% gravel, 10% clay, damp, no odor, red-brown weathering.				28 50 50/2	--	67	
	GRAVELLY SAND, Blue-grey, 60% coarse sand, 40% gravel, dry, slight odor.							
10					22 40 50	--	100	
	Same as above. Varying amounts of Sand.							
	Same as above. Wet with Strong hydrocarbon odor.				22 32 50/5"	--	89	
	COARSE SAND and SILT, Blue-grey, 90% sand, 10% silt, wet, no odor, some gravel.	SC			15 31 42	--	100	
15	Same as above.				20 30 38	–	100	
	CLAY, Medium brown, wet, no odor.	CL						
20	SILTY CLAY, Medium brown, 90% clay, 10% silt, wet, no odor.				10 16 27	--		
		SC						
	SILTY SAND, Medium brown, 60% sand, 30% silt, 10% clay, wet, no odor, 1/4" occasional gravels.				18 32 50/3"	--		
25	Bottom of Boring 25.5'.							

BORING LOG

Project No. KEI-P94-0601.P2	**Boring Diameter** 8.75" / **Casing Diameter** 2"	**Logged By** T.S. JGG CEC 1633
Project Name Unocal S/S #1871 96 MacArthur Blvd., Oakland	**Well Cover Elevation** N/A	**Date Drilled** 3/20/96
Boring No. MW4	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		Asphalt over base gravel.
				CL	Clay with sand, estimated at 15-25% fine-grained sand, firm, moist, dark greenish gray.
8/13/16			5		Sandy clay, estimated at 25-30% very fine to coarse-grained sand, and 5-10% gravel to 3/4 inch in diameter, very stiff, moist, light olive brown.
8/10/13	▽		10	SP-SM	Poorly graded sand with silt, sand is predominantly fine-grained, estimated at 5-15% silt, medium dense, moist to wet, greenish gray.
7/11/14					Poorly graded sand with silt, predominantly fine-grained, estimated at 5-10% silt, medium dense, wet, greenish gray.
16/32/40			15	GC	Clayey gravel with sand, gravel to 1 1/4 inches in diameter, estimated at 25-30% well graded fine to coarse-grained sand, and 10-20% clay, dense to very dense, saturated, yellowish brown.
12/19/30				CL	Clay, trace sand, very stiff to hard, moist, light olive brown.
6/13/22			20		Clay, estimated at 5-10% fine-grained sand, very stiff to hard, moist, light olive brown.
					TOTAL DEPTH: 20'

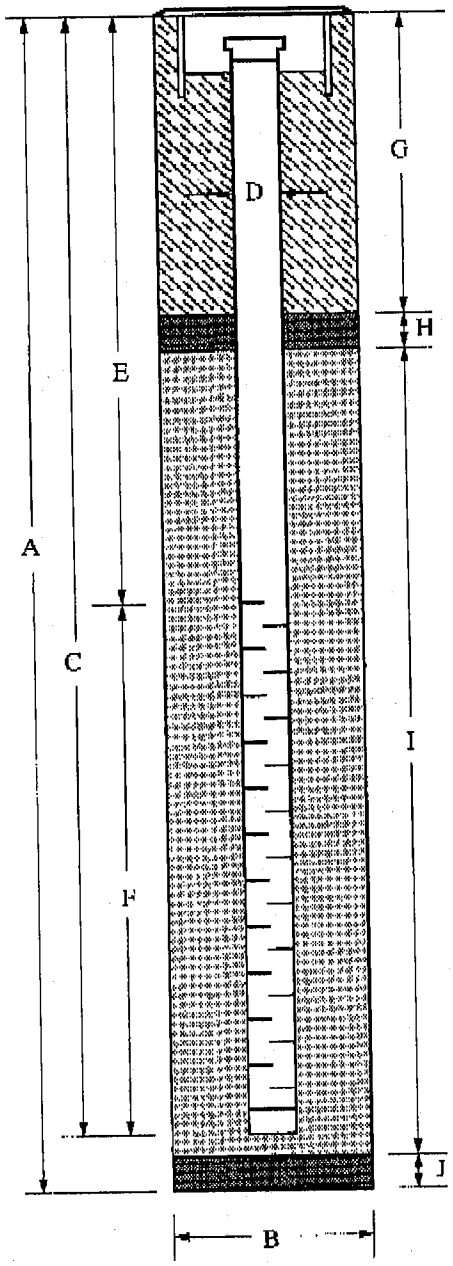
WELL CONSTRUCTION DIAGRAM

PROJECT NAME: Unocal S/S #1871, 96 MacArthur Blvd., Oakland **WELL NO.:** MW4

PROJECT NUMBER: KEI-P94-0601.P2

WELL PERMIT NO.: ACFC & WCD #96164

Flush-mounted Well Cover



A. Total Depth : 20'

B. Boring Diameter: 8.75"

Drilling Method: Hollow Stem Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 15'

Perforation Type: Machine Slotted

Perforation Size: 0.010"

G. Surface Seal: 3'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Filter Pack: 16'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

BORING LOG

Project No. KEI-P94-0601.P2	**Boring Diameter** 8.75"	**Logged By** T.S. JGG CE-6 1633
	Casing Diameter 2"	
Project Name Unocal S/S #1871	**Well Cover Elevation**	**Date Drilled**
96 MacArthur Blvd., Oakland	N/A	3/20/96
Boring No. MW5	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

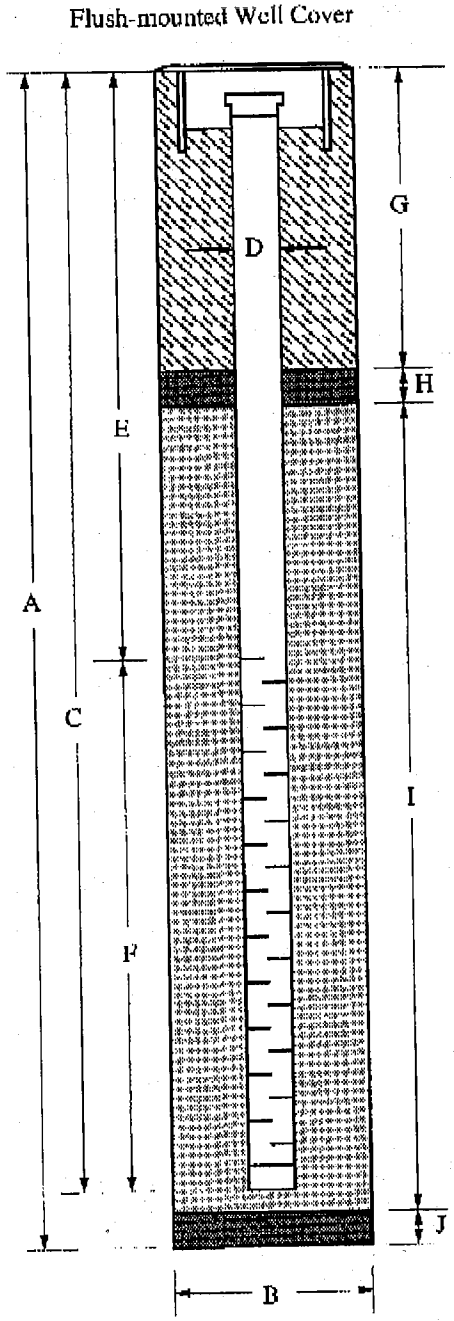
Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel.
				CL	Clay, estimated at 10-15% fine to medium-grained sand, trace gravel to 1 inch in diameter, soft, moist, greenish gray.
5/12/17			5	ML	Silt, estimated at 10-20% clay, and 10-20% fine-grained sand, firm, moist, olive. Silty sand, estimated at 15-25% silt, sand is very fine to fine-grained, medium dense, moist, grayish green.
9/14/16					Silty sand, estimated at 15-20% silt, sand is predominantly fine-grained, medium dense, moist, grayish green.
10/12/18	▽		10	SP-SM	Poorly graded sand, sand is predominantly fine-grained, estimated at 5-10% silt, medium dense, moist, greenish gray.
14/26/31			15	SW-SM	Well graded sand with silt and gravel, estimated at 10-20% gravel to 1 1/2 inches in diameter, 5-15% silt, dense to very dense, wet, dark greenish gray.
9/14/17				CL	Clay, very stiff, moist, pale olive.
			20		TOTAL DEPTH: 20'

WELL CONSTRUCTION DIAGRAM

PROJECT NAME: Unocal S/S #1871, 96 MacArthur Blvd., Oakland **WELL NO.:** MW5

PROJECT NUMBER: KEI-P94-0601.P2

WELL PERMIT NO.: ACFC & WCD #96164



A. Total Depth : 20'

B. Boring Diameter: 8.75"

Drilling Method: Hollow Stem Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 15'

Perforation Type: Machine Slotted

Perforation Size: 0.010"

G. Surface Seal: 3'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Filter Pack: 16'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

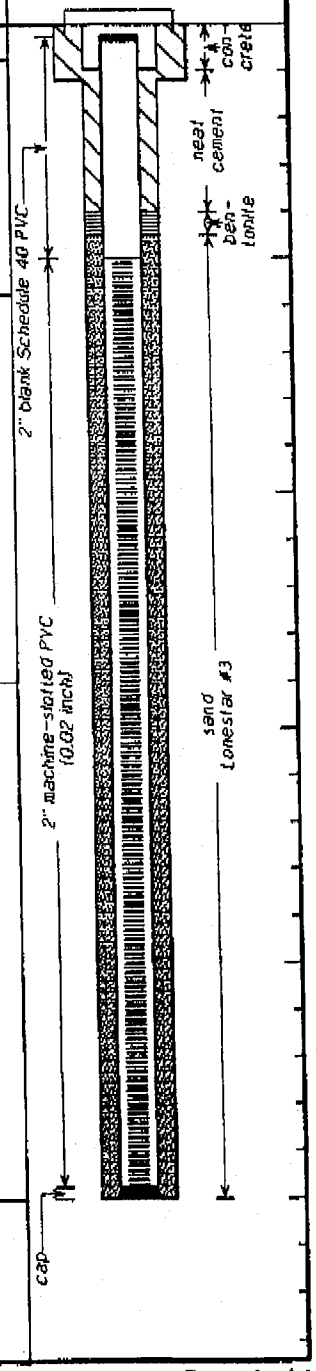
Gettler-Ryan Inc.

Log of Boring MW-6

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/03/99*	WL (ft. bgs): *11.3* DATE: *06/04/99* TIME: *1:30 pm*
DATE FINISHED: *06/03/99*	WL (ft. bgs): *9.12* DATE: *06/04/99* TIME: *4:00 pm*
DRILLING METHOD: *8" hollow-stem auger*	TOTAL DEPTH: *25 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Concrete over silty sand and gravel.
						ML	CLAYEY SILT (ML) - greenish gray (5GY 5/1), moist, stiff: FILL OR DISTURBED NATIVE SOIL.
							NATIVE SOIL.
5	14	50	MW-6-6			SM	SILTY SAND (SM) - dark greenish gray (5GY 4/1), moist, very dense, 10-15% silt, trace clay, predominantly fine to medium sand, angular gravel in shoe, slight hydrocarbon odor.
							Becomes wet to saturated, strong hydrocarbon odor.
10	>442	58	MW-6-11				SAND (SM) - dark greenish gray (5GY 4/1), saturated, very dense, locally with up to 20% angular gravel to 3/8" diameter, trace silt, very fine to coarse sand, well graded.
	386	61					
						ML	
15	104	47	MW-6-15.5				CLAYEY SILT (ML) - reddish gray (5YR 5/2), saturated, hard, slight hydrocarbon odor.
							No odor.
20	20	48	MW-6-20.5				
	3		MW-6-24				
25							* Converted to standard penetration blows/foot.

WELL DIAGRAM



JOB NUMBER: *140165.04-1*

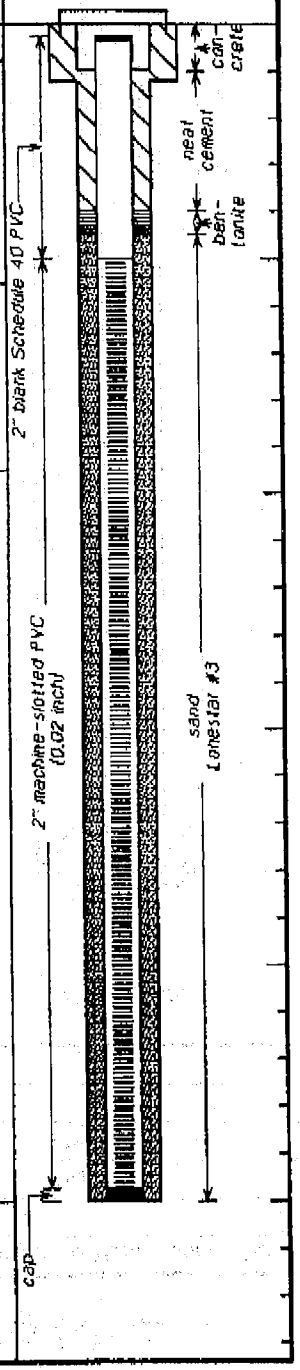
Gettler-Ryan Inc.

Log of Boring MW-7

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/11/99*	WL (ft. bgs): *11* DATE: TIME:
DATE FINISHED: *06/11/99*	WL (ft. bgs): *8.53* DATE: *06/11/99* TIME: *11:00 am*
DRILLING METHOD: *8" hollow-stem auger*	TOTAL DEPTH: *25 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT.*	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Concrete.
						ML	CLAYEY SANDY SILT WITH GRAVEL (ML) - brown (7.5YR 6/4), moist, stiff, estimated up to 10% clay, 10-15% very fine to coarse sand, 15% subangular gravel to 3/4" diameter; FILL.
5	0	33				SM	SILTY SAND LOCALLY WITH GRAVEL (SM) - dark gray (5GY 4/1), moist to very moist, hard, estimated 15% silt, trace clay, variable gravel content up to 20%, gravel subangular, weathered, and fractured, very fine to coarse gravel to >2" diameter.
10	3	26				ML	SILT WITH SAND AND GRAVEL (ML) - brown (7.5YR 4/4), gradational from SILTY SAND above, wet to saturated, hard, mottled with weathered gravel clasts, estimated at 15-25% fine to coarse sand, trace clay, 15-25% subangular gravel to 1/2" diameter, gravel highly weathered, fractured.
15	4	29					Becomes saturated. CLAYEY SILT (ML) - light gray (10YR 7/2), saturated, hard, homogenous.
20	0	27					
25	0	18					Trace to 10% very fine sand. * Converted to standard penetration blows/foot.

WELL DIAGRAM



JOB NUMBER: *140165.04-1*

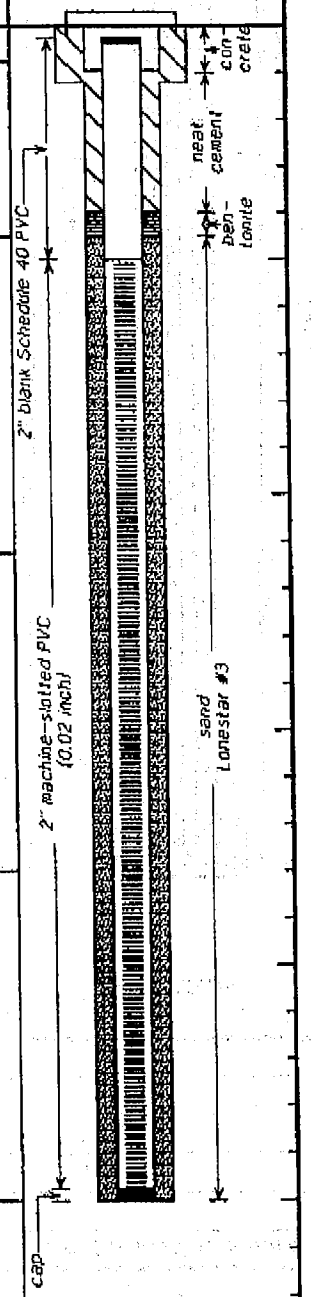
Gettler-Ryan Inc.

Log of Boring MW-8

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/03/99*	WL (ft. bgs): *9.0* DATE: *06/04/99* TIME: *4:00 pm*
DATE FINISHED: *06/03/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8" hollow-stem auger*	TOTAL DEPTH: *25 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Concrete.
						ML	CLAYEY SANDY SILT WITH GRAVEL (ML) – light brownish gray (2.5Y 6/2), moist, stiff, estimated at 10% clay, 10-15% very fine to coarse sand, 15% subangular gravel to 3/8" diameter; FILL.
5	0						CLAYEY SANDY SILT WITH GRAVEL (ML) – light brownish gray (2.5Y 6/2), moist, very stiff, estimated up to 10% clay, 10% very fine to coarse sand, 25% angular gravel to 1-3/4" diameter.
10	0	26	MW-8-10.5				CLAYEY SILT (ML) – light gray (10YR 7/2), moist, hard, homogenous, trace sand.
						SM	SILTY SAND (SM) – pale brown (10YR 6/3), very moist, very dense, very fine to fine sand, estimated at 30% silt.
15	0	83	MW-8-15.5				SILTY SAND WITH GRAVEL (SM) – saturated, very dense, estimated at 15% silt, 35-45% subangular gravel to 3/4" diameter, highly weathered gravel, fine to coarse sand.
						ML	
20		50					CLAYEY SILT (ML) – light gray (10YR 7/2), saturated, hard, homogenous.
		38					
25							* Converted to standard penetration blows/foot.

WELL DIAGRAM



JOB NUMBER: *140165.04-1*

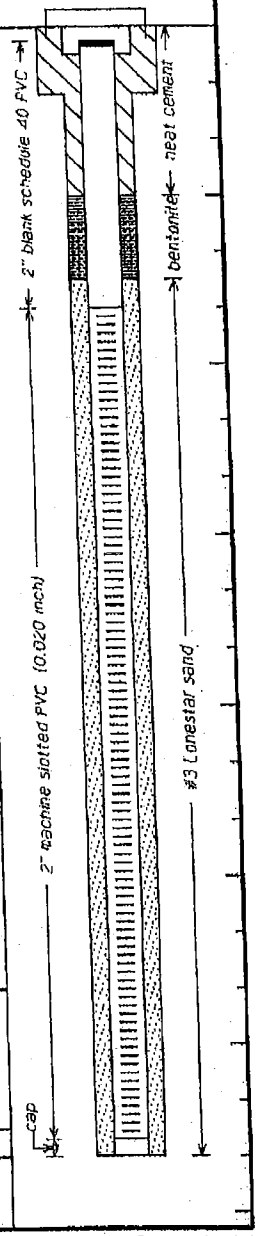
Gettler-Ryan, Inc.

Log of Boring MW-9

PROJECT: *Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.07*	CASING ELEVATION:
DATE STARTED: *12/27/01*	WL (ft. bgs): *16.0* DATE: *12/27/01* TIME: *10:00*
DATE FINISHED: *12/27/01*	WL (ft. bgs): *14.9* DATE: *12/27/01* TIME: *15:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *20 feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	PID (ppm)	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						Clay with Gravel (fill).
3					SP	POORLY GRADED SAND WITH GRAVEL (SP) – light yellowish brown (10YR 6/4), moist, very dense; 60–75% subangular to rounded fine sand, 20–35% subangular to rounded fine gravel, 5% silt.
6	0	MW-9-6.5				
					ML	SILT WITH SAND (ML) – light yellowish brown (2.5Y 6/3), moist, hard, non-plastic; 50–70% silt, 15% fine sand, 15–35% clay.
9	0	MW-9-9				
12						
15	0	MW-9-15.5				Becomes saturated at 15 feet.
					SP	POORLY GRADED SAND (SP) – yellowish brown (10YR 5/4), saturated, medium dense; 100% subangular to rounded sand.
18	0	MW-9-20			ML	SILT (ML) – yellowish brown (10YR 5/4), saturated, stiff, non-plastic; 70–80% silt, 15–25% clay, 5% fine sand.
21						Bottom of boring at 20 feet bgs.

WELL DIAGRAM



JOB NUMBER: *140165.07*

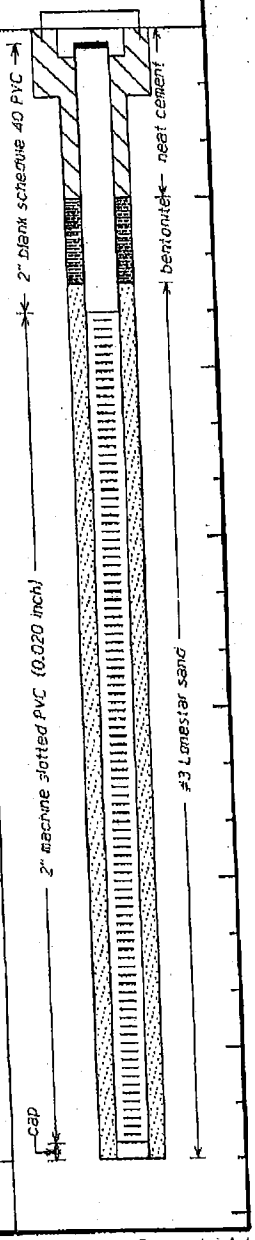
Gettler-Ryan, Inc.

Log of Boring MW-10

PROJECT: *Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.07*	CASING ELEVATION:
DATE STARTED: *12/27/01*	WL (ft. bgs): *19.9* DATE: *12/27/01* TIME: *15:15*
DATE FINISHED: *12/27/01*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *20 feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	PID (ppm)	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
0						Boring not logged from 0 to 15 feet due to proximity to boring B-8.
15	0				ML	SILT (ML) - grayish brown (10YR 5/2), moist, hard, non-plastic; 60-80% silt, 15-35% clay, 5% fine sand.
18	0					Bottom of boring at 20 feet bgs.

WELL DIAGRAM



JOB NUMBER: *140165.07*

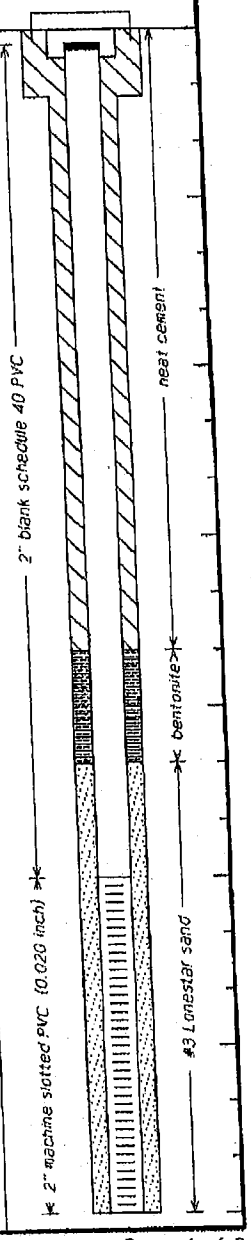
Gettler-Ryan, Inc.

Log of Boring MW-11

PROJECT: *Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.07*	CASING ELEVATION:
DATE STARTED: *12/27/01*	WL (ft. bgs): *28.3* DATE: *12/27/01* TIME: *15:40*
DATE FINISHED: *12/27/01*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *30 feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	PID (ppm)	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
3						Clay with Gravel (fill).
6	0				CL	CLAY (CL) - very dark grayish brown (10YR 3/2), moist, stiff, plastic; 60-70% clay, 5-10% fine to coarse sand, trace of fine gravel.
9	0	MW-11-11				
12					ML	SILT (ML) - light olive brown (2.5Y 5/3), moist, hard, non-plastic; 60-80% silt, 15-35% clay, 5% fine sand.
15	0	MW-11-16				
18					SM	SILTY SAND (SM) - olive brown (2.5Y 4/4), moist, dense; 85% subangular to rounded fine sand, 15% silt.
21	0	MW-11-20			ML	

WELL DIAGRAM

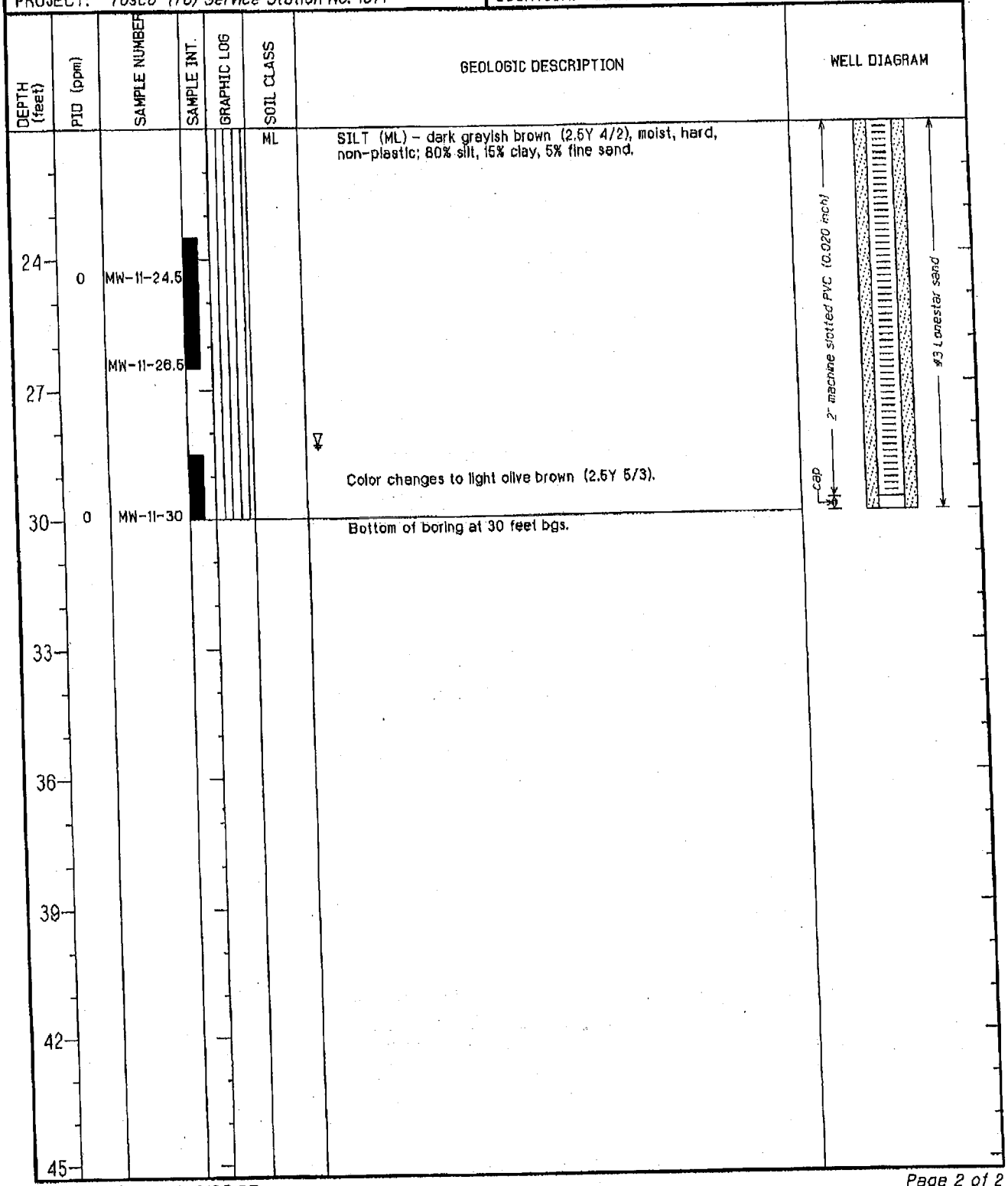


Gettler-Ryan, Inc.

Log of Boring MW-11

PROJECT: *Tosco (76) Service Station No. 1871*

LOCATION: *96 MacArthur Boulevard, Oakland, California*



JOB NUMBER: *140165.07*

BORING LOG

Project No. KEI-P94-0601.P2	**Boring Diameter** 8.75"	**Logged By** T.S. TG EG 1633
	Casing Diameter NA"	
Project Name Unocal S/S #1871	**Well Cover Elevation**	**Date Drilled**
96 MacArthur Blvd., Oakland	N/A	3/20/96
Boring No. EB1	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		Concrete slab over sand base.
				CL	Clay, estimated at 5-15% sand, firm, moist, dark greenish gray.
9/13/22			5		Clay, estimated at 10-15% fine-grained sand, very stiff to hard, moist, greenish gray.
				ML	Clayey silt, estimated at 10-20% fine-grained sand, very stiff, moist, pale olive.
9/12/16				SP	Poorly graded sand, sand is very fine to fine-grained, trace silt, medium dense, moist to wet, light olive gray.
7/13/14	▽		10		Claycy silt, estimated at 10-20% silt, sand is very fine to fine-grained, medium dense, wet, gray.
5/10/16				ML	Silty sand, estimated at 15-20% silt, sand is very fine to fine-grained, medium dense, wet, gray.
			15		TOTAL DEPTH: 13.5'
			20		

BORING LOG

Project No. KEI-P94-0601.P2	**Boring Diameter** 8.75" / **Casing Diameter** NA"	**Logged By** T.S. 766 CEC 1633
Project Name Unocal S/S #1871 96 MacArthur Blvd., Oakland	**Well Cover Elevation** N/A	**Date Drilled** 3/20/96
Boring No. EB2	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

Pene-tration blows/6"	G.W. level	O.V.M. (ppm)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		A.C. pavement over sand and gravel base.
					Sand and gravel fill, debris.
					Native soil
				CL	Clay with silt, trace sand and gravel, firm, moist, dark greenish gray.
9/13/16			5	SM	Silty sand, sand is predominantly fine-grained, trace granules, medium dense, olive gray.
				ML	Silt, estimated at 20-30% very fine to fine-grained sand, and 10-20% clay, very stiff, moist, greenish gray.
7/11/13	▽		10		
				SW-SM	Well graded sand with silt and gravel, estimated at 25-30% gravel to 1 inch in diameter, and 5-15% silt, medium dense to dense, wet to saturated, greenish gray.
8/18/24					
					TOTAL DEPTH: 14'
			15		
			20		

Gettler-Ryan Inc.

Log of Boring B-4

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *10.5* DATE: *06/01/99* TIME: *7:50 am*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *16 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							2" turf over 4" of broken concrete.	
						ML	SANDY CLAYEY SILT (ML) - grayish brown (10YR 5/2), slightly moist, stiff, estimated at 30% very fine to fine sand, 15-25% clay; FILL.	
						SC	CLAYEY SAND (SC) - light yellowish brown (10YR 6/4), moist, medium dense, estimated 10-15% clay, 10% silt, predominantly very fine to fine; FILL.	
5						SM	SILTY SAND WITH GRAVEL (SM) - brown (10YR 5/3), very moist, medium dense, estimated at 20% silt, trace clay, 15% subrounded to subangular gravel to 1 1/4" diameter, fine to coarse sand.	
	0		B-4-7.5			GW GM	GRAVEL WITH SAND (GW-GM) - yellowish brown (10YR 5/4), very moist, dense, estimated at 35% very fine to coarse sand, 10% silt & clay, subangular deeply weathered gravel to 3/4" diameter.	
	0		B-4-9					
10						ML	SILT (ML) - light yellowish brown (2.5Y 6/4) to light brownish gray (2.5Y 6/2), wet to saturated at 10.5 feet, very stiff, trace clay & very fine sand.	Water sample B-4-10.5
	0		B-4-11.5					
	0							
15								
	0							
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-5

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *96 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *10.5* DATE: *06/01/99* TIME: *9:40 am*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *16 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							Asphaltic concrete.	
						SM	SILTY SAND (SM) - light yellowish brown (10YR 6/4), moist, medium dense, estimated 15% silt, predominantly very fine to fine sand: FILL.	
						SP	SAND WITH GRAVEL (SP) - light yellowish brown (10YR 6/4), moist to very moist, medium dense, estimated at 10-15% subrounded to angular gravel to 3/8" diameter, very fine to fine sand, poorly graded: FILL.	
5								
	0		B-5-7.5			ML	SILT (ML) - 2" lens.	
						SP	SAND WITH GRAVEL (SP) - light yellowish brown (10YR 6/4), moist to very moist, medium dense, estimated at 10-15% subrounded to angular gravel to 3/8" diameter, very fine to fine sand, poorly graded.	
10	0		B-5-10.5			GW GM	GRAVEL WITH SAND (GW-GM) - yellowish brown (10YR 5/4), very moist, dense, estimated at 40% very fine to coarse sand, 10% silt, trace clay, subangular gravel to 1 1/4" diameter, deeply weathered.	water sample B-5-11.35
	0					SW SM		
						GW GM	SAND WITH GRAVEL (SW-SM) - estimated at 40% gravel, otherwise as above.	
	0						GRAVEL WITH SILT AND SAND (GW-GM) - yellowish brown (10YR 5/4), saturated, dense, 25% fine to coarse sand, 15% silt & clay, well graded.	
15	0					ML	SILT (ML) - brown (10YR 5/3), saturated, very stiff, trace clay.	
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-6

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *11.7* DATE: *06/01/99* TIME: *10:15 am*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *14 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							Asphaltic concrete.	
						SP	SAND (SP) - yellowish brown (10YR 6/4), moist, medium dense, very fine to fine sand, poorly graded: FILL.	
5								
	0					GW GM SW SM	GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 6/4), moist, medium dense to dense, estimated 35% very fine to coarse sand, 10-15% silt, subangular gravel to 3/4" diameter, deeply weathered gravel, well graded.	
10	0					GW GM	SAND WITH GRAVEL (SW-SM) - dark yellowish brown (10YR 4/6), moist, medium dense, estimated 15% subrounded gravel to 3/4" diameter, predominantly medium sand, poorly graded.	
	0		B-6-11.4				GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 6/4), moist, medium dense to dense, estimated 35% very fine to coarse sand, 10-15% silt, subangular gravel to 3/4" diameter, deeply weathered gravel, well graded.	Water sample B-6-11.7
15								
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-7

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *96 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *10* DATE: *06/01/99* TIME: *10:50 am*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *16 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. #	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							Concrete.	
						SM	SILTY SAND WITH GRAVEL (SM) - dark brown (10YR 3/3) changing to grayish brown (10YR 5/4) at 2 feet, sightly moist to moist, dense, estimated 20% silt, 25% subangular gravel to 1-3/4" diameter, predominantly very fine to fine sand: FILL.	
						ML	SILT (ML) - black (10YR 2/0), moist, stiff, trace clay & fine sand.	
5							SANDY SILT (ML) - yellowish brown (10YR 5/4), moist, stiff, estimated 15-20% very fine sand, up to 10% subangular gravel to 1/4" diameter, gravel highly weathered.	
10	0		B-7-9.5				▽ Becomes very moist. Color change to grayish brown (2.5Y 5/2), becomes saturated, only trace gravel below 11 feet.	Water sample B-7-10
15						GW GM	GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 5/4), saturated, medium dense to dense.	
						ML	CLAYEY SILT (ML) - grayish brown (10YR 5/2), saturated, very stiff.	
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-8

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO. : *140165.04-1*	CASING ELEVATION:
DATE STARTED: *08/01/99*	WL (ft. bgs): *8.5* DATE: *08/03/99* TIME: *12:10 am*
DATE FINISHED: *08/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *12 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. #	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
5						ML	CLAYEY SILT (ML) - dark grayish brown (2.5Y 3/2) changing to light olive brown (2.5Y 5/4) at 1.5 feet: FILL OR DISTURBED NATIVE SOIL.	
							Color change to olive (5Y 5/2).	Poor recovery.
10			B-8-8				▽ CLAYEY SILT WITH GRAVEL (ML) - olive (5Y 5/2), saturated, estimated 10% clay, 15-35% subangular gravel to 1-3/4" diameter, highly weathered gravel.	Water sample B-8-8.5
15								
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-9

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *96 Mac Arthur Blvd., Oakland, CA*
PROJECT NO. : *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *13.5* DATE: *06/01/99* TIME: *12:45 pm*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *14 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						SM	SILTY SAND WITH GRAVEL (SM) – dark yellowish brown (10YR 4/6), moist, dense, estimated 15% silt, very fine to coarse sand, up to 30% subangular gravel to 2" diameter: FILL.	
5						ML	CLAYEY SILT WITH GRAVEL (ML) – dark greenish gray (5GY 4/1), moist, firm.	
	0		B-9-7.5				CLAYEY SILT (ML) – dark greenish gray (5GY 4/1) changing to black (2.5YR N2 5/) at 8.5 feet, moist, firm, organic odor.	
10	0		B-9-11				SANDY CLAYEY SILT (ML) – dark gray (N4 /), very moist to wet, firm, estimated 15-20% very fine to fine sand, 10% clay, trace gravel.	
	0		B-9-13				▽	Water sample B-9-13.5
	0							
15								
20								
25								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-10

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *96 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/01/99*	WL (ft. bgs): *15.2* DATE: *06/03/99* TIME: *7:40 am*
DATE FINISHED: *06/01/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *2" geoprobe*	TOTAL DEPTH: *18 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
5	0					ML	SANDY CLAYEY SILT WITH GRAVEL (ML) - yellowish brown (10YR 5/6), very moist, firm, estimated at 15-30% very fine to medium sand, 10% clay, 10-15% subrounded gravel to 3/4" diameter: FILL.	
							Color change to very dark gray (5YR 3/1) at 3.5 feet.	
							SANDY SILT (ML) - light brownish gray (2.5Y 6/2), moist, firm to stiff, estimated at 25-30% fine to medium sand, trace gravel.	
10	0							
	20						SANDY SILT WITH GRAVEL (ML) - greenish gray (5G 6/1), moist to very moist, stiff, estimated at 25-30% fine to medium sand, trace clay, variable gravel content to 10%, subangular gravel, highly weathered, slight hydrocarbon odor.	
	440		B-10-14			GW GM	CLAYEY SILT (ML) - light brownish gray (2.5Y 6/2), moist, firm to stiff, trace very fine sand.	
15							GRAVEL WITH SAND (GW-GM) - dark greenish gray (5G 4/1), very moist, dense to very dense, estimated 30-40% very fine to coarse sand, trace silt & clay, subangular gravel to 3/4" diameter, highly weathered and fractured, strong hydrocarbon odor.	Water sample B-10-15.2
	386		B-10-17.5				Becomes 10% silt, 10% clay, 35% very fine to predominantly medium to coarse sand, strong hydrocarbon odor, wet to saturated around gravel.	
20								
25								

Gettler-Ryan Inc.

Log of Boring B-11

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/03/99*	WL (ft. bgs): *16.2* DATE: *06/03/99* TIME: *11:30 am*
DATE FINISHED: *06/03/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8" hollow-stem auger*	TOTAL DEPTH: *31.5 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						ML	GRAVELLY SILT (ML) - very dark gray (5YR 3/1), slightly moist, stiff, estimated at 15-30% subangular gravel to 1-3/4" diameter, trace sand: FILL.	
5	0					CL	SILTY CLAY (CL) - yellowish brown (10YR 5/6), moist to very moist, stiff, trace very fine to medium sand.	
10	0		B-11-10.5			SW SC	SAND WITH CLAY AND GRAVEL (SW-SC) - yellowish brown (10YR 5/6), very moist to wet along clasts, very dense, estimated 10% clay, 35% subangular gravel to 3/4" diameter, very fine to coarse sand, well graded.	
	0		B-11-14			ML	CLAYEY SILT (ML) - grayish brown (10YR 5/2), very moist to wet, stiff.	
15	6					SW SM ML	SAND WITH SILT AND GRAVEL (SW-SM) - yellowish brown (10YR 5/6), wet, estimated 10-15% silt, 30-40% subangular gravel to 3/8" diameter, very fine to coarse sand, well graded.	Water sample B-11-16.2
20	0						CLAYEY SILT (ML) - yellowish brown (10YR 5/6), saturated, very stiff, homogenous.	
25	0		B-11-24.5					

Gettler-Ryan Inc.

Log of Boring B-11

PROJECT: *Former Tosco 76 Branded Facility No. 1871*

LOCATION: *96 Mac Arthur Blvd., Oakland, CA*

DEPTH feet	PID (ppm)	BLOWS/FT. #	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
	0		B-11-29			ML	CLAYEY SILT (ML) - dark greenish gray (5G 4/1), saturated, very stiff, homogenous.	Hydropunch attempt from 29.5 to 31.5 feet; no water after 1/2 hour.
33								
38								
43								
48								
53								
58								

JOB NUMBER: *140165.04-1*

Gettler-Ryan Inc.

Log of Boring B-12

PROJECT: *Former Tosco 76 Branded Facility No. 1871*	LOCATION: *98 Mac Arthur Blvd., Oakland, CA*
PROJECT NO.: *140165.04-1*	CASING ELEVATION:
DATE STARTED: *06/04/99*	WL (ft. bgs): *19.5* DATE: *06/04/99* TIME: *2:15 pm*
DATE FINISHED: *06/04/99*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *6" hollow-stem auger*	TOTAL DEPTH: *26.5 Feet*
DRILLING COMPANY: *Gregg Drilling*	GEOLOGIST: *Joel Greger*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							Concrete.	
						ML	CLAYEY SILT (ML) – dark yellowish brown (10YR 4/6), moist, stiff: FILL.	
						SM	SILTY SAND (SM) – strong brown (10YR 4/6), moist, dense, estimated 20% silt, trace to 10% subangular gravel to 1/4" diameter, very fine to medium sand: FILL.	
5	0	27				ML	CLAYEY SILT WITH GRAVEL (ML) – dark gray (7.5YR N4/), very moist, hard, estimated at 30% angular gravel to 1.5" diameter: DISTURBED NATIVE SOIL.	
10	0	34	B-12-11.5				SANDY SILT WITH GRAVEL (ML) – strong brown (10YR 4/6), very moist, hard, estimated at 15% very fine sand, 25% subangular gravel to 3/4" diameter, gravel highly weathered.	
15	0	25	B-12-15.5				CLAYEY SILT (ML) – gray (5Y 5/1), wet to saturated, very stiff, homogenous.	
20	0	41	B-12-20.5				Trace very fine to coarse sand.	Water sample B-12-19.5 (slurry); water came in after 2.5 hours, hole caved below 19.5 feet.
25	0	40	B-12-25 B-12-25.5 B-12-26				As above except no sand.	

JOB NUMBER: *140165.04-1*

Gettler-Ryan, Inc.

Log of Boring SP-A

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *28 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)

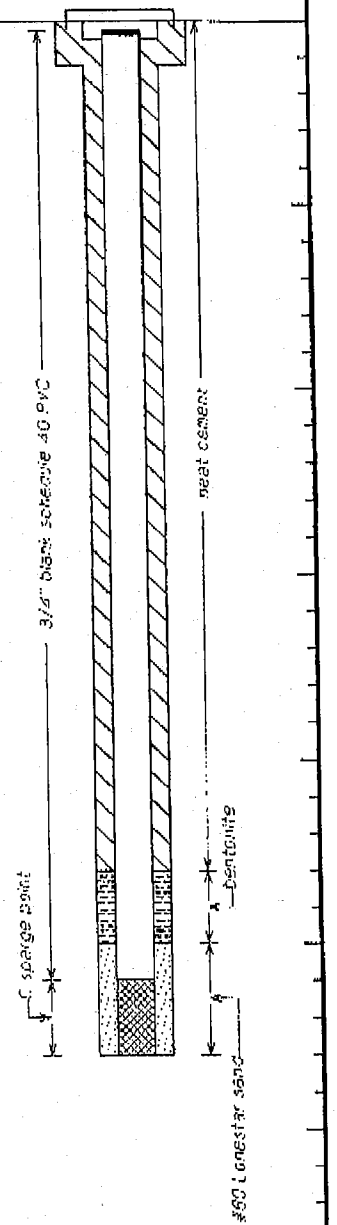
GEOLOGIC DESCRIPTION

Concrete and rebar – 6 inches thick.

Well boring was not logged or sampled.

Bottom of boring at 28 feet bgs.

WELL DIAGRAM



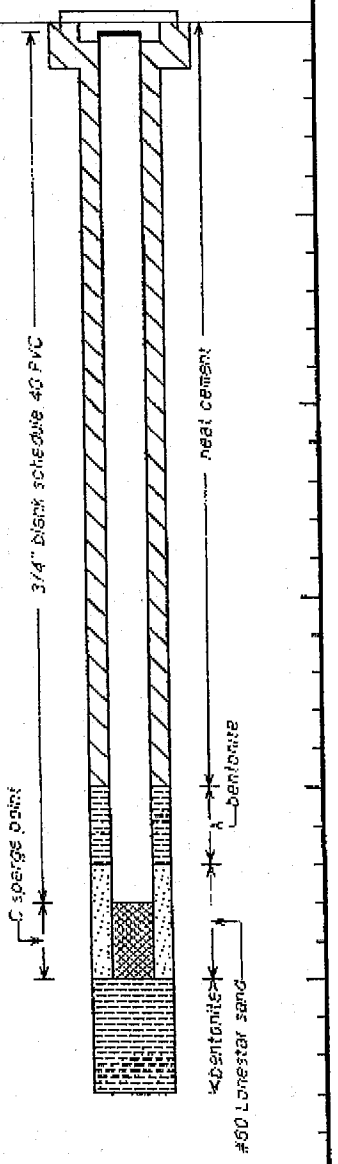
JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.

Log of Boring SP-C

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Bouldvard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *28 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galentine*

DEPTH (feet)	GEOLOGIC DESCRIPTION	WELL DIAGRAM
	Asphalt – 6 inches thick.	
	Well boring was not logged or sampled.	
5		
10		
15		
20		
25		
	Bottom of boring at 28 feet bgs.	
30		
35		



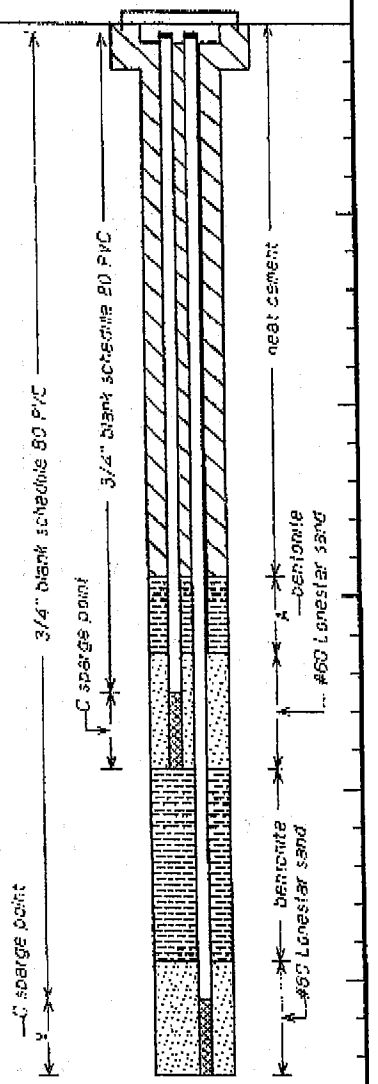
JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.

Log of Boring SP-DD/DS

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/18/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/18/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *27.5 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0			Asphalt - 6 inches thick.	
			Well boring was not logged or sampled.	
5				
10				
15				
20				
25				
			Bottom of boring at 27.5 feet bgs.	
30				
35				



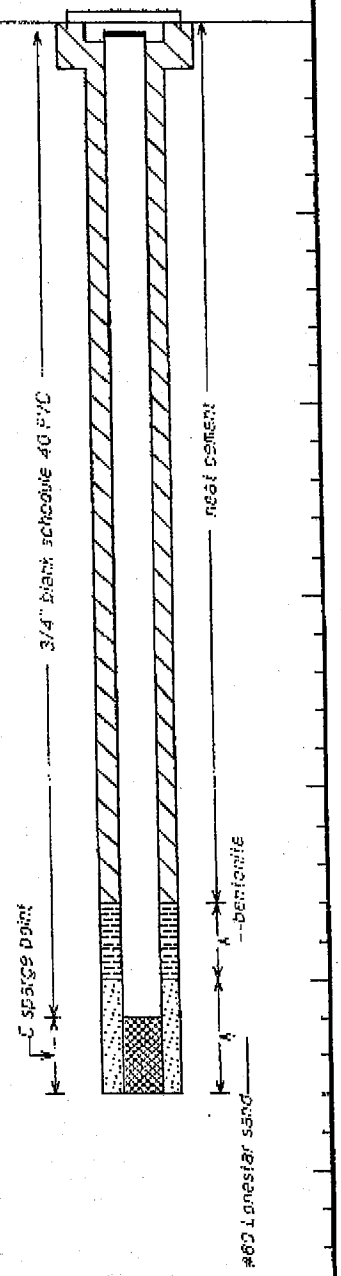
JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.

Log of Boring SP-E

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/18/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/18/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *28 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0	Asphalt – 6 inches thick.	
	Well boring was not logged or sampled.	
5		
10		
15		
20		
25		
	Bottom of boring at 28 feet bgs.	
30		
35		



JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.

Log of Boring SP-F

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/19/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/19/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *28 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)

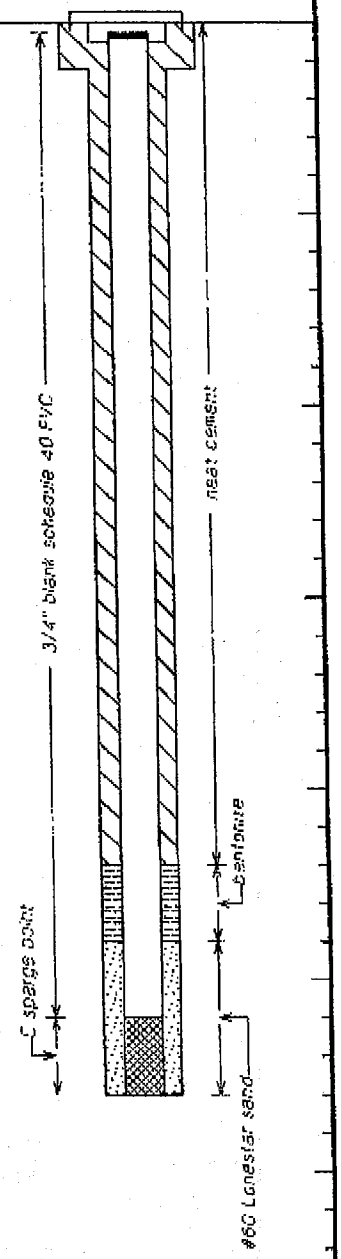
GEOLOGIC DESCRIPTION

Asphalt - 6 inches thick.

Well boring was not logged or sampled.

Bottom of boring at 28 feet bgs.

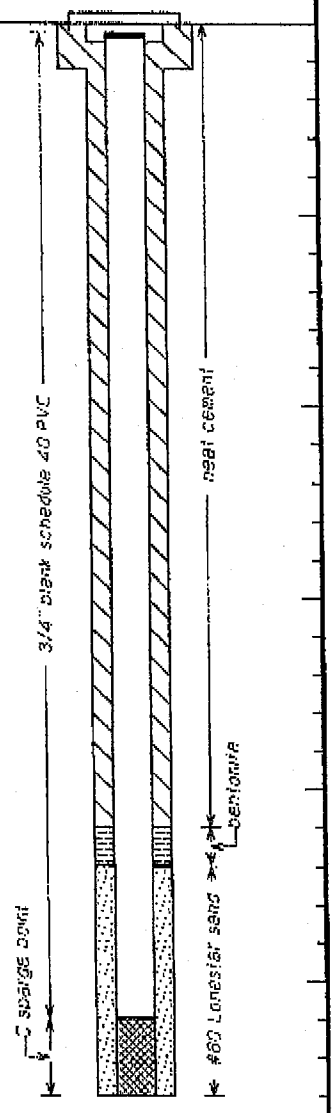
WELL DIAGRAM



JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.	Log of Boring SP-G
PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Bouldvard, Oakland, California*
GR PROJECT NO. : *140165.10*	CASING ELEVATION:
DATE STARTED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/20/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *28 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0	Asphalt - 4 inches thick.	
	Well boring was not logged or sampled.	
5		
10		
15		
20		
25		
	Bottom of boring at 28 feet bgs.	
30		
35		



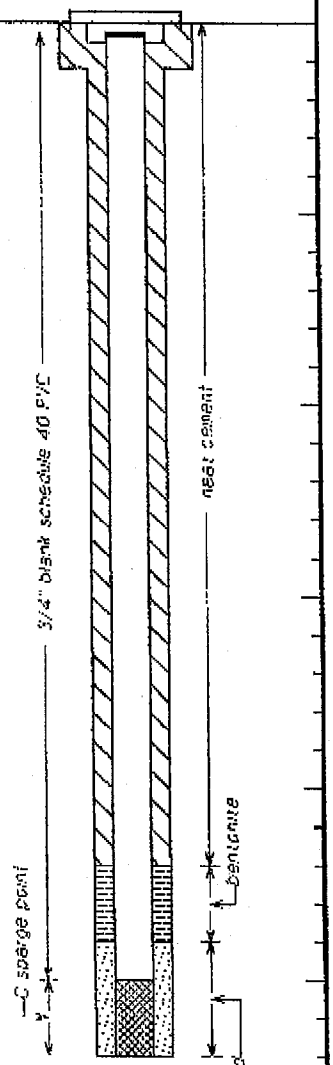
JOB NUMBER: *140165.10*

Gettler-Ryan, Inc.

Log of Boring SP-H

PROJECT: *Former Tosco (76) Service Station No. 1871*	LOCATION: *96 MacArthur Boulevard, Oakland, California*
GR PROJECT NO.: *140165.10*	CASING ELEVATION:
DATE STARTED: *03/19/02*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *03/19/02*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *27 feet*
DRILLING COMPANY: *Cascade Drilling*	GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0	Asphalt ~ 4 inches thick.	
	Well boring was not logged or sampled.	
5		
10		
15		
20		
25		
	Bottom of boring at 27 feet bgs.	
30		
35		



JOB NUMBER: *140165.10*

GREGG

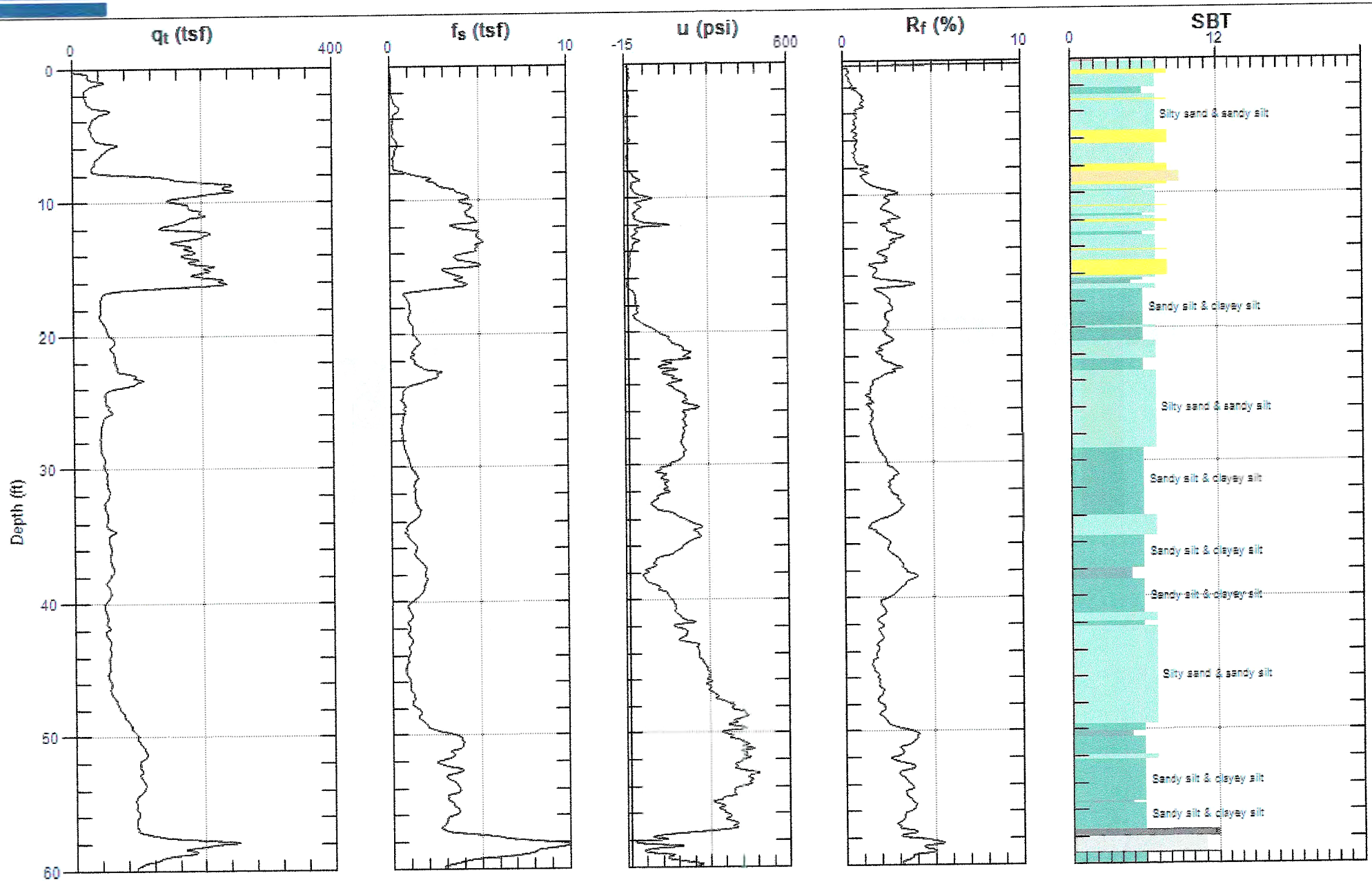
CRA

Site: 76 Station #1871

Sounding: CPT-1

Engineer: Andrew

Date: 10/26/2011 11:50



Max. Depth: 60.039 (ft)

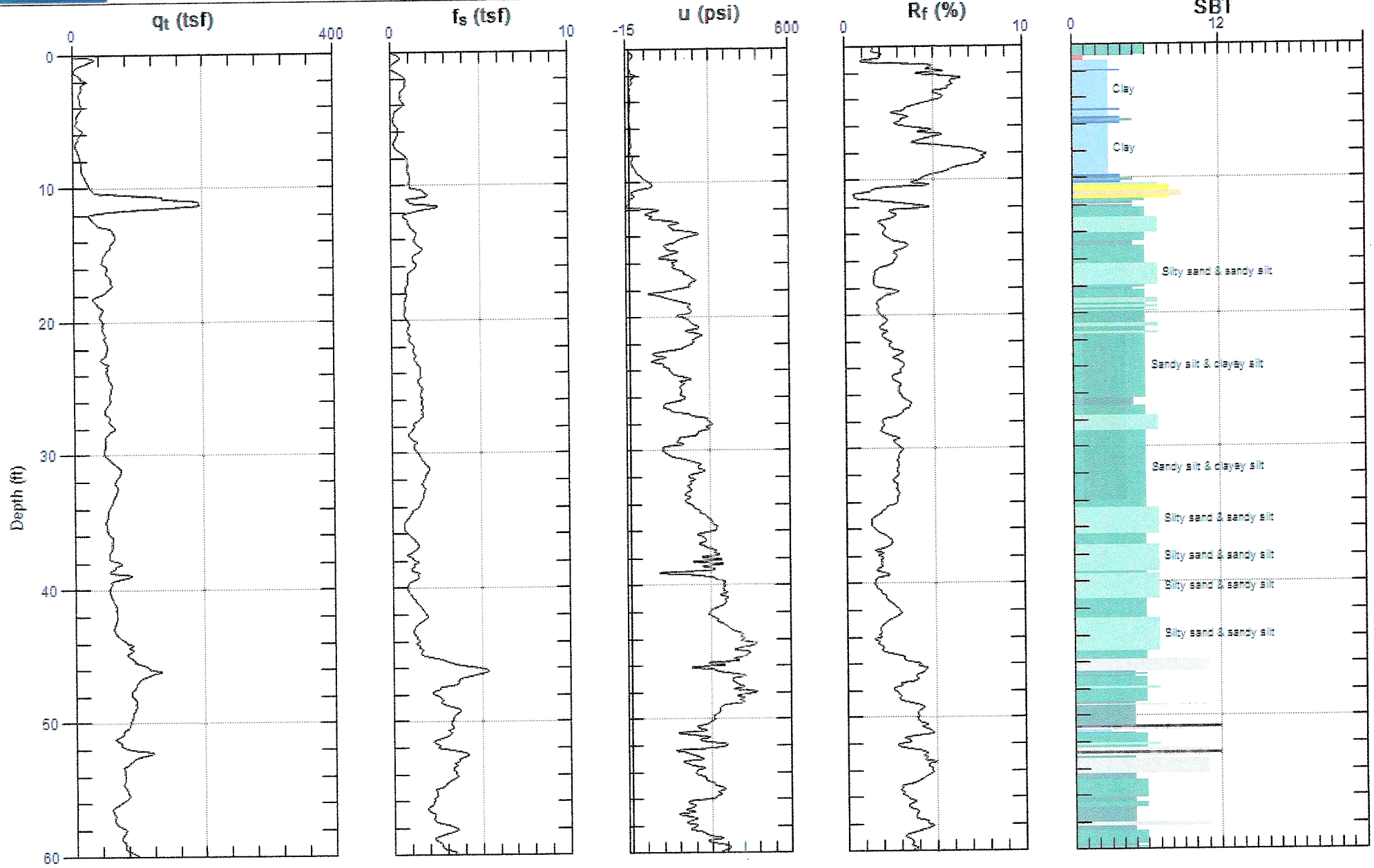
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG **CRA**

Site: 76 Station #1871
Sounding: CPT-4

Engineer: Andrew
Date: 10/25/2011 12:32



Max. Depth: 60.039 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Conestoa-Rovers & Associates, Inc.
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Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	CPT-1
JOB/SITE NAME	76 Seervice Station 1871 (351644)	**DRILLING STARTED**	26-Oct-11
LOCATION	66-96 MacArthur Blvd, Oakland, CA	**DRILLING COMPLETED**	26-Oct-11
PROJECT NUMBER	060727	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLER	Gregg Drilling, C-57 #485165	**TOP OF CASING ELEVATION**	NA
DRILLING METHOD	CPT	**SCREENED INTERVALS**	NA
BORING DIAMETER	4-inches	**DEPTH TO WATER (First Encountered)**	NA ▽
LOGGED BY	A. Renshaw	**DEPTH TO WATER (Static)**	NA ▼
REVIEWED BY	J. Schneider, PG# 7914		
REMARKS	Hand augered to 8 fbg		

PID (ppm)	BLOW COUNTS	SAMPLE ID	Sample Type	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	GEOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	
					SM		**Silty SAND:** light brown; damp; compact.		
				5				8.0	
0		CPT-1 -S-10		10	ML		**Sandy SILT:** light brown; moist; stiff; low plasticity.	9.5 10.5	
0		CPT-1 -S-15		15	ML		**Sandy SILT:** brown; moist; stiff; low plasticity.	14.5 15.5	
0		CPT-1 -S-20		20			**Sandy SILT:** light brown; moist; stiff; low plasticity.	19.5	

CHEVRONPID I:\CHEVRON\0607--\060727~1\060727~1\06CCE4~1\060727-GINT.GPJ DEFAULT.GDT 12/1/11

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Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	CPT-1
JOB/SITE NAME	76 Seervice Station 1871 (351644)	**DRILLING STARTED**	26-Oct-11
LOCATION	66-96 MacArthur Blvd, Oakland, CA	**DRILLING COMPLETED**	26-Oct-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	Sample Type	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	GEOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					ML			20.5	
0		CPT-1 -S-25		25	ML		**Sandy SILT:** brown; moist; stiff; low plasticity.	24.5 25.5	
0		CPT-1 -S-30		30	ML		**SILT:** brown; dry; stiff; low plasticity.	29.5 30.5	Portland Type I/II
0		CPT-1 -S-35		35	ML		**SILT:** brown; dry; stiff; low plasticity.	34.5 35.5	
0		CPT-1 -S-40		40	ML		**SILT:** light brown; dry; stiff; low plasticity.	39.5 40.5	

Continued Next Page

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Emeryville, CA 94608
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Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Chevron Environmental Management Company	**BORING/WELL NAME**	CPT-1
JOB/SITE NAME	76 Seervice Station 1871 (351644)	**DRILLING STARTED**	26-Oct-11
LOCATION	66-96 MacArthur Blvd, Oakland, CA	**DRILLING COMPLETED**	26-Oct-11

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	Sample Type	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	GEOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0		CPT-1 -S-45		45	ML		**Sandy SILT:** brown; dry; stiff; low plasticity.	44.5	
								45.5	
				50	ML		**SILT:** brown; moist; stiff; low plasticity.	49.5	
								50.5	
				55	ML		**SILT:** brown; moist; stiff; low plasticity.	54.5	
								55.5	
				60	ML		**SILT:** brown; moist; stiff; low plasticity.	59.5	
								60.0	Bottom of Boring @ 60 fbg

APPENDIX C

CURRENT AND HISTORICAL GROUNDWATER ANALYTICAL DATA

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
UNION OIL #1871
96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*									*GENERAL CHEMISTRY*			
Location	Date	*TOC*	*DTW*	*GWE*	*TPH Gasoline*	*B*	*T*	*E*	*X*	*MTBE by SW8260*	*TBA*	*EDB*	*1,2-DCA*	*Ethanol*	*Ferrous iron*	*Methane*	*Nitrate (as N)*	*Sulfate*
	Units	*ft*	*ft*	*ft-amsl*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*mg/L*	*mg/L*	*mg/L*
MW-1	11/10/2011	90.21	14.43	75.78	410	0.72	<0.50	7.1	1.4	2.4	60	<0.50	<0.50	<250	360	0.032	1.2	19
MW-1	**04/12/2012**	**90.21**	**12.78**	**77.43**	**2,700**	**4.7**	**<0.50**	**130**	**7.5**	**14**	**170**	**<0.50**	**<0.50**	**<250**	**<100**	**1.5**	**1.9**	**27**
MW-6	11/10/2011	82.51	9.61	72.90	<50	<0.50	<0.50	<0.50	<1.0	2.2	<10	<0.50	<0.50	<250	<100	<0.0010	<0.44	24
MW-6	**04/12/2012**	**82.51**	**8.08**	**74.43**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.96**	**<10**	**<0.50**	**<0.50**	**<250**	**<100**	**0.0013**	**<0.44**	**21**
MW-7	11/10/2011	83.80	9.38	74.42	<50	<0.50	<0.50	<0.50	<1.0	2.9	<10	<0.50	<0.50	<250	140	0.0041	<0.44	9.0
MW-7	**04/12/2012**	**83.80**	**7.44**	**76.36**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**4.7**	**<10**	**<0.50**	**<0.50**	**<250**	**<100**	**0.0038**	**<0.44**	**16**
MW-8	11/10/2011	84.86	9.94	74.92	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<200	<0.0010	3.0	54
MW-8	**04/12/2012**	**84.86**	**8.42**	**76.44**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.4**	**<10**	**<0.50**	**<0.50**	**<250**	**<100**	**0.0014**	**5.0**	**54**
MW-9	11/10/2011	85.18	15.98	69.20	51	<0.50	<0.50	<0.50	<1.0	63	<10	<0.50	<0.50	<250	270	<0.0010	1.3	30
MW-9	**04/12/2012[1]**	**85.18**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
MW-10	11/10/2011	78.18	7.01	71.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<100	<0.0010	26	24
MW-10	**04/12/2012**	**78.18**	**6.02**	**72.16**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**<0.50**	**<0.50**	**<250**	**<100**	**<0.0010**	**19**	**18**
MW-11	11/10/2011	80.44	14.49	65.95	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<100	<0.0010	5.1	57
MW-11	**04/12/2012**	**80.44**	**14.60**	**65.84**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<10**	**<0.50**	**<0.50**	**<250**	**<100**	**<0.0010**	**<2.2**	**69**

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
UNION OIL #1871
96 MACARTHUR BLVD.
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*									*GENERAL CHEMISTRY*			
Location	Date	*TOC*	*DTW*	*GWE*	*TPH Gasoline*	*B*	*T*	*E*	*X*	*MTBE by SW8260*	*TBA*	*EDB*	*1,2-DCA*	*Ethanol*	*Ferrous iron*	*Methane*	*Nitrate (as N)*	*Sulfate*
	Units	*ft*	*ft*	*ft-amsl*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*mg/L*	*mg/L*	*mg/L*

Abbreviations and Notes:

TOC = Top of casing

DTW = Depth to water

GWE = Groundwater elevation

(ft-amsl) = Feet above mean sea level

ft = Feet

µg/L = Micrograms per liter

mg/L = Milligrams per liter

TPH - Total petroleum hydrocarbons

VOCS = Volatile organic compounds

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes (Total)

MTBE = Methyl tert butyl ether

TBA = Tert-butyl alcohol

DIPE = Diisopropyl ether

ETBE = Tert-butyl ethyl ether

TAME = Tert-amyl methyl ether

EDB = 1,2-Dibromoethane (Ethylene dibromide)

1,2-DCA = 1,2-Dichloroethane

-- = Not available / not applicable

<x = Not detected above laboratory reported practical quantitation level.

J = Estimated concentration

1 Unable to locate.

TABLE KEY

STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
µg/l	=	micrograms per liter (approx. equivalent to parts per billion, ppb)
mg/l	=	milligrams per liter (approx. equivalent to parts per million, ppm)
ND<	=	not detected at or above laboratory detection limit
TOC	=	top of casing (surveyed reference elevation)
D	=	duplicate
P	=	no-purge sample

ANALYTES

DIPE	=	di-isopropyl ether
ETBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
TPH-G (GC/MS)	=	total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TRPH	=	total recoverable petroleum hydrocarbons
TAME	=	tertiary amyl methyl ether
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)

NOTES

1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
2. Groundwater elevations for wells with LPH are calculated as: Surface Elevation – Measured Depth to Water + (Dp x LPH Thickness), where Dp is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (PQL) specified by the laboratory.
6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
8. Prior to the 1st quarter 2010, the word "monitor" was used in table comments interchangeably with the word "gauge". Starting in the 1st quarter 2010, the word "monitor" is used to include both "gauge" and "sample".

REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 1871 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

Contents of Tables 1 and 2
Site: 76 Station 1871

Current Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 1a	Well/ Date	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	Post-purge Dissolved Oxygen	Post-purge ORP						

Historic Data

Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 2a	Well/ Date	TPH-D	TBA	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH (lab)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP
Table 2b	Well/ Date	Post-purge ORP											

Table 1

CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

May 27, 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1			**(Screen Interval in feet: 9.5-24.5)**											
5/27/2011	90.21	13.75	0.00	76.46	1.08	--	1500	3.2	ND<2.5	86	14	--	10	
MW-6			**(Screen Interval in feet: 5.0-25.0)**											
5/27/2011	82.51	8.76	0.00	73.75	1.12	--	52	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.0	
MW-7			**(Screen Interval in feet: 5.0-25.0)**											
5/27/2011	83.80	8.73	0.00	75.07	4.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.2	
MW-8			**(Screen Interval in feet: 5.0-25.0)**											
5/27/2011	84.86	8.12	0.00	76.74	2.67	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.1	
MW-9			**(Screen Interval in feet:--)**											
5/27/2011	85.18	15.37	0.00	69.81	1.43	--	59	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	70	
MW-10			**(Screen Interval in feet:--)**											
5/27/2011	78.18	6.62	0.00	71.56	1.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
MW-11			**(Screen Interval in feet:--)**											
5/27/2011	80.44	15.60	0.00	64.84	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

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Table 1 a
ADDITIONAL CURRENT ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	Post-purge Dissolved Oxygen (mg/l)	Post-purge ORP (mV)
MW-1						
5/27/2011	ND<50	ND<1200	ND<2.5	ND<2.5	0.37	-19
MW-6						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.61	199
MW-7						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.48	145
MW-8						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.48	209
MW-9						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	1.51	95
MW-10						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	1.52	192
MW-11						
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	3.11	205

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1			**(Screen Interval in feet: 9.5-24.5)**											
11/3/1992	--	--	--	--	--	260000	--	2300	4600	3700	17000	--	--	
1/25/1993	81.18	--	0.00	--	--	120000	--	2100	4600	4900	22000	--	--	
4/29/1993	81.18	13.71	0.00	67.47	--	100000	--	850	2000	4300	19000	--	--	
7/16/1993	81.18	14.51	0.00	66.67	-0.80	29000	--	590	560	980	4200	--	--	
10/19/1993	81.18	15.20	0.00	65.98	-0.69	67000	--	1400	2600	2900	5000	--	--	
1/20/1994	81.18	15.17	0.00	66.01	0.03	92000	--	1200	3000	3400	17000	--	--	
4/13/1994	81.18	14.44	0.00	66.74	0.73	51000	--	1000	2600	3200	15000	--	--	
7/13/1994	81.18	14.88	0.00	66.30	-0.44	35000	--	550	150	1400	5700	--	--	
10/10/1994	81.18	15.55	0.00	65.63	-0.67	52000	--	1000	810	3300	12000	--	--	
1/10/1995	81.18	12.44	0.00	68.74	3.11	810	--	16	18	59	250	--	--	
4/17/1995	81.18	12.68	0.00	68.50	-0.24	48000	--	880	530	2500	11000	--	--	
7/24/1995	81.18	13.97	0.00	67.21	-1.29	48000	--	1500	420	2700	9700	--	--	
10/23/1995	81.18	14.85	0.00	66.33	-0.88	47000	--	780	210	2100	11000	270	--	
1/18/1996	81.18	14.21	0.00	66.97	0.64	30000	--	1500	500	3500	13000	2400	--	
4/18/1996	86.24	13.40	0.00	72.84	5.87	66000	--	2700	2200	3100	13000	57000	--	
7/24/1996	86.24	14.15	0.00	72.09	-0.75	5600	--	2100	ND	160	160	24000	--	
10/24/1996	86.24	14.85	0.00	71.39	-0.70	110000	--	7500	8000	3300	14000	58000	--	
1/28/1997	86.24	11.25	0.00	74.99	3.60	94000	--	7700	19000	3100	15000	120000	--	
7/29/1997	86.24	14.67	0.00	71.57	-3.42	ND	--	ND	ND	ND	ND	70000	--	
1/14/1998	86.24	12.27	0.00	73.97	2.40	85000	--	6100	10000	3000	17000	110000	--	
7/1/1998	86.24	14.32	0.00	71.92	-2.05	110000	--	8700	12000	2700	15000	110000	--	
6/18/1999	86.24	13.93	0.00	72.31	0.39	49000	--	6900	6500	380	12000	72000	47000	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1 continued														
1/21/2000	86.24	15.05	0.00	71.19	-1.12	63700	--	5520	2000	2640	13100	57100	--	
7/10/2000	86.24	13.97	0.00	72.27	1.08	67800	--	9910	4120	3330	16100	67400	54000	
1/4/2001	86.24	14.92	0.00	71.32	-0.95	63900	--	6270	784	2670	12900	--	38100	
7/16/2001	86.24	14.32	0.00	71.92	0.60	66000	--	7100	330	2300	9800	36000	41000	
1/31/2002	86.99	13.54	0.00	73.45	1.53	42000	--	5800	1800	2000	8200	26000	26000	
4/11/2002	86.99	13.64	0.00	73.35	-0.10	58000	--	2900	1200	1800	10000	19000	--	
7/11/2002	86.99	13.96	0.00	73.03	-0.32	--	5900	330	ND<10	230	600	--	3400	
10/15/2002	86.99	14.71	0.00	72.28	-0.75	--	470	16	ND<2.5	14	16	--	390	
1/14/2003	86.99	12.77	0.00	74.22	1.94	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	49	
4/16/2003	86.99	13.18	0.00	73.81	-0.41	--	510	57	0.62	29	61	--	160	
7/16/2003	86.99	14.26	0.00	72.73	-1.08	--	27000	260	23	730	3200	--	1200	
10/2/2003	86.99	14.95	0.00	72.04	-0.69	--	45000	1400	32	2900	7600	--	3200	
1/7/2004	86.99	12.30	0.00	74.69	2.65	--	34000	690	41	1600	5200	--	2600	
4/2/2004	86.99	13.18	0.00	73.81	-0.88	--	350	1.8	ND<0.50	6.2	30	--	19	
7/29/2004	86.99	14.61	0.00	72.38	-1.43	--	41000	550	ND<20	2000	6100	--	1200	
11/24/2004	86.99	14.98	0.00	72.01	-0.37	--	55000	910	28	3100	11000	--	1600	
1/24/2005	86.99	12.98	0.00	74.01	2.00	--	24000	240	ND<20	1100	3600	--	1800	
6/23/2005	86.99	13.39	0.00	73.60	-0.41	--	24000	140	ND<25	1100	2900	--	600	
9/28/2005	86.99	14.63	0.00	72.36	-1.24	--	8200	22	0.97	290	660	--	320	
12/20/2005	86.99	11.42	0.00	75.57	3.21	--	10000	17	29	180	840	--	2400	
3/10/2006	86.99	10.98	0.00	76.01	0.44	--	10000	35	ND<5.0	470	1300	--	960	
6/23/2006	86.99	11.85	0.00	75.14	-0.87	--	11000	110	ND<5.0	610	1600	--	780	
9/27/2006	86.99	14.11	0.00	72.88	-2.26	--	8500	22	ND<10	270	740	--	460	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1 continued														
12/22/2006	86.99	13.66	0.00	73.33	0.45	--	7300	35	ND<5.0	370	850	--	210	
3/23/2007	86.99	13.25	0.00	73.74	0.41	--	8800	28	ND<2.5	440	910	--	170	
6/29/2007	86.99	13.47	0.00	73.52	-0.22	--	6300	16	ND<2.5	300	650	--	50	
9/28/2007	86.99	13.92	0.00	73.07	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.2	
12/17/2007	86.99	14.57	0.00	72.42	-0.65	--	4700	ND<5.0	ND<5.0	71	160	--	18	
3/25/2008	86.99	13.56	0.00	73.43	1.01	--	7400	28	ND<2.5	430	540	--	170	
6/12/2008	86.99	14.07	0.00	72.92	-0.51	--	4900	6.4	ND<2.5	170	280	--	16	
9/25/2008	86.99	14.55	0.00	72.44	-0.48	--	2200	2.1	ND<0.50	72	110	--	11	
12/30/2008	86.99	14.16	0.00	72.83	0.39	--	3200	2.5	ND<0.50	100	150	--	8.3	
3/24/2009	86.99	12.76	0.00	74.23	1.40	--	3500	6.8	ND<0.50	140	140	--	28	
6/23/2009	86.99	13.88	0.00	73.11	-1.12	--	740	ND<2.5	ND<2.5	17	12	--	7.5	
12/16/2009	86.99	14.32	0.00	72.67	-0.44	--	4600	10	ND<1.0	270	140	--	52	
4/14/2010	86.99	12.12	0.00	74.87	2.20	--	1500	4.8	ND<1.0	100	36	--	20	
10/13/2010	90.21	14.83	0.00	75.38	0.51	--	4600	3.0	ND<0.50	180	73	--	5.6	
5/27/2011	90.21	13.75	0.00	76.46	1.08	--	1500	3.2	ND<2.5	86	14	--	10	
MW-2			**(Screen Interval in feet: --)**											
11/3/1992	76.61	--	--	--	--	140	--	2.2	ND	ND	2.0	--	--	
1/25/1993	76.61	--	--	--	--	2100	--	56	1.1	90	140	--	--	
4/29/1993	76.61	9.73	0.00	66.88	--	1500	--	290	ND	33	11	--	--	
7/16/1993	76.61	10.17	0.00	66.44	-0.44	510	--	17	0.60	3.2	2.5	--	--	
10/19/1993	76.61	11.18	0.00	65.43	-1.01	670	--	24	1.1	7.7	23	--	--	
1/20/1994	76.61	11.12	0.00	65.49	0.06	820	--	97	ND	12	ND	--	--	
4/13/1994	76.61	10.12	0.00	66.49	1.00	550	--	71	ND	5.1	1.3	--	--	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-2 continued														
7/13/1994	76.61	10.86	0.00	65.75	-0.74	2000	--	490	ND	17	13	--	--	
10/10/1994	76.61	11.48	0.00	65.13	-0.62	2300	--	340	ND	25	ND	--	--	
1/10/1995	76.61	8.71	0.00	67.90	2.77	850	--	3.8	ND	8.5	1.3	--	--	
4/17/1995	76.61	8.90	0.00	67.71	-0.19	1300	--	4.7	ND	8.3	1.2	--	--	
7/24/1995	76.61	9.94	0.00	66.67	-1.04	960	--	20	ND	4.2	6.2	--	--	
10/23/1995	76.61	10.70	0.00	65.91	-0.76	ND	--	ND	ND	ND	ND	19	--	
1/18/1996	76.61	10.11	0.00	66.50	0.59	900	--	300	86	7.6	18	4300	--	
4/18/1996	81.66	9.27	0.00	72.39	5.89	18000	--	3600	680	890	4100	19000	--	
7/24/1996	81.66	10.02	0.00	71.64	-0.75	100000	--	13000	21000	2700	16000	120000	--	
10/24/1996	81.66	10.78	0.00	70.88	-0.76	800	--	110	17	11	20	20000	--	
1/28/1997	81.66	7.70	0.00	73.96	3.08	45000	--	2400	2900	2000	7600	29000	--	
7/29/1997	81.66	10.28	0.00	71.38	-2.58	ND	--	1.2	0.72	0.63	0.62	17000	--	
1/14/1998	81.66	8.63	0.00	73.03	1.65	14000	--	1000	150	790	3300	23000	--	
7/1/1998	81.66	9.53	0.00	72.13	-0.90	2700	--	100	ND	180	78	7100	--	
6/18/1999	--	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
MW-3			**(Screen Interval in feet: --)**											
11/3/1992	77.48	--	--	--	--	2100	--	120	15	38	200	--	--	
1/25/1993	77.48	--	--	--	--	2300	--	80	1	55	52	--	--	
4/29/1993	77.48	11.37	0.00	66.11	--	4500	--	1700	ND	200	140	--	--	
7/16/1993	77.48	12.09	0.00	65.39	-0.72	4000	--	1100	28	52	70	--	--	
10/19/1993	77.48	12.69	0.00	64.79	-0.60	3800	--	42	ND	50	56	--	--	
1/20/1994	77.48	12.65	0.00	64.83	0.04	4200	--	11	ND	21	15	--	--	
4/13/1994	77.48	12.02	0.00	65.46	0.63	4200	--	210	ND	36	53	--	--	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-3 continued														
7/13/1994	77.48	12.46	0.00	65.02	-0.44	1800	--	16	16	ND	21	--	--	
10/10/1994	77.48	12.98	0.00	64.50	-0.52	4300	--	11	ND	12	ND	--	--	
1/10/1995	77.48	10.42	0.00	67.06	2.56	310	--	4.6	ND	3.5	2.1	--	--	
4/17/1995	77.48	10.42	0.00	67.06	0.00	7800	--	ND	4.6	300	450	--	--	
7/24/1995	77.48	11.76	0.00	65.72	-1.34	3200	--	170	ND	22	16	--	--	
10/23/1995	77.48	12.50	0.00	64.98	-0.74	3900	--	55	ND	19	11	4500	--	
1/18/1996	77.48	11.79	0.00	65.69	0.71	2200	--	270	33	26	18	5500	--	
4/18/1996	82.55	11.30	0.00	71.25	5.56	6000	--	1800	ND	100	230	48000	--	
7/24/1996	82.55	12.17	0.00	70.38	-0.87	ND	--	2500	ND	ND	ND	71000	--	
10/24/1996	82.55	12.65	0.00	69.90	-0.48	3800	--	660	ND	15	ND	65000	--	
1/28/1997	82.55	9.50	0.00	73.05	3.15	4400	--	250	13	87	47	54000	--	
7/29/1997	82.55	11.99	0.00	70.56	-2.49	ND	--	3500	ND	220	ND	75000	--	
1/14/1998	82.55	10.30	0.00	72.25	1.69	ND	--	430	ND	100	380	37000	--	
7/1/1998	82.55	11.70	0.00	70.85	-1.40	ND	--	430	ND	ND	ND	45000	--	
6/18/1999	--	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
MW-4			**(Screen Interval in feet: --)**											
4/18/1996	82.04	9.83	0.00	72.21	--	ND	--	630	ND	ND	ND	18000	--	
7/24/1996	82.04	10.47	0.00	71.57	-0.64	ND	--	ND	ND	ND	5.2	3900	--	
10/24/1996	82.04	11.14	0.00	70.90	-0.67	ND	--	ND	ND	ND	ND	6300	--	
1/28/1997	82.04	7.94	0.00	74.10	3.20	1200	--	490	ND	17	6.8	16000	--	
7/29/1997	82.04	10.86	0.00	71.18	-2.92	50	--	1.5	0.61	0.73	0.78	15000	--	
1/14/1998	82.04	8.73	0.00	73.31	2.13	ND	--	ND	ND	ND	ND	5200	--	
7/1/1998	82.04	10.51	0.00	71.53	-1.78	ND	--	ND	ND	ND	ND	640	--	

TRC

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-4 continued														
6/18/1999	82.04	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
MW-5			**(Screen Interval in feet: –)**											
4/18/1996	81.80	9.65	0.00	72.15	--	31000	--	5500	1400	1700	8100	66000	--	
7/24/1996	81.80	10.80	0.00	71.00	-1.15	32000	--	6400	ND	1600	6100	120000	--	
10/24/1996	81.80	11.40	0.00	70.40	-0.60	17000	--	6900	ND	970	130	84000	--	
1/28/1997	81.80	7.76	0.00	74.04	3.64	19000	--	6100	62	82	310	160000	--	
7/29/1997	81.80	11.58	0.00	70.22	-3.82	ND	--	ND	ND	ND	ND	71000	--	
1/14/1998	81.80	9.08	0.00	72.72	2.50	ND	--	3600	ND	ND	ND	80000	--	
7/1/1998	81.80	11.25	0.00	70.55	-2.17	6400	--	2100	21	120	330	61000	--	
6/18/1999	81.80	--	--	--	--	--	--	--	--	--	--	--	--	Well was destroyed
MW-6			**(Screen Interval in feet: 5.0-25.0)**											
6/18/1999	78.91	9.30	0.00	69.61	--	2100	--	21	29	ND	47	97000	71000	
1/21/2000	78.91	9.37	0.00	69.54	-0.07	1880	--	143	31.2	106	196	41200	48800	
7/10/2000	78.91	8.94	0.00	69.97	0.43	5710	--	869	209	301	1430	22200	19500	
1/4/2001	78.91	9.21	0.00	69.70	-0.27	ND	--	ND	ND	ND	ND	--	9510	
7/16/2001	78.91	9.42	0.00	69.49	-0.21	4800	--	200	21	150	440	29000	34000	
1/31/2002	78.91	8.50	0.00	70.41	0.92	12000	--	250	92	500	1500	26000	31000	
4/11/2002	79.67	9.08	0.00	70.59	0.18	3600	--	42	32	39	280	120000	--	
7/11/2002	79.67	9.70	0.00	69.97	-0.62	--	12000	ND<100	ND<100	ND<100	ND<200	--	15000	
10/15/2002	79.67	9.96	0.00	69.71	-0.26	--	1300	ND<10	ND<10	ND<10	ND<20	--	3200	
1/14/2003	79.67	8.31	0.00	71.36	1.65	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	120	
4/16/2003	79.67	8.21	0.00	71.46	0.10	--	270	ND<0.50	ND<0.50	ND<0.50	1.3	--	15	
7/16/2003	79.67	9.43	0.00	70.24	-1.22	--	290	39	0.60	ND<0.50	15	--	150	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-6 continued														
10/2/2003	79.67	9.92	0.00	69.75	-0.49	--	200	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	220	
1/7/2004	79.67	8.08	0.00	71.59	1.84	--	140	2.4	ND<1.0	8.6	13	--	86	
4/2/2004	79.67	8.63	0.00	71.04	-0.55	--	3200	ND<20	ND<20	ND<20	ND<40	--	5900	
7/29/2004	79.67	9.75	0.00	69.92	-1.12	--	170	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	160	
11/24/2004	79.67	9.59	0.00	70.08	0.16	--	80	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	45	
1/24/2005	79.67	8.33	0.00	71.34	1.26	--	100	1.1	ND<0.50	0.60	1.1	--	40	
6/23/2005	79.67	8.33	0.00	71.34	0.00	--	230	0.52	ND<0.50	3.6	9.6	--	200	
9/28/2005	79.67	9.56	0.00	70.11	-1.23	--	500	ND<0.50	ND<0.50	ND<0.50	1.2	--	980	
12/20/2005	79.67	7.82	0.00	71.85	1.74	--	640	0.79	ND<0.50	0.68	2.3	--	2400	
3/10/2006	79.67	6.83	0.00	72.84	0.99	--	970	1.2	ND<0.50	1.3	5.0	--	3600	
6/23/2006	79.67	8.13	0.00	71.54	-1.30	--	1700	ND<12	ND<12	ND<12	ND<25	--	1100	
9/27/2006	79.67	9.44	0.00	70.23	-1.31	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	620	
12/22/2006	79.67	8.60	0.00	71.07	0.84	--	9100	ND<10	ND<10	ND<10	ND<10	--	600	
3/23/2007	79.67	8.39	0.00	71.28	0.21	--	330	ND<0.50	ND<0.50	0.82	ND<0.50	--	680	
6/29/2007	79.67	9.02	0.00	70.65	-0.63	--	180	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	290	
9/28/2007	79.67	9.65	0.00	70.02	-0.63	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/17/2007	79.67	9.62	0.00	70.05	0.03	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
3/25/2008	79.67	8.63	0.00	71.04	0.99	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	12	
6/12/2008	79.67	9.47	0.00	70.20	-0.84	--	84	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	17	
9/25/2008	79.67	9.95	0.00	69.72	-0.48	--	66	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	15	
12/30/2008	79.67	8.96	0.00	70.71	0.99	--	55	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	12	
3/24/2009	79.67	8.02	0.00	71.65	0.94	--	73	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	10	
6/23/2009	79.67	9.33	0.00	70.34	-1.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	9.0	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-6 continued														
12/16/2009	79.67	9.39	0.00	70.28	-0.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.7	
4/14/2010	79.67	8.13	0.00	71.54	1.26	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.1	
10/13/2010	82.51	9.88	0.00	72.63	1.09	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.0	
5/27/2011	82.51	8.76	0.00	73.75	1.12	--	52	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.0	
MW-7			**(Screen Interval in feet: 5.0-25.0)**											
6/18/1999	79.92	8.70	0.00	71.22	--	ND	--	ND	ND	ND	ND	16000	13000	
1/21/2000	79.92	9.30	0.00	70.62	-0.60	ND	--	ND	ND	ND	ND	12300	18200	
7/10/2000	79.92	8.72	0.00	71.20	0.58	ND	--	ND	ND	ND	ND	16900	13800	
1/4/2001	79.92	9.17	0.00	70.75	-0.45	ND	--	ND	ND	ND	0.719	--	37.3	
7/16/2001	79.92	9.02	0.00	70.90	0.15	ND	--	ND	ND	ND	ND	7200	4700	
1/31/2002	79.92	7.91	0.00	72.01	1.11	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	8900	9900	
4/11/2002	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
7/11/2002	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
10/15/2002	80.67	9.81	0.00	70.86	--	--	ND<5000	ND<50	ND<50	ND<50	ND<100	--	12000	
1/14/2003	80.67	7.89	0.00	72.78	1.92	--	ND<25000	ND<250	ND<250	ND<250	ND<500	--	33000	
4/16/2003	80.67	8.04	0.00	72.63	-0.15	--	ND<25000	ND<250	ND<250	ND<250	ND<500	--	37000	
7/16/2003	80.67	9.19	0.00	71.48	-1.15	--	25000	ND<250	ND<250	ND<250	ND<500	--	38000	
10/2/2003	80.67	9.89	0.00	70.78	-0.70	--	17000	ND<100	ND<100	ND<100	ND<200	--	22000	
1/7/2004	80.67	7.27	0.00	73.40	2.62	--	ND<20000	ND<200	460	ND<200	540	--	19000	
4/2/2004	80.67	8.09	0.00	72.58	-0.82	--	3400	ND<20	ND<20	ND<20	ND<40	--	5100	
7/29/2004	80.67	9.40	0.00	71.27	-1.31	--	7400	ND<50	ND<50	ND<50	ND<100	--	11000	
11/24/2004	80.67	9.65	0.00	71.02	-0.25	--	6200	ND<50	ND<50	ND<50	ND<100	--	6800	
1/24/2005	80.67	7.92	0.00	72.75	1.73	--	ND<5000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	13000	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-7 continued														
6/23/2005	80.67	8.56	0.00	72.11	-0.64	--	8700	ND<25	ND<25	ND<25	ND<50	--	12000	
9/28/2005	80.67	9.37	0.00	71.30	-0.81	--	1200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5700	
12/20/2005	80.67	6.31	0.00	74.36	3.06	--	1100	0.90	ND<0.50	24	37	--	8200	
3/10/2006	80.67	5.84	0.00	74.83	0.47	--	1200	24	ND<0.50	3.6	ND<1.0	--	4700	
6/23/2006	80.67	6.83	0.00	73.84	-0.99	--	1800	21	ND<12	ND<12	ND<25	--	1500	
9/27/2006	80.67	8.95	0.00	71.72	-2.12	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	350	
12/22/2006	80.67	8.35	0.00	72.32	0.60	--	24000	ND<50	ND<50	ND<50	ND<50	--	190	
3/23/2007	80.67	8.01	0.00	72.66	0.34	--	85	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	92	
6/29/2007	80.67	--	--	--	--	--	--	--	--	--	--	--	--	Car parked over well
9/28/2007	80.67	9.05	0.00	71.62	--	--	50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	37	
12/19/2007	80.67	9.23	0.00	71.44	-0.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.2	
3/25/2008	80.67	8.45	0.00	72.22	0.78	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	7.3	
6/12/2008	80.67	8.92	0.00	71.75	-0.47	--	52	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	9.4	
9/25/2008	80.67	9.55	0.00	71.12	-0.63	--	65	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	
12/30/2008	80.67	8.99	0.00	71.68	0.56	--	130	ND<0.50	ND<0.50	ND<0.50	1.1	--	5.7	
3/24/2009	80.67	7.73	0.00	72.94	1.26	--	98	0.50	ND<0.50	ND<0.50	ND<1.0	--	9.2	
6/23/2009	80.67	9.05	0.00	71.62	-1.32	--	290	1.2	ND<0.50	ND<0.50	ND<1.0	--	6.7	
12/16/2009	80.67	9.42	0.00	71.25	-0.37	--	150	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.7	
4/14/2010	80.67	7.87	0.00	72.80	1.55	--	60	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	6.7	
10/13/2010	80.67	10.13	0.00	70.54	-2.26	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.6	
5/27/2011	83.80	8.73	0.00	75.07	4.53	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.2	
MW-8			**(Screen Interval in feet: 5.0-25.0)**											
6/18/1999	80.96	9.10	0.00	71.86	--	ND	--	ND	ND	ND	ND	290	160	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-8 continued														
1/21/2000	80.96	10.00	0.00	70.96	-0.90	ND	--	ND	ND	ND	1.09	224	221	
7/10/2000	80.96	7.94	0.00	73.02	2.06	ND	--	ND	ND	ND	ND	234	223	
1/4/2001	80.96	9.76	0.00	71.20	-1.82	3790	--	141	8.92	128	375	--	34200	
7/16/2001	80.96	9.15	0.00	71.81	0.61	ND	--	ND	ND	ND	ND	66	70	
1/31/2002	80.96	7.99	0.00	72.97	1.16	5900	--	86	ND<10	630	390	670	700	
4/11/2002	81.71	9.00	0.00	72.71	-0.26	250	--	2.0	ND<0.50	38	2.2	410	--	
7/11/2002	81.71	9.60	0.00	72.11	-0.60	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	120	
10/15/2002	81.71	10.60	0.00	71.11	-1.00	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	21	
1/14/2003	81.71	8.63	0.00	73.08	1.97	--	ND<250	2.6	ND<2.5	18	ND<5.0	--	430	
4/16/2003	81.71	8.98	0.00	72.73	-0.35	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	18	
7/16/2003	81.71	9.63	0.00	72.08	-0.65	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	140	
10/2/2003	81.71	10.41	0.00	71.30	-0.78	--	75	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	78	
1/7/2004	81.71	8.21	0.00	73.50	2.20	--	ND<5000	ND<50	ND<50	ND<50	340	--	3700	
4/2/2004	81.71	8.51	0.00	73.20	-0.30	--	3000	ND<20	ND<20	ND<20	ND<40	--	5200	
7/29/2004	81.71	9.78	0.00	71.93	-1.27	--	3200	ND<25	ND<25	ND<25	ND<50	--	5500	
11/24/2004	81.71	10.19	0.00	71.52	-0.41	--	2100	ND<10	ND<10	ND<10	ND<20	--	2400	
1/24/2005	81.71	8.49	0.00	73.22	1.70	--	ND<2500	4.0	0.52	ND<0.50	29	--	1800	
6/23/2005	81.71	8.34	0.00	73.37	0.15	--	490	ND<0.50	ND<0.50	1.5	ND<1.0	--	980	
9/28/2005	81.71	9.61	0.00	72.10	-1.27	--	270	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	520	
12/20/2005	81.71	7.35	0.00	74.36	2.26	--	2700	ND<0.50	ND<0.50	78	82	--	86	
3/10/2006	81.71	6.63	0.00	75.08	0.72	--	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	51	
6/23/2006	81.71	6.56	0.00	75.15	0.07	--	3600	ND<0.50	ND<0.50	100	57	--	ND<0.50	
9/27/2006	81.71	9.64	0.00	72.07	-3.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	18	

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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-8 continued														
12/22/2006	81.71	9.42	0.00	72.29	0.22	--	ND<50	ND<0.50	ND<0.50	ND<0.50	0.50	--	16	
3/23/2007	81.71	8.68	0.00	73.03	0.74	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	12	
6/29/2007	81.71	9.10	0.00	72.61	-0.42	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	17	
9/28/2007	81.71	9.89	0.00	71.82	-0.79	--	99	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	21	
12/17/2007	81.71	9.81	0.00	71.90	0.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	16	
3/25/2008	81.71	8.40	0.00	73.31	1.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	14	
6/12/2008	81.71	9.53	0.00	72.18	-1.13	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	14	
9/25/2008	81.71	10.24	0.00	71.47	-0.71	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	
12/30/2008	81.71	9.72	0.00	71.99	0.52	--	50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.7	
3/24/2009	81.71	8.43	0.00	73.28	1.29	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.4	
6/23/2009	81.71	9.63	0.00	72.08	-1.20	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	4.7	
12/16/2009	81.71	10.08	0.00	71.63	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	
4/14/2010	81.71	8.28	0.00	73.43	1.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.4	
10/13/2010	84.86	10.79	0.00	74.07	0.64	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.0	
5/27/2011	84.86	8.12	0.00	76.74	2.67	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.1	
MW-9			**(Screen Interval in feet: --)**											
1/31/2002	82.07	14.72	0.00	67.35	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	680	910	
4/11/2002	82.07	14.85	0.00	67.22	-0.13	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	620	--	
7/11/2002	82.07	15.39	0.00	66.68	-0.54	--	580	ND<5.0	ND<5.0	ND<5.0	ND<10	--	580	
10/15/2002	82.07	16.16	0.00	65.91	-0.77	--	570	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1400	
1/14/2003	82.07	14.75	0.00	67.32	1.41	--	ND<200	ND<2.0	ND<2.0	ND<2.0	ND<4.0	--	220	
4/16/2003	82.07	14.51	0.00	67.56	0.24	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	860	
7/16/2003	82.07	15.54	0.00	66.53	-1.03	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	1300	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-9 continued														
10/2/2003	82.07	16.28	0.00	65.79	-0.74	--	820	ND<5.0	ND<5.0	ND<5.0	ND<10	--	990	
1/7/2004	82.07	14.65	0.00	67.42	1.63	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1200	
4/2/2004	82.07	15.08	0.00	66.99	-0.43	--	510	ND<5.0	ND<5.0	ND<5.0	ND<10	--	850	
7/29/2004	82.07	15.81	0.00	66.26	-0.73	--	ND<1000	ND<10	ND<10	ND<10	ND<20	--	1300	
11/24/2004	82.07	16.25	0.00	65.82	-0.44	--	1100	ND<5.0	ND<5.0	ND<5.0	ND<10	--	1300	
1/24/2005	82.07	14.96	0.00	67.11	1.29	--	ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2300	
6/23/2005	82.07	14.40	0.00	67.67	0.56	--	1500	ND<5.0	ND<5.0	ND<5.0	ND<10	--	2000	
9/28/2005	82.07	15.67	0.00	66.40	-1.27	--	ND<2500	ND<25	ND<25	ND<25	ND<50	--	2400	
12/20/2005	82.07	14.61	0.00	67.46	1.06	--	560	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2800	
3/10/2006	82.07	13.39	0.00	68.68	1.22	--	1100	ND<5.0	ND<5.0	ND<5.0	ND<10	--	2100	
6/23/2006	82.07	13.68	0.00	68.39	-0.29	--	1700	ND<12	ND<12	ND<12	ND<25	--	1700	
9/27/2006	82.07	14.83	0.00	67.24	-1.15	--	ND<1200	ND<12	ND<12	ND<12	ND<12	--	1400	
12/22/2006	82.07	14.75	0.00	67.32	0.08	--	680	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1100	
3/23/2007	82.07	14.52	0.00	67.55	0.23	--	240	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	660	
6/29/2007	82.07	14.89	0.00	67.18	-0.37	--	210	ND<0.50	ND<0.50	ND<0.50	0.52	--	410	
9/28/2007	82.07	15.48	0.00	66.59	-0.59	--	390	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	430	
12/17/2007	82.07	15.72	0.00	66.35	-0.24	--	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	480	
3/25/2008	82.07	14.91	0.00	67.16	0.81	--	250	ND<2.5	ND<2.5	ND<2.5	ND<5.0	--	340	
6/12/2008	82.07	15.70	0.00	66.37	-0.79	--	180	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	270	
9/25/2008	82.07	16.48	0.00	65.59	-0.78	--	170	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	320	
12/30/2008	82.07	16.16	0.00	65.91	0.32	--	160	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	230	
3/24/2009	82.07	15.23	0.00	66.84	0.93	--	120	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	180	
6/23/2009	82.07	15.95	0.00	66.12	-0.72	--	110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	190	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-9 continued														
12/16/2009	82.07	16.47	0.00	65.60	-0.52	--	86	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	130	
4/14/2010	82.07	14.68	0.00	67.39	1.79	--	100	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	160	
10/13/2010	85.18	16.80	0.00	68.38	0.99	--	63	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	160	
5/27/2011	85.18	15.37	0.00	69.81	1.43	--	59	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	70	
MW-10			**(Screen Interval in feet: –)**											
1/31/2002	74.98	8.02	0.00	66.96	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	1.2	
4/11/2002	74.98	7.60	0.00	67.38	0.42	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
7/11/2002	74.98	8.91	0.00	66.07	-1.31	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.1	
10/15/2002	74.98	11.49	0.00	63.49	-2.58	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/14/2003	74.98	8.47	0.00	66.51	3.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
4/16/2003	74.98	7.92	0.00	67.06	0.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
7/16/2003	74.98	7.03	0.00	67.95	0.89	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
10/2/2003	74.98	7.63	0.00	67.35	-0.60	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/7/2004	74.98	6.22	0.00	68.76	1.41	--	54	ND<0.50	ND<0.50	1.3	4.5	--	ND<2.0	
4/2/2004	74.98	7.49	0.00	67.49	-1.27	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.0	
7/29/2004	74.98	7.41	0.00	67.57	0.08	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/24/2004	74.98	7.55	0.00	67.43	-0.14	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.5	
1/24/2005	74.98	6.40	0.00	68.58	1.15	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.71	
6/23/2005	74.98	6.46	0.00	68.52	-0.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/28/2005	74.98	7.52	0.00	67.46	-1.06	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/20/2005	74.98	6.04	0.00	68.94	1.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.57	
3/10/2006	74.98	5.86	0.00	69.12	0.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2006	74.98	6.42	0.00	68.56	-0.56	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.50	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-10 continued														
9/27/2006	74.98	6.92	0.00	68.06	-0.50	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	48	
12/22/2006	74.98	5.90	0.00	69.08	1.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	8.5	
3/23/2007	74.98	6.48	0.00	68.50	-0.58	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	0.54	
6/29/2007	74.98	6.78	0.00	68.20	-0.30	--	ND<50	ND<0.50	ND<0.50	0.76	1.6	--	5.6	
9/28/2007	74.98	7.24	0.00	67.74	-0.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	15	
12/17/2007	74.98	6.92	0.00	68.06	0.32	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	5.6	
3/25/2008	74.98	6.74	0.00	68.24	0.18	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.3	
6/12/2008	74.98	7.11	0.00	67.87	-0.37	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	2.6	
9/25/2008	74.98	7.70	0.00	67.28	-0.59	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.8	
12/30/2008	74.98	6.73	0.00	68.25	0.97	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.80	
3/24/2009	74.98	6.41	0.00	68.57	0.32	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2009	74.98	7.07	0.00	67.91	-0.66	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.60	
12/16/2009	74.98	6.59	0.00	68.39	0.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
4/14/2010	74.98	6.16	0.00	68.82	0.43	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
10/13/2010	78.18	7.64	0.00	70.54	1.72	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	0.58	
5/27/2011	78.18	6.62	0.00	71.56	1.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
MW-11			**(Screen Interval in feet: --)**											
1/31/2002	77.31	11.71	0.00	65.60	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	
4/11/2002	77.31	11.95	0.00	65.36	-0.24	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
7/11/2002	77.31	12.79	0.00	64.52	-0.84	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
10/15/2002	77.31	13.67	0.00	63.64	-0.88	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/14/2003	77.31	13.31	0.00	64.00	0.36	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
4/16/2003	77.31	14.08	0.00	63.23	-0.77	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-11 continued														
7/16/2003	77.31	12.98	0.00	64.33	1.10	--	65	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
10/2/2003	77.31	12.96	0.00	64.35	0.02	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<2.0	
1/7/2004	77.31	16.20	0.00	61.11	-3.24	--	63	ND<0.50	ND<0.50	0.68	2.2	--	ND<2.0	
4/2/2004	77.31	18.01	0.00	59.30	-1.81	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
7/29/2004	77.31	14.39	0.00	62.92	3.62	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
11/24/2004	77.31	16.72	0.00	60.59	-2.33	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
1/24/2005	77.31	17.44	0.00	59.87	-0.72	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2005	77.31	12.37	0.00	64.94	5.07	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/28/2005	77.31	16.78	0.00	60.53	-4.41	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/20/2005	77.31	17.06	0.00	60.25	-0.28	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/10/2006	77.31	16.20	0.00	61.11	0.86	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/23/2006	77.31	12.65	0.00	64.66	3.55	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/27/2006	77.31	14.78	0.00	62.53	-2.13	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/22/2006	77.31	13.48	0.00	63.83	1.30	--	55	ND<0.50	ND<0.50	2.1	5.4	--	ND<0.50	
3/23/2007	77.31	13.78	0.00	63.53	-0.30	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
6/29/2007	77.31	15.58	0.00	61.73	-1.80	--	ND<50	ND<0.50	ND<0.50	ND<0.50	0.62	--	ND<0.50	
9/28/2007	77.31	16.02	0.00	61.29	-0.44	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	
12/17/2007	77.31	15.75	0.00	61.56	0.27	--	ND<50	ND<0.50	ND<0.50	ND<0.50	1.0	--	ND<0.50	
3/25/2008	77.31	15.74	0.00	61.57	0.01	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
6/12/2008	77.31	13.87	0.00	63.44	1.87	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
9/25/2008	77.31	16.30	0.00	61.01	-2.43	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/30/2008	77.31	15.82	0.00	61.49	0.48	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
3/24/2009	77.31	15.58	0.00	61.73	0.24	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

76 Station 1871

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-11 continued														
6/23/2009	77.31	13.98	0.00	63.33	1.60	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
12/16/2009	77.31	15.03	0.00	62.28	-1.05	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
4/14/2010	77.31	15.48	0.00	61.83	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
10/13/2010	80.44	15.15	0.00	65.29	3.46	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	
5/27/2011	80.44	15.60	0.00	64.84	-0.45	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	ND<0.50	

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-1												
6/18/1999	--	ND	ND	ND	--	ND	ND	ND	--	--	--	--
7/16/2001	--	ND	ND	ND	--	ND	ND	ND	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	--	ND<2.0	ND<2.0	ND<2.0	--	--	--	--
7/16/2003	--	--	ND<10000	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<25000	--	--	--	--	--	--	25.1	45.7	80.1
1/7/2004	--	--	ND<20000	--	--	--	--	--	--	12.12	12.31	142
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.33	13.42	36
7/29/2004	--	--	ND<2000	--	--	--	--	--	--	5.37	5.51	-2
11/24/2004	--	--	ND<2000	--	--	--	--	--	6.58	3.08	4.73	-43
1/24/2005	--	--	ND<2000	--	--	--	--	--	--	14.3	17.0	100
6/23/2005	--	--	ND<50000	--	--	--	--	--	--	--	4.79	-103
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	3.45	4.73	-91
12/20/2005	--	--	ND<250	--	--	--	--	--	--	4.16	2.76	-210
3/10/2006	--	--	ND<2500	--	--	--	--	--	--	1.45	1.64	-511
6/23/2006	--	--	ND<2500	--	--	--	--	--	--	--	4.31	-030
9/27/2006	--	--	ND<5000	--	--	--	--	--	--	4.50	4.72	-32
12/22/2006	--	--	ND<2500	--	--	--	--	--	--	6.80	2.35	-121
3/23/2007	--	--	ND<1200	--	--	--	--	--	--	3.22	3.45	-135
6/29/2007	--	--	ND<1200	--	--	--	--	--	--	6.64	7.11	-131
9/28/2007	--	--	ND<250	--	--	--	--	--	--	--	7.84	-167
12/17/2007	--	--	ND<2500	--	--	--	--	--	--	9.74	6.51	-63
3/25/2008	--	--	ND<1200	--	--	--	--	--	--	6.70	6.50	-60
6/12/2008	--	330	ND<1200	--	--	--	--	--	--	--	4.33	65
9/25/2008	--	740	ND<250	--	--	--	--	--	--	--	1.16	105
12/30/2008	--	400	ND<250	--	--	--	--	--	--	2.44	0.91	0

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-1 continued												
3/24/2009	--	390	ND<250	--	--	--	--	--	--	1.60	1.31	-29
6/23/2009	--	500	ND<1200	--	--	--	--	--	--	--	0.86	-28
12/16/2009	--	ND<20	ND<500	--	--	--	--	--	--	0.66	--	--
4/14/2010	--	500	ND<500	--	--	--	--	--	--	2.48	--	--
10/13/2010	--	73	ND<250	ND<0.50	ND<0.50	--	--	--	--	2.00	--	--
5/27/2011	--	ND<50	ND<1200	ND<2.5	ND<2.5	--	--	--	--	0.37	--	--
MW-4												
4/18/1996	110	--	--	--	--	--	--	--	--	--	--	--
7/24/1996	ND	--	--	--	--	--	--	--	--	--	--	--
10/24/1996	ND	--	--	--	--	--	--	--	--	--	--	--
1/28/1997	210	--	--	--	--	--	--	--	--	--	--	--
7/29/1997	ND	--	--	--	--	--	--	--	--	--	--	--
1/14/1998	ND	--	--	--	--	--	--	--	--	--	--	--
7/1/1998	ND	--	--	--	--	--	--	--	--	--	--	--
MW-6												
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
7/11/2002	--	ND<1000	ND<5000	ND<100	ND<100	ND<200	ND<100	ND<100	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<1000	--	--	--	--	--	--	15.5	26.2	139
1/7/2004	--	--	ND<1000	--	--	--	--	--	--	12.63	14.29	-12
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	12.63	12.72	9
7/29/2004	--	--	ND<100	--	--	--	--	--	--	4.74	4.79	-19
11/24/2004	--	--	ND<50	--	--	--	--	--	6.99	2.81	5.54	-29

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-6 continued												
1/24/2005	--	--	ND<50	--	--	--	--	--	--	14.5	15.3	72
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	1.86	1.73	70
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	2.63	2.57	-74
12/20/2005	--	--	ND<250	--	--	--	--	--	--	1.52	2.30	-280
3/10/2006	--	--	ND<250	--	--	--	--	--	--	5.25	0.80	173
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	--	3.39	-105
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	2.54	3.01	-109
12/22/2006	--	--	ND<5000	--	--	--	--	--	--	1.22	4.03	-46
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.64	3.62	-101
6/29/2007	--	--	ND<250	--	--	--	--	--	--	8.49	6.78	171
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.36	8.40	167
12/17/2007	--	--	ND<250	--	--	--	--	--	--	10.19	9.38	-23
3/25/2008	--	--	ND<250	--	--	--	--	--	--	10.03	10.10	-20
6/12/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	0.80	30
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	1.05	118
12/30/2008	--	ND<10	ND<250	--	--	--	--	--	--	4.50	1.62	14
3/24/2009	--	ND<10	ND<250	--	--	--	--	--	--	1.79	1.87	104
6/23/2009	--	ND<10	ND<250	--	--	--	--	--	--	1.96	2.12	64
12/16/2009	--	ND<10	ND<250	--	--	--	--	--	--	1.55	--	--
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	3.19	--	--
10/13/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	6.40	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	0.61	--	--
MW-7												
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-7 continued												
1/14/2003	--	ND<50000	ND<250000	ND<1000	ND<1000	ND<1000	ND<1000	ND<1000	--	--	--	--
7/16/2003	--	--	ND<250000	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<100000	--	--	--	--	--	--	24.3	28.2	109
1/7/2004	--	--	ND<200000	--	--	--	--	--	--	10.79	10.85	23
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	12.41	11.32	24
7/29/2004	--	--	ND<5000	--	--	--	--	--	--	4.10	3.96	17
11/24/2004	--	--	ND<5000	--	--	--	--	--	6.60	1.99	3.29	-43
1/24/2005	--	--	ND<5000	--	--	--	--	--	--	17.2	14.5	71
6/23/2005	--	--	ND<50000	--	--	--	--	--	--	2.84	2.18	-37
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	3.45	3.63	-81
12/20/2005	--	--	ND<250	--	--	--	--	--	--	2.04	2.03	-263
3/10/2006	--	--	ND<250	--	--	--	--	--	--	1.28	0.95	164
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	--	3.95	-119
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	3.16	3.98	-107
12/22/2006	--	--	ND<25000	--	--	--	--	--	--	2.25	2.03	-86
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.38	3.75	-49
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.16	7.96	30
12/19/2007	--	--	ND<250	--	--	--	--	--	--	6.70	6.72	-17
3/25/2008	--	--	ND<250	--	--	--	--	--	--	4.77	4.81	-30
6/12/2008	--	30	ND<250	--	--	--	--	--	--	--	3.96	55
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	1.11	115
12/30/2008	--	ND<10	ND<250	--	--	--	--	--	--	4.13	1.81	-14
3/24/2009	--	ND<10	ND<250	--	--	--	--	--	--	2.70	2.39	159
6/23/2009	--	16	ND<250	--	--	--	--	--	--	0.42	0.84	-8
12/16/2009	--	ND<10	ND<250	--	--	--	--	--	--	1.08	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-7 continued												
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	0.78	--	--
10/13/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	6.50	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	0.48	--	--
MW-8												
6/18/1999	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
7/16/2001	--	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
1/14/2003	--	ND<500	ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	23.6	28.5	188
1/7/2004	--	--	ND<50000	--	--	--	--	--	--	9.94	13.13	-15
4/2/2004	--	--	ND<2000	--	--	--	--	--	--	13.37	12.82	-10
7/29/2004	--	--	ND<2500	--	--	--	--	--	--	3.68	3.73	18
11/24/2004	--	--	ND<1000	--	--	--	--	--	6.67	3.97	2.71	-36
1/24/2005	--	--	ND<2500	--	--	--	--	--	--	41.6	41.2	56
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	2.05	2.13	58
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	2.12	1.98	-40
12/20/2005	--	--	ND<250	--	--	--	--	--	--	2.02	3.72	-402
3/10/2006	--	--	ND<250	--	--	--	--	--	--	1.51	0.99	-182
6/23/2006	--	--	ND<250	--	--	--	--	--	--	--	2.81	-135
9/27/2006	--	--	ND<250	--	--	--	--	--	--	4.87	4.91	-155
12/22/2006	--	--	ND<250	--	--	--	--	--	--	1.80	2.40	16
3/23/2007	--	--	ND<250	--	--	--	--	--	--	3.52	3.90	25
6/29/2007	--	--	ND<250	--	--	--	--	--	--	5.35	5.29	98
9/28/2007	--	--	ND<250	--	--	--	--	--	--	7.18	7.24	16
12/17/2007	--	--	ND<250	--	--	--	--	--	--	6.95	5.26	26

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-8 continued												
3/25/2008	--	--	ND<250	--	--	--	--	--	--	5.22	5.15	70
6/12/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	9.40	38
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	1.33	98
12/30/2008	--	ND<10	ND<250	--	--	--	--	--	--	1.78	2.19	11
3/24/2009	--	ND<10	ND<250	--	--	--	--	--	--	2.07	1.87	103
6/23/2009	--	ND<10	ND<250	--	--	--	--	--	--	0.55	0.90	73
12/16/2009	--	ND<10	ND<250	--	--	--	--	--	--	1.24	--	--
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	0.92	--	--
10/13/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	0.70	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	0.48	--	--
MW-9												
1/31/2002	--	ND<140	ND<3600	ND<7.1	ND<7.1	ND<7.1	ND<7.1	ND<7.1	--	--	--	--
1/14/2003	--	ND<400	ND<2000	ND<8.0	ND<8.0	ND<8.0	ND<8.0	ND<8.0	--	--	--	--
7/16/2003	--	--	ND<25000	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<5000	--	--	--	--	--	--	29.5	28.4	201
1/7/2004	--	--	ND<10000	--	--	--	--	--	--	10.45	12.00	9
4/2/2004	--	--	ND<500	--	--	--	--	--	--	16.37	13.21	12
7/29/2004	--	--	ND<1000	--	--	--	--	--	--	--	--	--
11/24/2004	--	--	ND<500	--	--	--	--	--	6.47	3.24	1.71	-68
1/24/2005	--	--	ND<1000	--	--	--	--	--	--	26.0	22.5	-45
6/23/2005	--	--	ND<10000	--	--	--	--	--	--	1.50	1.44	-136
9/28/2005	--	--	ND<50000	--	--	--	--	--	--	2.51	1.67	-94
12/20/2005	--	--	ND<250	--	--	--	--	--	--	5.05	4.67	-102
3/10/2006	--	--	ND<2500	--	--	--	--	--	--	2.82	2.13	160
6/23/2006	--	--	ND<6200	--	--	--	--	--	--	--	0.84	-65

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-9 continued												
9/27/2006	--	--	ND<6200	--	--	--	--	--	--	0.68	0.75	-61
12/22/2006	--	--	ND<250	--	--	--	--	--	--	9.00	4.89	-44
3/23/2007	--	--	ND<250	--	--	--	--	--	--	6.85	5.33	-114
6/29/2007	--	--	ND<250	--	--	--	--	--	--	6.87	6.25	23
9/28/2007	--	--	ND<1200	--	--	--	--	--	--	7.17	7.04	30
12/17/2007	--	--	ND<250	--	--	--	--	--	--	5.05	4.81	-27
3/25/2008	--	--	ND<1200	--	--	--	--	--	--	6.55	6.67	-10
6/12/2008	--	250	ND<250	--	--	--	--	--	--	--	2.55	86
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	1.44	26
12/30/2008	--	21	ND<250	--	--	--	--	--	--	5.47	5.43	52
3/24/2009	--	24	ND<250	--	--	--	--	--	--	2.80	2.69	66
6/23/2009	--	14	ND<250	--	--	--	--	--	--	1.88	1.42	-20
12/16/2009	--	22	ND<250	--	--	--	--	--	--	0.99	--	--
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	1.41	--	--
10/13/2010	--	11	ND<250	ND<0.50	ND<0.50	--	--	--	--	1.08	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	1.51	--	--
MW-10												
1/31/2002	--	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	24.8	25.7	192
1/7/2004	--	--	ND<500	--	--	--	--	--	--	10.04	11.62	35
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.91	12.02	42
7/29/2004	--	--	ND<50	--	--	--	--	--	--	4.81	4.83	83
11/24/2004	--	--	ND<50	--	--	--	--	--	6.89	2.59	3.07	-39

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-10 continued												
1/24/2005	--	--	ND<50	--	--	--	--	--	--	27.5	25.5	87
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	7.83	176	40
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	6.95	2.37	-66
12/20/2005	--	--	ND<250	--	--	--	--	--	--	3.85	3.45	59
3/10/2006	--	--	ND<250	--	--	--	--	--	--	2.52	4.48	87
6/23/2006	--	--	ND<250	--	--	--	--	--	--	--	1.49	-68
9/27/2006	--	--	ND<250	--	--	--	--	--	--	1.79	1.55	-85
12/22/2006	--	--	ND<250	--	--	--	--	--	--	3.20	3.00	107
3/23/2007	--	--	ND<250	--	--	--	--	--	--	5.09	5.01	-60
6/29/2007	--	--	ND<250	--	--	--	--	--	--	9.12	6.27	165
9/28/2007	--	--	ND<250	--	--	--	--	--	--	8.34	8.21	124
12/17/2007	--	--	ND<250	--	--	--	--	--	--	4.97	4.46	-15
3/25/2008	--	--	ND<250	--	--	--	--	--	--	4.35	4.40	-10
6/12/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	1.42	75
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	52.15	94
12/30/2008	--	ND<10	ND<250	--	--	--	--	--	--	5.89	3.18	181
3/24/2009	--	ND<10	ND<250	--	--	--	--	--	--	4.37	4.07	144
6/23/2009	--	ND<10	ND<250	--	--	--	--	--	--	3.17	1.64	57
12/16/2009	--	ND<10	ND<250	--	--	--	--	--	--	3.31	--	--
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	1.61	--	--
10/13/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	6.67	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	1.52	--	--
MW-11												
1/31/2002	--	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--
1/14/2003	--	ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-11 continued												
7/16/2003	--	--	ND<500	--	--	--	--	--	--	--	--	--
10/2/2003	--	--	ND<500	--	--	--	--	--	--	33.7	23.2	202
1/7/2004	--	--	ND<500	--	--	--	--	--	--	11.69	13.82	99
4/2/2004	--	--	ND<50	--	--	--	--	--	--	11.94	14.08	-1
7/29/2004	--	--	ND<50	--	--	--	--	--	--	--	--	--
11/24/2004	--	--	ND<50	--	--	--	--	--	6.75	3.85	4.32	82
1/24/2005	--	--	ND<50	--	--	--	--	--	--	30.01	32.6	79
6/23/2005	--	--	ND<1000	--	--	--	--	--	--	2.17	2.16	76
9/28/2005	--	--	ND<1000	--	--	--	--	--	--	4.97	4.59	-4
12/20/2005	--	--	ND<250	--	--	--	--	--	--	5.16	4.77	35
3/10/2006	--	--	ND<250	--	--	--	--	--	--	5.11	9.99	68
6/23/2006	--	--	ND<250	--	--	--	--	--	--	--	7.74	-26
9/27/2006	--	--	ND<250	--	--	--	--	--	--	5.72	5.98	32
12/22/2006	--	--	ND<250	--	--	--	--	--	--	3.81	4.35	46
3/23/2007	--	--	ND<250	--	--	--	--	--	--	5.47	5.85	38
6/29/2007	--	--	ND<250	--	--	--	--	--	--	7.87	7.80	242
9/28/2007	--	--	ND<250	--	--	--	--	--	--	7.24	7.30	280
12/17/2007	--	--	ND<250	--	--	--	--	--	--	8.71	8.01	47
3/25/2008	--	--	ND<250	--	--	--	--	--	--	8.41	8.40	45
6/12/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	3.33	160
9/25/2008	--	ND<10	ND<250	--	--	--	--	--	--	--	4.28	115
12/30/2008	--	ND<10	ND<250	--	--	--	--	--	--	2.74	2.67	195
3/24/2009	--	ND<10	ND<250	--	--	--	--	--	--	2.27	2.20	185
6/23/2009	--	ND<10	ND<250	--	--	--	--	--	--	3.62	4.14	67
12/16/2009	--	ND<10	ND<250	--	--	--	--	--	--	4.62	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-11 continued												
4/14/2010	--	ND<10	ND<250	--	--	--	--	--	--	4.15	--	--
10/13/2010	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	2.21	--	--
5/27/2011	--	ND<10	ND<250	ND<0.50	ND<0.50	--	--	--	--	3.11	--	--

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-1	
10/2/2003	21.0
1/7/2004	24
4/2/2004	34
7/29/2004	-4
11/24/2004	-39
1/24/2005	96
9/28/2005	-94
12/20/2005	-328
3/10/2006	-615
9/27/2006	-25
12/22/2006	-72
3/23/2007	-141
6/29/2007	-65
12/17/2007	-46
3/25/2008	-64
12/30/2008	-2
3/24/2009	-32
12/16/2009	38
4/14/2010	55
10/13/2010	-48
5/27/2011	-19
MW-6	
10/2/2003	175
1/7/2004	24
4/2/2004	23

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-6 continued	
7/29/2004	-8
11/24/2004	-12
1/24/2005	70
6/23/2005	71
9/28/2005	-80
12/20/2005	-217
3/10/2006	224
9/27/2006	-104
12/22/2006	-67
3/23/2007	-92
6/29/2007	84
9/28/2007	154
12/17/2007	-14
3/25/2008	-18
12/30/2008	8
3/24/2009	91
6/23/2009	79
12/16/2009	116
4/14/2010	108
10/13/2010	129
5/27/2011	199
MW-7	
10/2/2003	153
1/7/2004	5
4/2/2004	10

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-7 continued	
7/29/2004	18
11/24/2004	-24
1/24/2005	48
6/23/2005	-32
9/28/2005	-85
12/20/2005	-256
3/10/2006	-179
9/27/2006	-95
12/22/2006	-101
3/23/2007	-47
9/28/2007	26
12/19/2007	-13
3/25/2008	-34
12/30/2008	-19
3/24/2009	138
6/23/2009	-33
12/16/2009	118
4/14/2010	112
10/13/2010	44
5/27/2011	145
MW-8	
10/2/2003	197
1/7/2004	21
4/2/2004	16
7/29/2004	30

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-8 continued	
11/24/2004	-20
1/24/2005	60
6/23/2005	56
9/28/2005	-26
12/20/2005	-326
3/10/2006	-181
9/27/2006	-139
12/22/2006	12
3/23/2007	22
6/29/2007	92
9/28/2007	22
12/17/2007	24
3/25/2008	77
12/30/2008	14
3/24/2009	109
6/23/2009	55
12/16/2009	75
4/14/2010	120
10/13/2010	92
5/27/2011	209
MW-9	
10/2/2003	203
1/7/2004	27
4/2/2004	32
11/24/2004	-67

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-9 continued	
1/24/2005	-45
6/23/2005	-144
9/28/2005	-119
12/20/2005	-42
3/10/2006	161
9/27/2006	-43
12/22/2006	-70
3/23/2007	-82
6/29/2007	22
9/28/2007	30
12/17/2007	-35
3/25/2008	-14
12/30/2008	38
3/24/2009	58
6/23/2009	-30
12/16/2009	102
4/14/2010	49
10/13/2010	114
5/27/2011	95
MW-10	
10/2/2003	213
1/7/2004	59
4/2/2004	45
7/29/2004	102
11/24/2004	-29

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-10 continued	
1/24/2005	84
6/23/2005	44
9/28/2005	-64
12/20/2005	58
3/10/2006	83
9/27/2006	-65
12/22/2006	85
6/29/2007	172
9/28/2007	126
12/17/2007	-2
3/25/2008	-12
12/30/2008	184
3/24/2009	160
6/23/2009	68
12/16/2009	118
4/14/2010	112
10/13/2010	147
5/27/2011	192
MW-11	
10/2/2003	255
1/7/2004	103
4/2/2004	108
11/24/2004	143
1/24/2005	83
6/23/2005	82

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)
MW-11 continued	
9/28/2005	-1
12/20/2005	070
3/10/2006	97
9/27/2006	40
12/22/2006	44
3/23/2007	34
6/29/2007	223
9/28/2007	244
12/17/2007	46
3/25/2008	44
12/30/2008	195
3/24/2009	190
6/23/2009	67
12/16/2009	160
4/14/2010	143
10/13/2010	133
5/27/2011	205

APPENDIX D

TREND GRAPHS AND DEGRADATION CALCULATIONS

SUMMARY OF DEGRADATION RATE CALCULATIONS
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

Well	Analyte	Maximum Concentration (ug/L)	Current Concentration (ug/L)	Half-Life (years)	Date to Reach ESL	Years to reach ESL
MW-1	TPHg	260,000	2,700	3.40	Jan 2026	14
	Benzene	9,910	4.70	1.04	Oct 2011	ESL Met
	MTBE	120,000	14.0	0.90	Jul 2008	ESL Met
	TBA	740	170	1.22	Dec 2014	3
MW-6	TPHg	12,000	<50	NA	REACHED	ESL Met
	Benzene	869	<0.50	NA	REACHED	ESL Met
	MTBE	71,000	1.0	0.85	Apr 2010	ESL Met
	TBA	ND	<10	NA	REACHED	ESL Met
MW-7	TPHg	25,000	< 50	0.84	Jun 2009	ESL Met
	Benzene	24	<0.50	NA	REACHED	ESL Met
	MTBE	38,000	4.7	0.53	Mar 2010	ESL Met
	TBA	30	<10	NA	REACHED	ESL Met
MW-8	TPHg	5,900	<50	NA	REACHED	ESL Met
	Benzene	141	<0.50	NA	REACHED	ESL Met
	MTBE	34,200	1.4	0.98	Jul 2009	ESL Met
	TBA	ND	<10	NA	REACHED	ESL Met
MW-9	TPHg	1,700	51	1.25	Dec 2009	ESL Met
	Benzene	ND	ND	NA	REACHED	ESL Met
	MTBE	2,800	63	1.14	Aug 2015	3
	TBA	250 a	< 10	1.37	Oct 2010	ESL Met

Notes and Abbreviations:

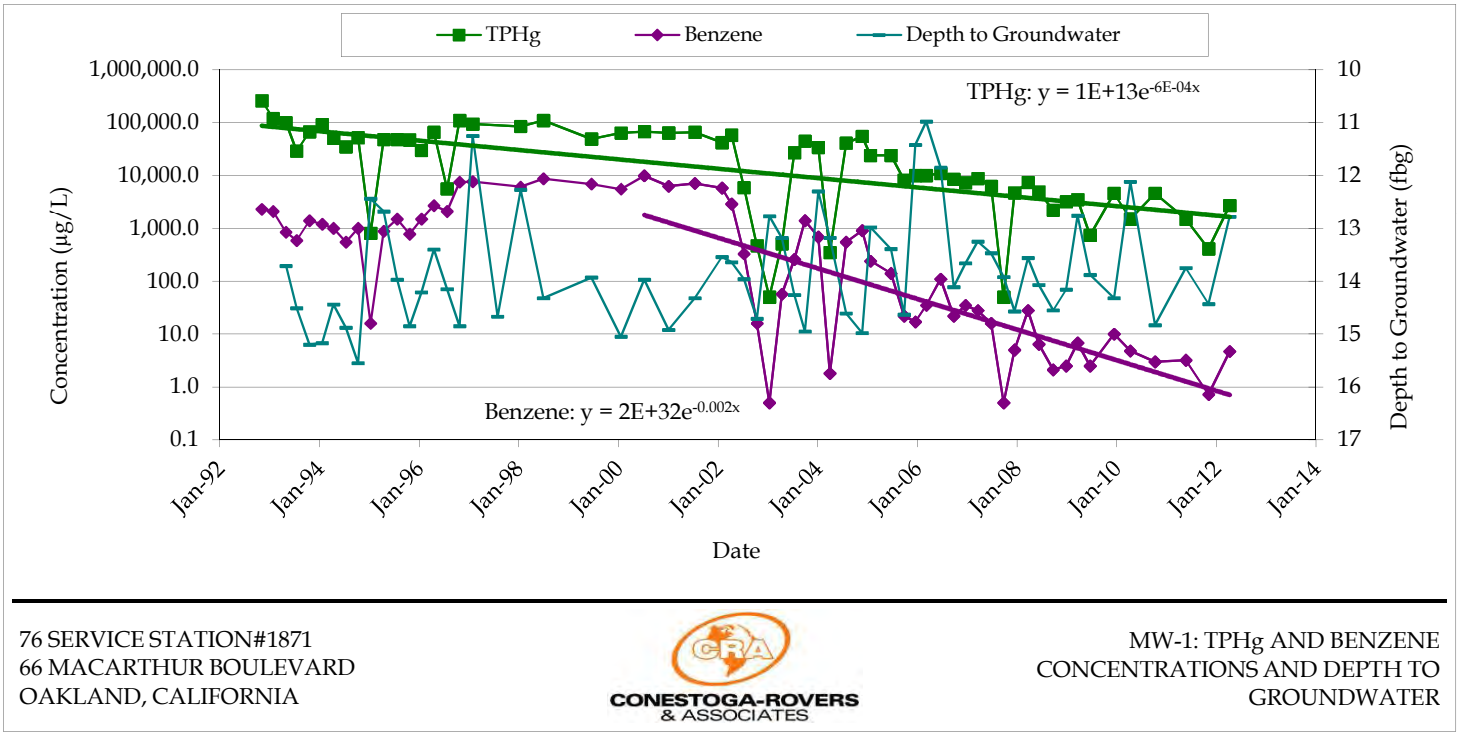
< = Less than laboratory reporting limit
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
TBA = Tert-Butyl Alcohol
ug/L = Micrograms per liter
WQO = Water Quality Objective
a = value is maximum detection above the reporting limit

MW-1
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

	Constituent	Total Petroleum Hydrocarbons as Gasoline (TPHg)	Benzene
Given			
ESL	y	100	1.0
Constant:	b	1.44E+13	2.20E+32
Constant:	a	-5.58E-04	-1.82E-03
Starting date for current trend:		11/13/1992	7/10/2000
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	3.40	1.04
Estimated Date to Reach ESL:	(x = ln(y/b) / a)	Jan 2026	Oct 2011



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

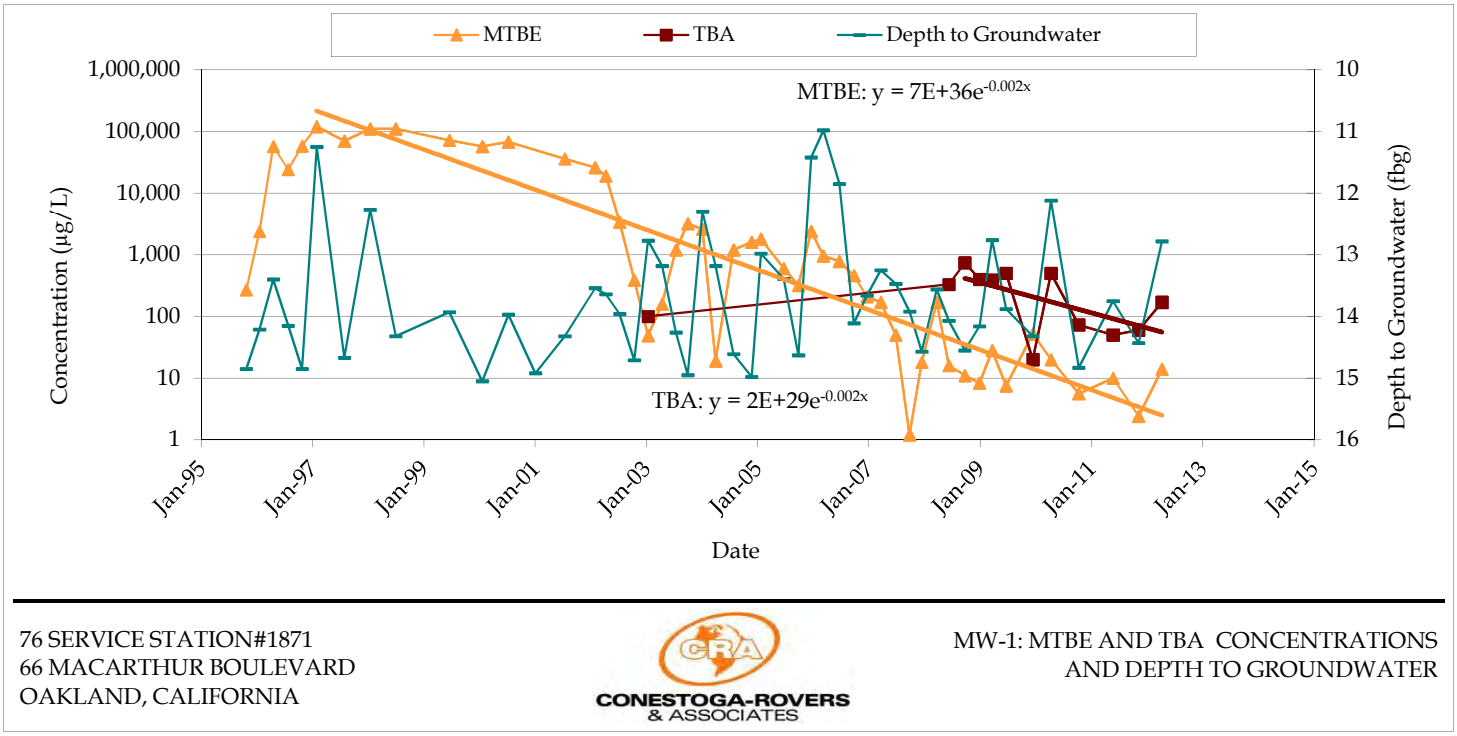
MW-1: TPHg AND BENZENE CONCENTRATIONS AND DEPTH TO GROUNDWATER

MW-1
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

		Constituent	Methyl Tertiary Butyl Ether (MTBE)	Tert-Butyl Alcohol (TBA)
Given				
WQO :		y	5	12
Constant:		b	6.96E+36	2.22E+29
Constant:		a	-2.10E-03	-1.55E-03
Starting date for current trend:			1/28/1997	9/25/2008
Calculate				
Attenuation Half Life (years):	(-ln(2)/a)/365.25		0.90	1.22
Estimated Date to Reach WQO:	(x = ln(y/b) / a)		Jul 2008	Dec 2014



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

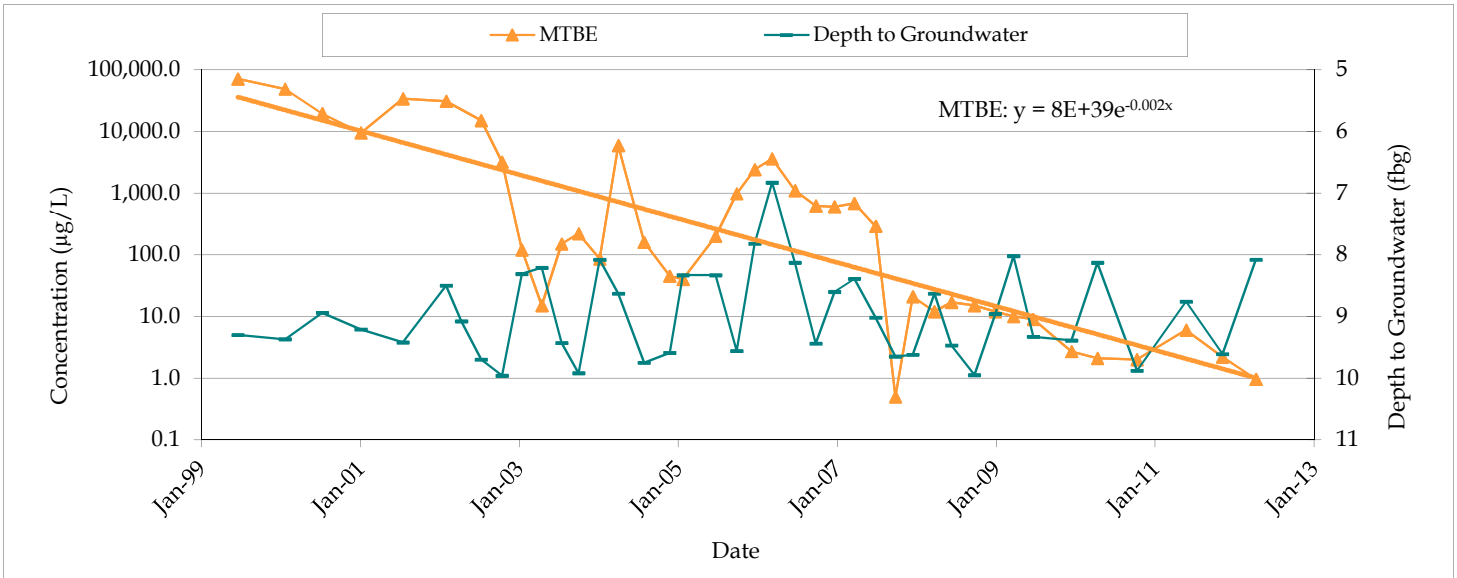
MW-1: MTBE AND TBA CONCENTRATIONS AND DEPTH TO GROUNDWATER

MW-6
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

		Constituent: Methyl Tertiary Butyl Ether (MTBE)
Given		
WQO :	y	5
Constant:	b	8.26E+39
Constant:	a	-2.24E-03
Starting date for current trend:		6/18/1999
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	0.85
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Apr 2010



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

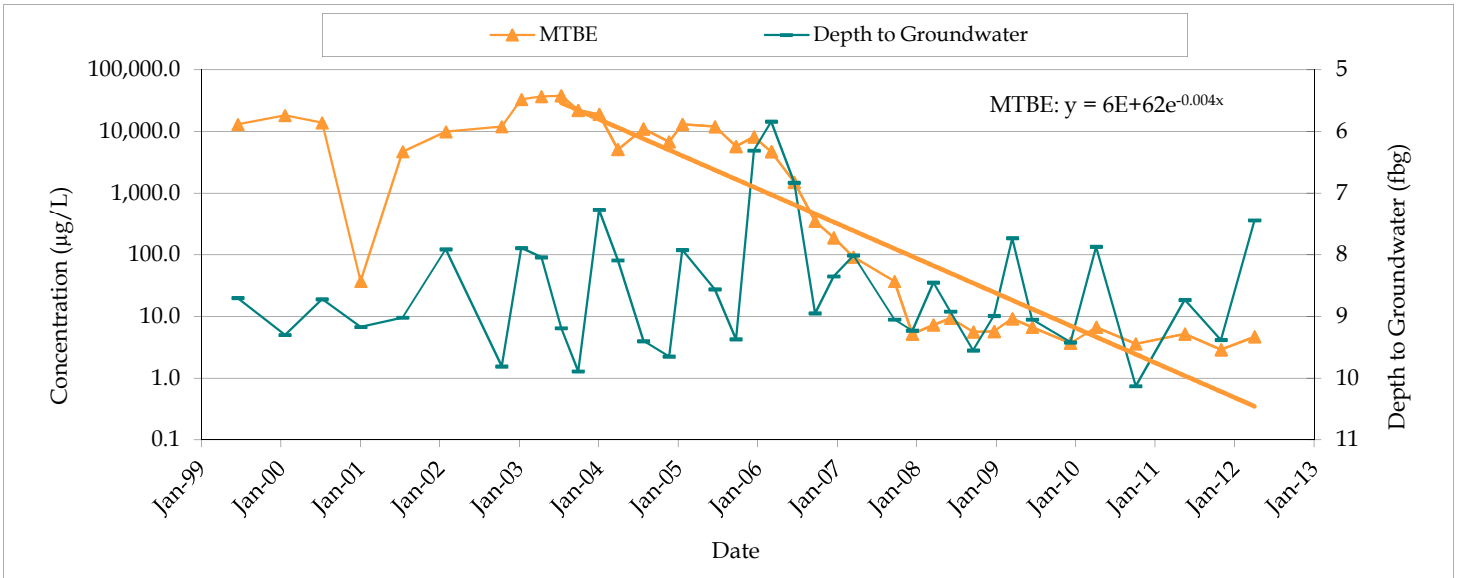
MW-6: MTBE CONCENTRATIONS AND DEPTH TO GROUNDWATER

MW-7
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

		Constituent: Methyl Tertiary Butyl Ether (MTBE)
Given		
WQO :	y	5
Constant:	b	5.85E+62
Constant:	a	-3.55E-03
Starting date for current trend:		7/16/2003
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	0.53
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Mar 2010



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

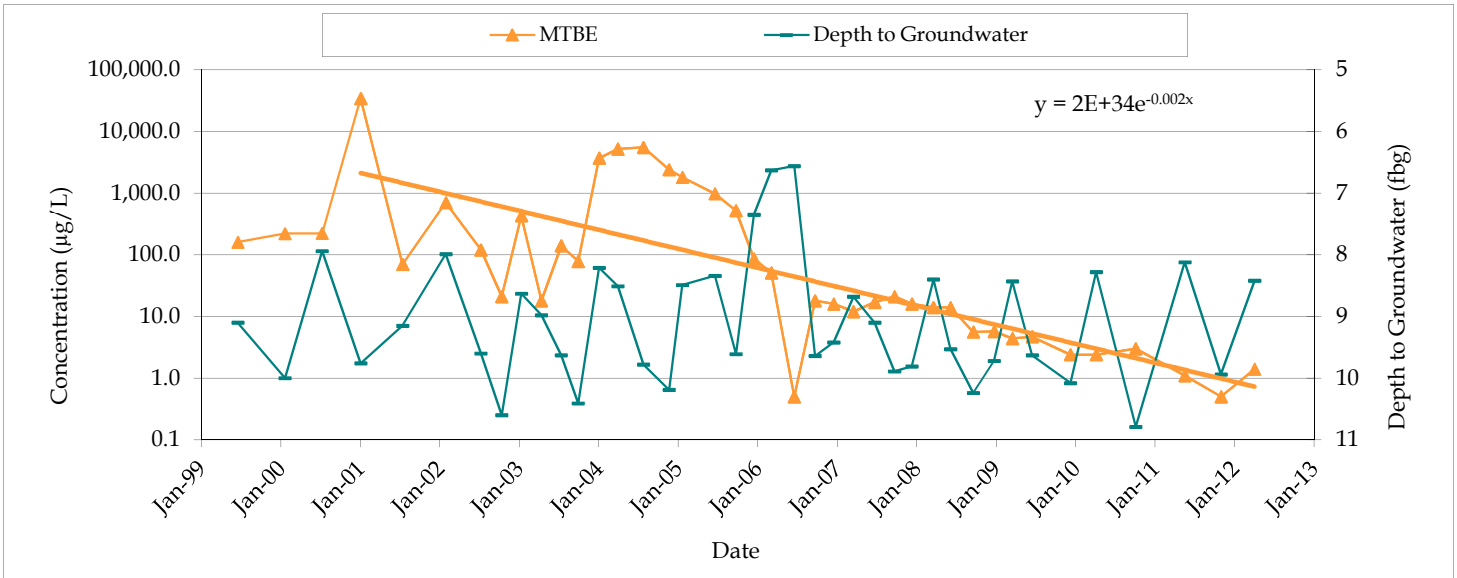
MW-7: MTBE CONCENTRATIONS AND DEPTH TO GROUNDWATER

MW-8
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L a = decay constant
b = concentration at time (x) x = time (x) in days

		Constituent: Methyl Tertiary Butyl Ether (MTBE)
Given		
WQO :	y	5
Constant:	b	2.41E+34
Constant:	a	-1.94E-03
Starting date for current trend:		1/4/2001
Calculate		
Attenuation Half Life (years):	(-ln(2)/a)/365.25	0.98
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Jul 2009



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

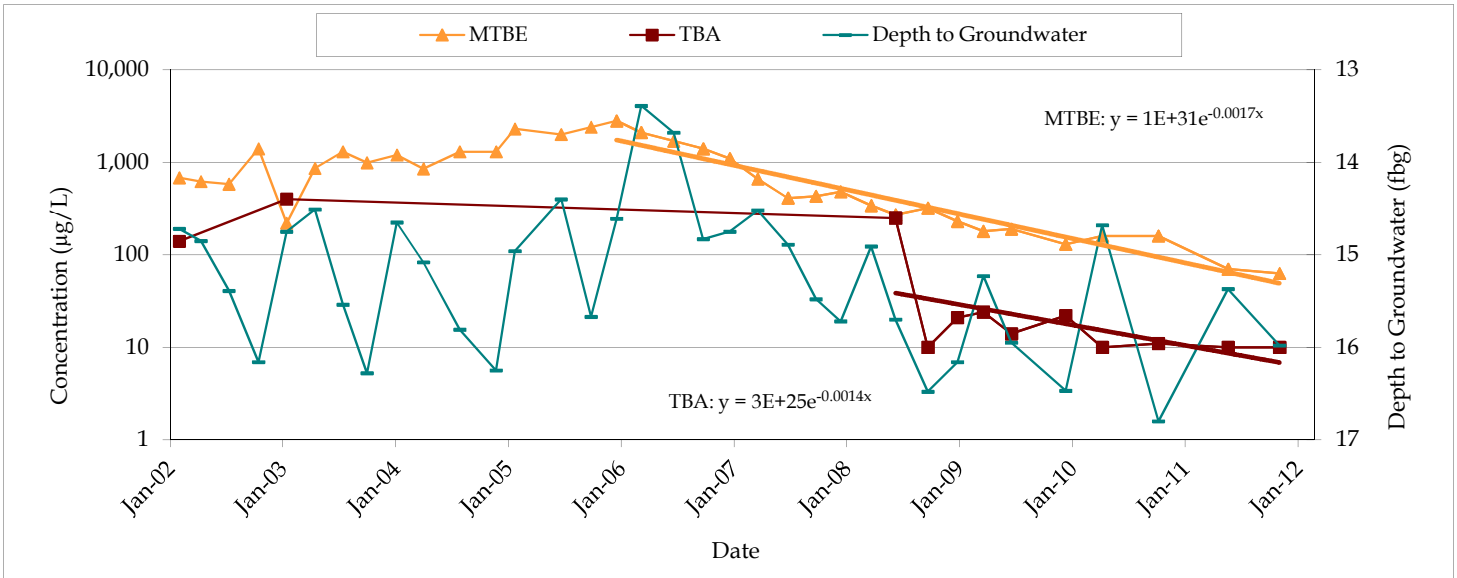
MW-8: MTBE CONCENTRATIONS AND DEPTH TO GROUNDWATER

MW-9
PREDECTED TIME TO REACH WATER QUALITY OBJECTIVES
FORMER 76 STATION #1871 (351644)
66 MACARTHUR BLVD, OAKLAND, CALIFORNIA

$y = b\,e^{ax}$ **===>** $x = \ln(y/b) / a$

where: y = concentration in µg/L, a = decay constant
b = concentration at time (x), x = time (x) in days

	Constituent	Methyl Tertiary Butyl Ether (MTBE)	Tert-Butyl Alcohol (TBA)
Given			
WQO :	y	5	12
Constant:	b	1.31E+31	2.92E+25
Constant:	a	-1.66E-03	-1.39E-03
Starting date for current trend:		12/20/2005	6/12/2008
Calculate			
Attenuation Half Life (years):	(-ln(2)/a)/365.25	1.14	1.37
Estimated Date to Reach WQO:	(x = ln(y/b) / a)	Aug 2015	Oct 2010



76 SERVICE STATION#1871
66 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

CONESTOGA-ROVERS & ASSOCIATES

MW-9: MTBE AND TBA CONCENTRATIONS AND DEPTH TO GROUNDWATER