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Alameda County
Environmental Health

June 20, 2012

Alameda County Environmental Health
Attn: Barbara Jakub, P.G.
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Status Report
First Half 2012
Former Unocal Service Station
20405 Redwood Road
Castro Valley, California

Dear Ms. Jakub:

Enclosed please find a copy of the subject Status Report dated June 20, 2012, prepared by BSK Associates.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,

Randall Nahas



**GROUNDWATER MONITORING REPORT
FIRST HALF 2012**

**FORMER UNOCAL SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA**

BSK PROJECT E0805401S

PREPARED FOR:

**MR. RANDALL NAHAS
P.O. BOX 3049
SAN RAMON, CA 94583**

JUNE 20, 2012

ENGINEERS, GEOLOGISTS, INSPECTORS, AND SCIENTISTS

**GROUNDWATER MONITORING REPORT, FIRST HALF 2012
FORMER UNOCAL SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA**

Prepared for:

Mr. Randall Nahas
P.O. Box 3059
San Ramon, CA 94583

E0805401S

June 20, 2012

Prepared by:



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GROUNDWATER MONITORING REPORT, FIRST HALF 2012 FORMER UNOCAL SERVICE STATION CASTRO VALLEY, CALIFORNIA

1. INTRODUCTION

At the request of Mr. Randall Nahas, BSK Associates performed groundwater monitoring and prepared this report summarizing data collected from the semi-annual monitoring of six groundwater monitoring wells located at the Former Unocal Service Station, 20405 Redwood Road, Castro Valley, California (the site). Figure 1 illustrates the site vicinity. A site plan is shown on Figure 2. Site information is as follows:

Site Name and Location:	Former Unocal Service Station 20405 Redwood Road, Castro Valley, California
Contacts:	Mr. Randall Nahas P.O. Box 3059 San Ramon, California 94583
Global ID:	T0600101370

2. SITE DESCRIPTION AND PROJECT HISTORY

2.1 Site Description

The site is located at 20405 Redwood Road in Castro Valley, California. The property is bounded on the north by a parking lot, on the south by a strip mall, and on the west by a do-it-yourself car wash. Properties surrounding the site are in commercial use.

The former service station at this property included one building with a covered pump island. The structure was demolished in 1997. Since then, the property has been mostly vacant, except for occasional temporary use as a Christmas tree lot or construction staging area.

2.2 Project History

December 1989, Soil Investigation and Monitoring Well Installation: In December 1989, three groundwater monitoring wells (MW-2, MW-3 and MW-4) were installed at the locations shown on Figure 2. Soil samples were collected from soil borings MW-1 and MW-1A; however, they were not converted to monitoring wells (BSK, 1995). Summaries of soil sample analytical results are presented in Table 1 (petroleum hydrocarbons) and Table 2 (volatile and semi-volatile organic compounds). Monitoring well groundwater sample analytical results are summarized in Table 3 (petroleum hydrocarbons), Table 4 (volatile organic carbons).

March 1991, Soil Investigation: Thirteen soil borings (SB-1 through SB-13) were advanced at the locations shown on Figure 2 to depths ranging between approximately 10

and 20 feet below ground surface (bgs) (BSK, 1996). Soil sample analytical results are summarized in Table 1.

March through April 1992, Soil Borings and Monitoring Well Installation: Soil borings MW-5, MW-6, MW-7, SB-14, and SB-15 were drilled at the locations shown on Figure 2. A summary of soil sample analytical results is presented in Table 1. Borings MW-5, MW-6, and MW-7 were completed as groundwater monitoring wells.

October 1992, Chromatograph Evaluation: BSK identified a non-standard peak in the chromatograph from a groundwater sample from well MW-7. The peak was not typical of petroleum hydrocarbons.

November 1992, Groundwater Sampling: Groundwater samples from monitoring well MW-7 were analyzed for volatile halocarbons by EPA Method 601. Analytical results are summarized in Table 3. Tetrachloroethene (PCE) and trichloroethylene (TCE) were detected in groundwater samples from well MW-7 at concentrations of 14,000 µg/L and 660 µg/L, respectively. BSK Associates attributed the previous concentrations of total petroleum hydrocarbons as gasoline (TPHg) to the presence of PCE and concluded gasoline contamination may not occur in a significant quantity in monitoring well MW-7. As a result, BSK Associates recommended ceasing any further investigation of the gasoline plume south of well MW-7 (BSK, 1992).

November 1993, Soil Borings: Soil borings SP-1 and SP-2 were advanced at the locations shown on Figure 2. Soil and groundwater samples were collected from each boring. Summaries of soil sample analytical results are presented in Table 1 (petroleum hydrocarbons) and Table 2 (volatile and semi-volatile organic compounds). Monitoring well groundwater sample analytical results are summarized in Table 3 (Philip Environmental, 1996).

December 1995, Feasibility Study: Excavation and on-site treatment of excavated soil was selected as the remedial alternative for soil impacts. As a part of the feasibility study, an aquifer pump test was conducted. Groundwater extraction well MW-101 was installed at the location shown on Figure 2. Pump-and-treat was determined to be a feasible remedial alternative for groundwater impacts at the site. (BSK, 1995).

June 1996, Revised Corrective Action Plan: Philip Environmental prepared a Revised Corrective Action Plan. The plan stated that the site operator and property owner planned to cease operation of the site as a service station, which would require closure of the underground storage tanks. Philip Environmental recommended removal of the USTs, soil excavation and limited groundwater extraction (Philip Environmental, 1996).

As part of the Revised Corrective Action Plan, Tier I and Tier II Risk Assessments were conducted. Results of the Tier I Risk Assessment show benzene levels in soil at the site exceeded the risk based screening levels for volatilization from soil to outdoor air, vapor intrusion from soil to on-site buildings, soil ingestion, and leachate from soil to water exposure pathways. Toluene levels in soil at the site exceeded the risk based screening levels for the vapor intrusion from soil to on-site buildings exposure pathway. Results of the Tier II Risk Assessment indicated that concentrations of hydrocarbons and benzene in

soil and groundwater exceed Tier II site specific screening levels in the area adjacent to the USTs and the southern property boundary (Philip Environmental, 1996).

Summer 1997, Service Station Building Demolition: The service station building was demolished and fuel dispensers removed (Life Springs Environmental Inc., 1999).

November 1998, UST Removal: The concrete slabs and foundation of the building, fueling area, and pump islands, were broken up and hauled to a recycling facility. The three USTs and associated piping were removed and transported to Ecology Control Industries (ECI) in Richmond, California. Two hydraulic hoists and clarifier sump were also removed. No holes were observed in the gasoline USTs, but small holes were observed in the waste oil UST. The excavated soil (approximately 175 cubic yards) was stockpiled. Figure 3 shows the approximate extent of the excavation.

Soil samples were collected after excavation. Sample locations are shown on Figure 3. Tables 1 and 2 provide summaries of soil sample analytical results. The release of petroleum hydrocarbons at the site appears to have primarily impacted the backfill material surrounding the two 10,000 gallon gasoline USTs (Life Springs Environmental Inc., 1999).

The UST pit was backfilled with aggregate base to within 5 feet of ground surface. Winter weather conditions led Life Springs Environmental Inc. to place impacted soil back in the excavations of the waste oil UST and clarifier sump (Life Springs Environmental Inc., 1999).

April 1999, Stockpiled Soil Remediation: Beginning in April 1999, impacted soil from the main UST excavation was laid out in shallow beds and aerated by periodic tilling.

May 1999, Soil Re-Excavation and Sampling: The waste oil UST and clarifier sump areas were re-excavated, with the second excavation extending slightly deeper than the first. Excavated soil from the waste oil UST and clarifier sump pits was disposed of at Vasco Road Sanitary Landfill in Livermore, California (Life Springs Environmental Inc., 2000). Soil samples were collected from native soil in both pits and analyzed for total petroleum hydrocarbons as diesel (TPHd) and total oil and grease. A section of the pipe trench area was excavated to a depth of 3 feet bgs. Excavated soil from the trench was laid out in shallow beds for aeration. A soil sample was collected from the trench re-excavation (sample name: GASLINE). The sample was analyzed for TPHg, benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary-butyl ether (MTBE). Table 1 provides a summary of soil sample analytical results. Figure 3 shows the approximate extent of re-excavation and sample locations.

August 1999, Waste Oil and Clarifier Sump Pit Sampling and Soil Stockpiling: The aerated soil from previous excavations was stockpiled. Soil samples were collected from the bottom of the waste oil and clarifier sump pits at depths of 10 and 7 feet bgs respectively (Life Springs Environmental Inc., 1999). Table 1 provides a summary of soil sample analytical results, Figure 3 shows the approximate sample locations.

September 1999, Waste Oil Pit Sampling: A soil sample was collected from within the waste oil pit at a depth of 11.5 bgs and analyzed for chlorinated hydrocarbons and TPHd.

Table 1 provides a summary of soil sample analytical results, Figure 3 shows the approximate sample location.

October 1999, Clarifier Sump Pit Sampling: A soil sample was collected within the clarifier sump pit at a depth of 9.5 feet bgs. Table 1 provides a summary of soil sample analytical results, Figure 3 shows the approximate sample location.

November 1999, Permission to Re-Use Stockpiled Soil: Permission was granted by Alameda County Environmental Health Services for the re-use of the stockpiled soil that had been remediated by aeration (Life Springs Environmental Inc., 2000).

December 1999, Waste Oil and Clarifier Sump Pit Deepening and Sampling: The waste oil pit was deepened to 10 feet bgs and the clarifier sump pit was deepened to 14 feet bgs. Soil removed from the over-excavation was also transported to the Vasco Road Sanitary Landfill in Livermore, California. Approximately 36.1 tons of soil were removed from both the waste oil pit and the clarifier sump pit during both re-excavation and over-excavation events. Soil samples were collected from the native soil in the bottom of each pit. The two excavations along with the final five feet of the main excavation were filled in with the remediated soil from the main excavation. Table 1 provides a summary of soil sample analytical results. Figure 3 shows the approximate extent of the over-excavation and sample locations.

Monitoring well MW-4 was abandoned by pressure grouting and drilling out. The vault boxes for monitoring wells MW-2 and MW-101 were replaced (Life Springs Environmental Inc., 2000).

November 2011, Additional Activities: In a letter dated November 23, 2011, ACEH responded to BSK's Site Conceptual Model (BSK, 2009) and Status Report (BSK, 2011). The technical report requests included evaluating soil vapor in the area of monitoring well MW-101 and former boring SP-1, preparing a site risk assessment, and providing a wellhead elevation survey of the wells associated with the site.

Groundwater Monitoring Program: From August 1990 through 1999, groundwater monitoring activities were performed on a quarterly basis. Groundwater monitoring was performed semi-annually starting in 1999 through September 2003. Groundwater monitoring was not conducted from the third quarter of 2003 through the third quarter of 2008. Groundwater monitoring analytical data are summarized in Table 3 (petroleum hydrocarbon constituents) and Table 4 (volatile organic hydrocarbons). Groundwater elevation data are summarized in Table 5. Groundwater Flow direction and gradient data are summarized in Table 6. Currently, groundwater monitoring is conducted on a semi-annual basis.

Monitoring wells MW-2 and MW-3 were not sampled from the second half of 2009 through the second half of 2010. Bark and debris covers the area around MW-2 and MW-3, which prevented BSK from locating the wells on several attempts. With assistance from Mr. Nahas, the wells were located in time to sample for the first half 2011 reporting period. In the Status Report for the second half of 2010, BSK recommended locating the wells and

installing a crash post next to each vault box. Since the wells have been located and referenced to nearby features, installing crash posts should no longer be necessary.

3. PURPOSE AND SCOPE

The purpose of groundwater monitoring is to collect data on groundwater quality, groundwater depths, and direction of flow beneath the subject property with the intention of evaluating residual hydrocarbon contamination in groundwater beneath the site. BSK performed the following tasks:

- Measured depth to groundwater in the six monitoring wells on May 2, 2012.
- Purged and sampled the six groundwater monitoring wells.
- Analyzed the groundwater samples for:
 - Total petroleum hydrocarbons as diesel (TPHd)
 - Total petroleum hydrocarbons as gasoline (TPHg)
 - Benzene, toluene, ethylbenzene, and xylenes (BTEX)
 - Fuel Oxygenates
 - Lead Scavengers
- Prepared this status report summarizing the condition of the wells, depth to groundwater, groundwater flow direction, and laboratory analytical results.

4. GROUNDWATER FLOW DIRECTION

Groundwater depths were measured in all monitoring wells prior to purging and sampling on May 2, 2012. Depths were measured relative to the north side of the top of each well casing.

Based on our measurements, groundwater generally flowed southeast with an approximate hydraulic gradient of 0.006 feet/foot. Figure 4 presents a groundwater elevation contour map for the recent monitoring event, and includes a rose diagram depicting a summary of groundwater flow directions since 1992. Table 5 summarizes groundwater elevations recorded during the investigation. Table 6 summarizes associated groundwater gradient and flow direction data.

5. GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

Groundwater sampling was conducted on May 2, 2012. The condition of each well was recorded before purging. The locking caps on MW-2, MW-5, and MW-7 did not form a seal with the well casing. These caps were replaced and the wells were tightly sealed after sampling. Each well was purged of a minimum of three casing volumes using an electric submersible pump. Water temperature, pH, and conductivity were measured after removal of each approximate casing volume. Water sample logs are included in Appendix A.

After purging, water samples were collected from each accessible well using a clean disposable bailer. The samples were labeled with the sample identification, date and time

collected, and project identification. Samples were preserved in a chilled cooler and transported with completed chain-of-custody forms to BSK's state-certified analytical laboratory. Equipment used during purging and sampling activities was cleaned with non-phosphate detergent wash and rinsed prior to use at each well location. The purged groundwater was stored in appropriately-labeled 55-gallon drums at the site.

The samples were analyzed by BSK's laboratory for TPHd and TPHg by EPA Method 8015B, and BTEX, fuel oxygenates, and lead scavengers by EPA Method 8260B. Tables 3 and 4 summarize the current and past groundwater monitoring analytical results. Figures 5 through 10 present time series plots for monitoring wells MW-2, MW-3, MW-5, MW-6, MW-7, and MW-101, respectively. Appendix B contains laboratory data reports and chain-of-custody documentation for the samples collected this quarter.

6. LIMITATIONS

This report has been prepared for the exclusive use of Mr. Randall Nahas and pertinent regulatory agencies. Unauthorized use of or reliance on the information contained in this report by others, unless given the express written consent by BSK Associates, is prohibited.

The conclusions presented in this report are professional opinions based on the indicated data described in this report. This report has been prepared in accordance with generally accepted methodologies and standards of professional practice. No other warranties, either expressed or implied, are made as to the findings or conclusions included in the report. Conclusions and recommendations are intended only for the purpose, site location and project indicated.

Opinions presented in this report apply to site conditions existing at the time of our study and those reasonably foreseeable. They cannot necessarily apply to site changes of which this office is not aware and has not evaluated. Changes in the conditions of the subject property may occur with time, because of natural processes or the works of man, on the subject site or on adjacent properties.

7. REFERENCES

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- BSK 2009, *Site Conceptual Model, Former Unocal Service Station, 20405 Redwood Road, Castro Valley, California*, BSK Associates, March 6, 2009.
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- BSK 2012, *Workplan, Soil and Water Investigation, Former Unocal Service Station, 20405 Redwood Road, Castro Valley, California*, BSK Associates, January 20, 2012.
- URS 2012, *Site Investigation Work Plan, Marshal Steel Cleaners, 20457 Redwood Road, Castro Valley, California*, URS Corporation, April 3, 2012.

TABLES

Table 1
Soil Sample Analytical Results
Petroleum Hydrocarbon Constituents
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in mg/kg)

Location	Depth (feet)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	Oil and Grease	Total Lead	MTBE
December 1989, Soil Investigation and Monitoring Well Installation										
MW-1	5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
	10	89	-	1.8	7.8	3.8	20	-	-	-
	15	<10	-	0.09	<0.02	<0.02	<0.02	-	-	-
	19	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
MW-1A	5	<10	<10	<0.02	<0.02	<0.02	<0.02	-	<2.0	-
	10	110	50^b	2.2	11	5.4	25	-	<2.0	-
	13	11	<10	0.64	0.71	0.64	3.5	-	<2.0	-
	16.5	<10	<10	<0.02	<0.02	<0.02	<0.02	-	<2.0	-
MW-2	5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
	10	<10	-	0.05	<0.02	<0.02	0.03	-	-	-
	15	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
	20	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
MW-3	5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
	10	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
	15	92	-	ND	ND	0.97	4.0	-	-	-
	19	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
MW-4^a	5	-	<10	<0.02	<0.02	<0.02	<0.02	<100	-	-
	8.5	-	<10	<0.02	<0.02	<0.02	<0.02	<100	-	-
	13	-	<10	<0.02	<0.02	<0.02	<0.02	<100	-	-
March 1991, Soil Investigation										
SB-1	14.5	<10	-	0.05	0.03	<0.02	0.06	-	-	-
SB-2	10.5	440	-	4.5	18	11	55	-	<2.0	-
	13	810	340^b	5.3	4.2	13	76	-	-	-
SB-3	13.5	15	<10	0.09	0.18	0.19	1.1	-	<2.0	-
	17	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
SB-4	14	<10	<10	<0.02	<0.02	<0.02	0.1	-	-	-
SB-5	14.5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
SB-6	15	310	-	0.8	15	6.2	36	-	-	-
SB-8	20.5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
SB-10	16	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
SB-11	10.5	31	-	0.09	0.03	0.49	1.8	-	-	-
SB-12	15.5	<10	-	<0.02	<0.02	<0.02	<0.02	-	-	-
SB-13	10.5	1100	-	5.5	67	27	140	-	-	-
	14	530	-	7.8	48	14	73	-	-	-

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Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in mg/kg)

Location	Depth (feet)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	Oil and Grease	Total Lead	MTBE
March through April 1992, Soil Borings and Monitoring Well Installation										
SB-14	21	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	-
SB-15	20.5	<1	3	<0.005	0.007	<0.005	<0.008	-	-	-
MW-5	21	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	-
MW-6	16	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	-
MW-7	15.5	<1	<1	<0.005	<0.005	<0.005	<0.005	-	-	-
November 1993, Soil Borings										
SP-2	14	9	-	0.14	0.52	0.19	1.0	-	-	-
SP-1	16	-	-	0.18	<0.005	0.075	0.055	-	-	-
December 1995, Monitoring Well Installation										
MW-101	10	120	-	<0.005	0.95	2.1	11	-	-	-
	15	63	-	ND	1.5	0.87	9.8	-	-	-
November 1998, UST Removal										
WO	8	<1.0	270	<0.005	0.0061	0.027	0.079	2300	9.0	<0.005
PIT NE COR	12	47	-	<0.62	<0.62	0.74	3.4	-	-	<0.62
PIT NE BOT	13	14	-	<0.62	<0.62	<0.62	<0.62	-	-	<0.62
PIT SE	12	31	-	<0.62	1.8	<0.62	3.0	-	-	<0.62
PIT SE	unk	100	-	<2.5	<2.5	2.6	14	-	-	<2.5
PIT SW	11.5	22	-	<0.62	<0.62	<0.62	3.0	-	-	<0.62
PIT NW	12	2.6	-	0.088	0.0054	0.11	0.52	-	-	0.014
WL NW	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	0.018
WL J	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
WIS S	2	410	-	3.6	11	12	72	-	-	0.80
WIS N	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
EJ	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
EIS S	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
EIS N	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
CJ	2	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	<0.005
WEST HOIST ³	8.5	-	1000* ¹	-	-	-	-	-	-	-
EAST HOIST ³	8.5	-	<1.0**	-	-	-	-	-	-	-
SUMP	4.5	<1.0	120 ¹	<0.005	<0.005	<0.005	<0.005	96	7.9	<0.005

Table 1
Soil Sample Analytical Results
Petroleum Hydrocarbon Constituents
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in mg/kg)

Location	Depth (feet)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	Oil and Grease	Total Lead	MTBE
May 1999, Soil Re-excavation and Sampling										
GASLINE	3	<1.0	-	<0.005	<0.005	<0.005	<0.005	-	-	-
SUMP	4	-	2700 ¹ /4800 ^c	-	-	-	-	-	-	-
WO	9	-	38 ¹	-	-	-	-	140	-	-
August 1999, Waste Oil and Clarifier Sump Pit Sampling										
SUMP	7	-	84	-	-	-	-	88	-	-
WO	10	-	560	-	-	-	-	1400	-	-
September 1999, Waste Oil Pit Sampling										
WO	11.5	<1.0	1.2 ¹	<0.005	<0.005	<0.005	<0.005	<50	-	-
October 1999, Clarifier Sump Pit Sampling										
SUMP³	9.5	71 ¹	270 ²	<0.62	<0.62	<0.62	<0.62	220	-	<0.62
December 1999, Waste Oil and Clarifier Sump Pit Deepening and Sampling										
WO³	11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<50	-	<0.005
SUMP³	15	6.3 ¹	690 ¹	<0.005	<0.005	0.14	0.25	1200	-	<0.005
Notes: -: Not analyzed. unk: Unknown. 1: Hydrocarbon reported does not match the pattern of Chromalab, Inc. standard. 2: Estimated concentration reported due to overlapping fuel patterns. 3: Exact location not mapped. * West Hoist also had 2000 mg/kg hydraulic oil. **East Hoist <50 mg/kg hydraulic oil. a: Soil samples at were also analyzed for VOCs by EPA method 8010. None were detected. b: Sample contains lower molecular weight hydrocarbons. c: Reported as motor oil										

Table 2
Soil Sample Analytical Results
Volatile and Semi-Volatile Organic Compounds
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in mg/kg)

Well	Depth	Phenanthrene	Fluoranthene	Pyrene	bis(2-Ethylhexyl) phthalate
December 1989, Soil Investigation and Monitoring Well Installation					
MW-4*	5	-	-	-	-
	8.5	-	-	-	-
	13	-	-	-	-
November 1993, Soil Borings					
SP-2*	1	-	-	-	-
SP-1*	16	-	-	-	-
November 1998, UST Removal					
WO	8	0.10	0.17	0.22	0.6
SUMP	4.5	<0.10	<0.10	<0.10	<0.50
August 1999, Waste Oil and Clarifier Sump Pit Sampling					
SUMP	7	<0.10	<0.10	<0.10	<0.50
WO	10	<0.10	0.13	0.20	0.82
September 1999, Waste Oil Pit Sampling					
WO	11.5	<0.10	<0.10	<0.10	<0.50
Notes: -: Not analyzed *: Samples were analyzed for VOCs by EPA Method 8260 only; none were detected above reportable detection limits					

Table 3
Groundwater Monitoring Analytical Results
Petroleum Hydrocarbon Constituents
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in µg/L)

Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-2	12/89	72	-	-	<0.5	<0.5	<0.5	<0.5	-
	8/90	180	-	-	21	3.9	7.2	28	-
	1/91	430	-	-	50	33	22	110	-
	4/91	4,800	-	-	640	520	140	790	-
	7/91	220	-	-	14	1	17	8	-
	10/91	170	-	-	2.9	ND	2.5	6	-
	1/92	5,200	-	-	480	870	160	860	-
	4/20/92	300	-	-	70	0.3	15	7	-
	7/9/92	84	-	-	10	ND	0.6	2.3	-
	10/8/92	ND	-	-	2.3	ND	2.3	3	-
	1/12/93	170	-	-	11	5.1	1.4	6.3	-
	3/4/93	720	-	-	110	32	67	28	-
	7/1/93	220	-	-	17	1.1	6	12	-
	10/19/93	98	-	-	4.0	ND	2.3	3.1	-
	1/12/94	130	-	-	13	3.4	4.9	9.2	-
	4/25/94	270	-	-	23	1.1	8.2	17	-
	7/28/94	180	-	-	14	0.7	5.8	12	-
	10/13/94	97	-	-	2.8	ND	2.9	1.8	-
	1/10/95	440	-	-	48	2.8	15	27	-
	4/19/95	480	-	-	72	2.8	47	22	-
	10/12/95	450	-	-	7.4	ND	5.1	5.5	-
	4/12/96	690	-	-	41	2.8	27	50	-
	10/8/96	180	-	-	9.4	0.5	7.2	9.4	1,400
	4/9/97	470	-	-	23	1.6	21	31.4	1,800
	11/5/97	360	-	-	6.8	0.64	4.7	8.2	1,200
	3/1/00	560	-	-	14	0.92	16	24	1,400
	9/00	180	-	-	0.89	ND	1	0.65	620
	3/22/01	1,000	-	-	ND	ND	ND	ND	1,300 ¹ /1,200
	8/23/01	160	-	-	22	1.5	17	27	690 ¹ /820
	3/02	140	-	-	2.6	0.31	2	1.7	420
	10/02	92	-	-	ND	ND	ND	ND	280
	03/03	IA	IA	IA	IA	IA	IA	IA	IA
9/17/03	IA	IA	IA	IA	IA	IA	IA	IA	
11/20/08	IA	IA	IA	IA	IA	IA	IA	IA	
2/11/09*	<50	<50	-	<0.3	<0.3	<0.3	<0.3	62	
8/25/09	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL	
8/4/10	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL	
1/7/11	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL	
4/8/11	<50	<50	-	0.4	<0.3	1.7	1.2	110	
10/13/11	430	220	-	<0.3	<0.3	<0.3	<0.4	400	
5/2/12	69	130	-	<0.3	<0.3	<0.3	<0.4	69	

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Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-3	12/89	<50	-	-	<0.5	<0.5	<0.5	<0.5	-
	8/90	290	-	-	55	3.8	20	59	-
	1/91	110	-	-	29	3.3	9.7	34	-
	4/91	3,600	-	-	450	270	150	760	-
	7/91	220	-	-	14	14	33	8.0	-
	10/91	ND	ND	ND	ND	ND	ND	ND	-
	1/92	60	-	-	4.0	10	2.0	8.0	-
	4/20/92	ND	-	-	1.0	0.4	ND	0.9	-
	7/9/92	ND	-	-	1.3	0.40	ND	1.3	-
	10/8/92	ND	-	-	2.1	ND	ND	0.30	-
	1/12/93	ND	-	-	1.2	1.0	0.60	4.1	-
	3/4/93	330	-	-	32	0.90	64	13	-
	7/1/93	330	-	-	24	11	14	82	-
	10/19/93	ND	-	-	5.0	ND	0.60	1.2	-
	1/12/94	69	-	-	13	3.4	4.9	9.2	-
	4/25/94	62	-	-	17	1.0	4.9	24	-
	7/28/94	52	-	-	7.2	0.4	1.6	4.6	-
	10/13/94	ND	-	-	0.9	ND	ND	ND	-
	1/10/95	250	-	-	26	0.60	14	45	-
	4/19/95	450	-	-	26	0.60	40	19	-
	10/12/95	340	-	-	9.0	3.9	8.5	34	-
	4/12/96	170	-	-	41	2.8	27	50	-
	10/8/96	79	-	-	3.8	1.5	2.1	6.8	55
	4/9/97	120	-	-	7.3	ND	3.3	5.4	230
	11/5/97	62	-	-	1.7	1.4	2.3	8.3	65
	3/1/00	96	-	-	0.61	ND	ND	ND	240
	9/00	ND	-	-	ND	ND	ND	ND	98
	3/22/01	ND	-	-	ND	ND	ND	ND	190
	8/23/01	ND	-	-	ND	ND	ND	ND	26
	3/02	ND	-	-	ND	ND	ND	ND	26
	10/02	ND	-	-	ND	ND	ND	ND	15
	3/03	IA	IA	IA	IA	IA	IA	IA	IA
	9/17/03	ND	-	-	ND	ND	ND	ND	13
	11/20/08	IA	IA	IA	IA	IA	IA	IA	IA
	2/11/09*	<50	<50	-	<0.3	<0.3	<0.3	<0.3	12
	8/25/09	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL
	8/4/10	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL
	1/7/11	CNL	CNL	CNL	CNL	CNL	CNL	CNL	CNL
	4/8/11	<50	<50	-	<0.3	<0.3	<0.3	<0.4	19
	10/13/11	<50	130	-	<0.3	<0.3	<0.3	<0.4	15
	5/2/12	<50	<50	-	<0.3	<0.3	<0.3	<0.4	5.0

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Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-4	12/89	<50	<100	<5,000	<0.5	<0.5	<0.5	<0.5	-
	08/90	ND	ND	ND	ND	ND	ND	ND	-
	1/91	-	-	-	-	-	-	-	-
	4/91	ND	ND	ND	ND	ND	ND	ND	-
	7/91	-	-	-	-	-	-	-	-
	10/91	ND	ND	ND	ND	ND	ND	ND	-
	1/92	-	-	-	-	-	-	-	-
	4/20/92	ND	ND	ND	ND	ND	ND	ND	-
	7/9/92	-	-	-	-	-	-	-	-
	10/8/92	ND	120	ND	ND	ND	ND	ND	-
	1/12/93	ND	ND	ND	ND	ND	ND	ND	-
	3/4/93	ND	ND	ND	ND	ND	ND	ND	-
	7/1/93	ND	ND	1,000	ND	ND	ND	ND	-
	10/19/93	ND	ND	ND	0.40	ND	ND	0.40	-
	4/25/94	ND	ND	ND	ND	ND	ND	0.40	-
	7/28/94	ND	86	ND	ND	0.60	ND	ND	-
	10/13/94	70	ND	ND	ND	36	ND	1.3	-
	1/10/95	ND	ND	2,000	ND	ND	ND	ND	-
	4/19/95	ND	ND	ND	ND	ND	ND	ND	-
	10/12/95	ND	ND	-	ND	ND	ND	ND	-
4/12/96	ND	ND	-	ND	ND	ND	ND	-	
10/8/96	ND	ND	-	ND	ND	ND	ND	ND	
4/9/97	ND	ND	-	ND	ND	ND	ND	ND	
11/5/97	ND	ND	-	ND	ND	ND	ND	ND	
Abandoned December 1999.									

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Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
MW-5	4/13/92	ND	.	.	ND	ND	ND	ND	.	
	4/27/92	ND	.	.	ND	ND	ND	ND	.	
	7/9/92	ND	.	.	ND	ND	ND	ND	.	
	10/8/92	ND	.	.	ND	0.40	ND	ND	.	
	1/12/93	ND	.	.	ND	ND	ND	ND	.	
	3/4/93	ND	.	.	ND	ND	ND	ND	.	
	7/1/93	ND	.	.	ND	ND	ND	ND	.	
	10/19/93	ND	.	.	ND	ND	ND	ND	.	
	4/25/94	ND	.	.	ND	0.40	ND	1.0	.	
	7/94	-	.	.	-	-	-	-	.	
	10/13/94	87	ND	ND	ND	ND	36	ND	1.3	.
	1/95	-	.	.	-	-	-	-	-	.
	4/19/95	ND	.	.	.	ND	ND	ND	ND	.
	10/12/95	ND	.	.	.	ND	ND	ND	ND	.
	4/12/96	ND	.	.	.	ND	ND	ND	ND	.
	10/8/96	ND	.	.	.	ND	ND	ND	ND	ND
	4/9/97	ND	.	.	.	ND	ND	ND	ND	ND
	11/5/97	ND	ND	.	.	ND	ND	ND	ND	ND
	3/1/00	ND	.	.	.	ND	ND	ND	ND	ND
	9/00	ND	-	-	-	ND	ND	ND	ND	ND
	3/22/01	ND	.	.	.	ND	ND	ND	ND	ND
	8/23/01	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/17/03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/08*	<50	<50	.	.	0.31	<0.3	<0.3	0.38	<5.0
	2/6/09*	<50	<50	.	.	<0.3	<0.3	<0.3	<0.3	<5.0
	8/25/09	<50	<50	.	.	<0.5	<0.5	<0.5	<0.5	<5.0
	8/4/10	<50	<100	.	.	<0.3	<0.3	<0.3	<0.3	<1.0
	1/7/11	<50	<50	.	.	<0.3	<0.3	<0.3	0.64	<1.0
	4/8/11	<50	<50	.	.	<0.3	<0.3	<0.3	<0.4	<0.5
	10/13/11	<50	120	.	.	<0.3	<0.3	<0.3	<0.4	<0.5
5/2/12	<50	260	.	.	<0.3	<0.3	<0.3	<0.4	<0.5	

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Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
MW-6	4/13/92	ND	.	.	ND	0.30	ND	ND	.	
	4/27/92	ND	.	.	ND	ND	ND	ND	.	
	7/9/92	ND	.	.	ND	ND	ND	ND	.	
	10/8/92	ND	.	.	ND	ND	ND	ND	.	
	1/12/93	ND	.	.	ND	ND	ND	ND	.	
	3/4/93	ND	.	.	ND	ND	ND	ND	.	
	7/1/93	ND	.	.	ND	ND	ND	ND	.	
	10/19/93	ND	.	.	ND	ND	ND	ND	.	
	4/25/94	ND	.	.	ND	0.30	ND	0.40	.	
	7/94	-	.	.	-	-	-	-	.	
	10/13/94	160	.	.	.	0.40	140	0.5	2.3	.
	1/95	-	.	.	.	-	-	-	-	.
	4/19/95	ND	.	.	.	ND	ND	ND	ND	.
	10/12/95	ND	.	.	.	ND	ND	ND	ND	.
	4/12/96	ND	.	.	.	2.9	2.9	ND	ND	.
	10/8/96	ND	.	.	.	ND	ND	ND	ND	17
	4/9/97	ND	.	.	.	ND	ND	ND	ND	ND
	11/5/97	ND	ND	.	.	ND	ND	ND	ND	9.0
	3/1/00	78	.	.	.	ND	0.49	ND	ND	260
	9/00	54	.	.	.	ND	ND	ND	ND	170
	3/22/01	130	.	.	.	ND	ND	ND	ND	440
	8/23/01	79	.	.	.	ND	ND	ND	ND	280 ¹ /350
	3/02	91	.	.	.	ND	ND	ND	ND	370
	10/02	83	.	.	.	ND	ND	ND	ND	260
	3/03	61	.	.	.	ND	ND	ND	ND	200
	9/17/03	140	.	.	.	ND	ND	ND	ND	440
	11/20/08*	<50	<50	.	.	0.81	<0.3	<0.3	<0.3	300
	2/6/09*	97	<50	.	.	<0.3	<0.3	<0.3	<0.3	200
	8/25/09	NS	NS	.	NS	NS	NS	NS	NS	NS
	8/4/10	<50	<100	.	.	<0.3	<0.3	<0.3	<0.3	54
	1/7/11	<50	<50	.	.	<0.3	<0.3	<0.3	0.44	40
	4/8/11	<50	<50	.	.	<0.3	<0.3	<0.3	<0.4	68
	10/13/11	99	85	.	.	<0.3	<0.3	<0.3	<0.4	95
5/2/12	120	<50	.	.	<0.3	<0.3	<0.3	<0.4	160	

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Well	Date	TPHg	TPHd	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
MW-7	4/13/92	1,300	-	-	0.40	0.30	0.30	0.9	-	
	4/27/92	1,100	-	-	ND	ND	ND	ND	-	
	7/9/92	830	-	-	ND	ND	ND	ND	-	
	10/8/92	3,900	-	-	ND	ND	ND	ND	-	
	11/30/92	2,700	ND	-	-	-	-	-	-	
	1/12/93	U	U	U	U	U	U	U	U	
	1/93	1,900	-	-	ND	ND	ND	ND	-	
	3/4/93	830	-	-	ND	ND	ND	ND	-	
	7/1/93	680	-	-	ND	ND	ND	ND	-	
	10/19/93	360	-	-	ND	ND	ND	0.70	-	
	1/12/94	330	-	-	ND	ND	ND	ND	-	
	4/25/94	360	-	-	ND	ND	ND	ND	-	
	7/28/94	-	-	-	-	-	-	-	-	
	10/13/94	-	-	-	-	-	-	-	-	
	1/95	-	-	-	-	-	-	-	-	
	4/19/95	-	-	-	-	ND	ND	ND	ND	
	10/12/95	-	-	-	-	ND	ND	ND	ND	
	4/12/96	-	-	-	-	ND	ND	ND	ND	
	10/8/96	-	-	-	-	-	-	-	-	
	4/9/97	-	-	-	-	-	-	-	-	
	11/5/97	-	-	-	-	-	-	-	-	
	3/1/00	ND	-	-	-	890	ND	ND	ND	ND
	9/00	770	-	-	-	3.0	0.32	13	27	ND
	3/22/01	630	-	-	-	ND	ND	ND	ND	ND
	8/23/01	800	-	-	-	ND	ND	ND	ND	7.31/ND
	3/02	280	-	-	-	0.35	ND	0.91	2.2	7.7
	10/02	IA	IA	IA	IA	IA	IA	IA	IA	IA
	3/03	IA	IA	IA	IA	IA	IA	IA	IA	IA
	9/17/03	IA	IA	IA	IA	IA	IA	IA	IA	IA
	11/20/08	520	70	-	-	<0.3	<0.3	<0.3	<0.3	<5.0
	2/6/09*	400	<50	-	-	<0.3	<0.3	<0.3	<0.3	<5.0
	8/25/09	IA	IA	IA	IA	IA	IA	IA	IA	IA
8/4/10	430	<100	-	-	<0.3	<0.3	<0.3	<0.3	<1	
1/7/11	250	<50	-	-	<0.3	<0.3	<0.3	<0.3	<1	
4/8/11	130	<50	-	-	<0.3	<0.3	<0.3	<0.4	<0.5	
10/13/11	IA	IA	IA	IA	IA	IA	IA	IA	IA	
5/2/12	1,900	190*	-	-	<0.3	<0.3	<0.3	<0.4	<0.5	

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(Concentrations in µg/L)

Well	Date	TPH _g	TPH _d	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-101	9/95	9,400	-	-	170	94	150	710	-
	3/01/00	40,000	-	-	2,500	490	4,300	10,000	2,400 ¹ / 1,400
	9/00	770	-	-	3.0	0.32	13	27	-
	3/01	34,000	-	-	1,400	62	3,400	7,700	970
	8/23/01	12,000	-	-	630	ND	1,500	480	1,400
	3/02	19,000	-	-	600	25	1,600	3,100	1,600 ¹ / 870
	10/02	5,200	-	-	240	0.74	230	76	1,500 ¹ / 1,400
	3/03	6,300	-	-	330	ND	440	370	1,400 ¹ / 840
	9/17/03	3,000	-	-	150	ND	100	110	850 ¹ / 1,100
	11/20/08*	2,800	5,400	-	61	<0.3	38	1.6	570
	2/6/09*	<50	3,600	-	<0.3	<0.3	<0.3	<0.3	630
	8/25/09	2,200	1,500	-	9.9	<0.5	14	5.6	440
	8/4/10	1,100	<100	-	11	<0.3	12	4.8	280
	1/7/11	1,600	2,300	-	75	0.72	150	110	420
	4/8/11	2,400	1,900	-	150	0.89	210	130	370
	10/13/11	1,300	2,800	-	37	<0.3	44	15	500
5/2/12	1,200	860	-	65	0.57	70	20.5	560	
SP-1	11/1993	49,000	-	-	3,900	13,000	2,800	15,000	-
SP-2	11/1993	1,400	-	-	54	240	87	390	-

Notes:

ND: Not detected, detection limit unknown.

<: Not detected above laboratory's indicated reportable detection limit.

NS: No sample collected.

IA: Well inaccessible at time of sampling.

CNL: Could not locate well.

U: Unavailable.

-: Not analyzed.

*: Other fuel oxygenates and 1,2-DCA not detected above 5 µg/L (50 µg/L for TBA).

¹: MTBE by EPA method 8015/8020; otherwise by EPA Method 8260.

Table 4
Groundwater Monitoring Analytical Results
Volatile Organic Compounds
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California
(Concentrations in µg/L)

Well	Date	Chlorobenzene	Chloroform	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dichloroethane	Tetrachloroethene	Trichloroethene
MW-2	3/4/93	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5
	10/19/93	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	12/14/89	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
	3/4/93	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	10/19/93	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.9
MW-5	3/4/93	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5
MW-6	3/4/93	<0.5	<0.5	<0.5	<0.5	<0.5	3.5	<0.5
MW-7	11/30/92	2.0	2.0	180	1.5	-	14,000	660
	3/4/93	-	<20	-	<20	<20	3,700	210
SP-1	11/18/93	unknown	unknown	28	15	12	22	20
SP-2	11/18/93	unknown	unknown	ND	ND	ND	ND	ND

Notes:
<: Not detected above laboratory's indicated reportable detection limit.
-: Not analyzed.
ND: Not detected, detection limit unknown.

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-101	09/95	U	U	-
	3/1/00		9.75	-
	09/00		U	-
	03/01		U	-
	08/23/01		9.70	-
	03/02		U	-
	10/02		U	-
	03/03		U	-
	9/17/03		9.80	-
	11/20/08		10.69	-
	2/6/09		10.46	-
	8/25/09		10.53	-
	8/4/10		11.47	-
	4/8/11		9.01	-
10/13/11		10.41	-	
	5/2/12	185.44	10.20	175.24

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-2	12/89	U	U	-
	08/90		U	-
	01/91		U	-
	04/91		U	-
	07/91		U	-
	10/91		U	-
	01/92		U	-
	4/20/92	183.10	10.36	172.74
	7/9/92		10.65	172.45
	10/8/92	183.47	11.60	171.87
	1/12/93		9.11	174.36
	3/4/93		9.28	174.19
	7/1/93		10.37	173.10
	10/19/93		10.82	172.65
	1/12/94		10.66	172.81
	4/25/94		10.23	173.24
	7/28/94		10.70	172.77
	10/13/94		14.19	169.28
	1/10/95		8.12	175.35
	4/19/95		9.24	174.23
	10/12/95		10.66	172.81
	4/12/96		10.05	173.42
	10/8/96		10.61	172.86
	4/9/97		10.40	173.07
	11/5/97		10.88	172.59
	3/1/00		8.49	174.98
	09/00		U	-
	3/22/01		9.65	173.82
	8/23/01		9.65	173.82
	03/2002		U	-
	10/2002		U	-
	03/2003		IA	-
	9/17/03		IA	-
11/20/08		IA	-	
2/11/09		U	-	
8/25/09		CNL	-	
8/4/10		CNL	-	
1/7/11		CNL	-	
4/8/11		9.35	174.12	
10/13/11		10.30	173.17	
5/2/12	185.49	10.11	175.38	

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-3	12/89	U	U	-
	08/90		U	-
	01/91		U	-
	04/91		U	-
	07/91		U	-
	10/91		U	-
	01/92		U	-
	4/20/92	183.52	10.34	173.18
	7/9/92		10.84	172.68
	10/8/92	184.03	11.96	172.07
	1/12/93		9.28	174.75
	3/4/93		9.53	174.50
	7/1/93		10.56	173.47
	10/19/93		11.04	172.99
	1/12/94		10.90	173.13
	4/25/94		10.37	173.66
	7/28/94		10.95	173.08
	10/13/94		14.37	169.66
	1/10/95		8.23	175.80
	4/19/95		9.54	174.49
	10/12/95		10.97	173.06
	4/12/96		10.06	173.97
	10/8/96		10.87	173.16
	4/9/97		10.40	173.63
	11/5/97		10.97	173.06
	3/1/00		8.68	175.35
	09/00		U	-
	3/22/01		10.22	173.81
	8/23/01		10.02	174.01
	03/02		U	-
	10/02		U	-
	03/03		U	-
	9/17/03		10.00	174.03
11/20/08		IA	-	
2/11/09		U	-	
8/25/09		CNL	-	
8/4/10		CNL	-	
1/7/11		CNL	-	
4/8/11		9.66	174.37	
10/13/11		10.46	173.57	
5/2/12	185.93	10.37	175.56	

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-4	12/89	U	U	-
	08/90		U	-
	01/91		U	-
	04/91		U	-
	07/91		U	-
	10/91		U	-
	01/92		U	-
	4/20/92		10.89	-
	7/9/92	184.33	10.65	173.68
	10/8/92	184.61	12.78	171.83
	1/12/93		9.67	174.94
	3/4/93		10.20	174.41
	7/1/93		11.41	173.20
	10/19/93		11.92	172.69
	4/25/94		10.94	173.67
	7/28/94		11.74	172.87
	10/13/94		15.31	169.30
	1/10/95		8.02	176.59
	4/19/95		9.97	174.64
	10/12/95		11.70	172.91
	4/12/96		10.33	174.28
	10/8/96		11.65	172.96
	4/9/97		10.93	173.68
11/5/97		11.82	172.79	

MW-4 abandoned December 1999.

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-5	4/27/92	183.62	11.72	171.90
	7/9/92		12.24	171.38
	10/8/92	183.92	13.24	170.68
	1/12/93		10.30	173.62
	3/4/93		10.53	173.39
	7/1/93		11.85	172.07
	10/19/93		12.32	171.60
	4/25/94		11.58	172.34
	07/94		U	-
	10/13/94		15.71	168.21
	01/95		U	-
	4/19/95		10.41	173.51
	10/12/95		12.12	171.80
	4/12/96		10.85	173.07
	10/8/96		12.00	171.92
	4/9/97		11.40	172.52
	11/5/97		12.19	171.73
	3/1/00		9.45	174.47
	09/00		U	-
	3/22/01		11.04	172.88
	8/23/01		11.06	172.86
	03/02		NS	-
	10/02		NS	-
	03/03		NS	-
	9/17/03		11.03	172.89
	11/20/08		11.80	172.12
	2/6/09		11.56	172.36
	8/25/09		11.90	172.02
	8/4/10		11.61	172.31
	1/7/11		10.45	173.47
4/8/11	10.26	173.66		
10/13/11	11.53	172.39		
5/2/12	186.00	11.35	174.65	

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-6	4/27/92	U	11.90	171.80
	7/9/92	183.70	12.34	171.36
	10/8/92	183.96	13.3	170.66
	1/12/93	183.60	10.59	173.01
	3/4/93		10.86	172.74
	7/1/93		12.00	171.60
	10/19/93		12.48	171.12
	4/25/94		11.86	171.74
	07/94		U	-
	10/13/94		15.87	167.73
	01/95		U	-
	4/19/95		10.70	172.90
	10/12/95		12.32	171.28
	4/12/96		11.09	172.51
	10/8/96		12.19	171.41
	4/9/97		11.70	171.90
	11/5/97		12.33	171.27
	3/1/00		9.73	173.87
	09/00		U	-
	3/22/01		11.01	172.59
	8/23/01		11.21	172.39
	03/02		U	-
	10/02		U	-
	03/03		U	-
	9/17/03		11.50	172.10
	11/20/08		12.10	171.50
	2/6/09		11.83	171.77
	8/25/09		Dry	-
	8/4/10		12.85	170.75
	1/7/11		10.75	172.85
4/8/11		10.59	173.01	
10/13/11		11.81	171.79	
5/2/12	186.09	11.68	174.41	

Table 5
Summary of Groundwater Elevation Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Well	Date Measured	Casing Elevation (Feet above MSL)	Depth to Groundwater (Feet)	Groundwater Elevation (Feet above MSL)
MW-7	4/27/92	182.52	10.97	171.55
	7/9/92		11.43	171.09
	10/8/92	182.78	12.40	170.38
	11/30/92		12.00	170.78
	1/12/93		9.51	173.27
	01/93		U	-
	3/4/93		9.88	172.90
	7/1/93		11.07	171.71
	10/19/93		11.55	171.23
	1/12/94	182.42	11.36	171.06
	4/25/94		10.85	171.57
	7/28/94		NS	-
	10/13/94		NS	-
	01/95		U	-
	4/19/95		9.66	172.76
	10/12/95		11.34	171.08
	4/12/96		10.06	172.36
	10/8/96		11.16	171.26
	4/9/97		11.70	170.72
	11/5/97		11.36	171.06
	3/1/00		8.72	173.70
	09/00		U	-
	3/22/01		10.04	172.38
	8/23/01		10.18	172.24
	03/02		U	-
	10/02		IA	-
	03/03		IA	-
	9/17/03		IA	-
	11/20/08		11.05	171.37
	2/6/09		10.76	171.66
	8/25/09		IA	-
	8/4/10		10.76	171.66
1/7/11	9.67		172.25	
4/8/11	9.49		172.93	
10/13/11	IA		-	
5/2/12	184.82		10.70	174.12

Notes:

IA: Well Inaccessible

CNL: Could not locate well

NS: Well Not Sampled

U: Data Unavailable

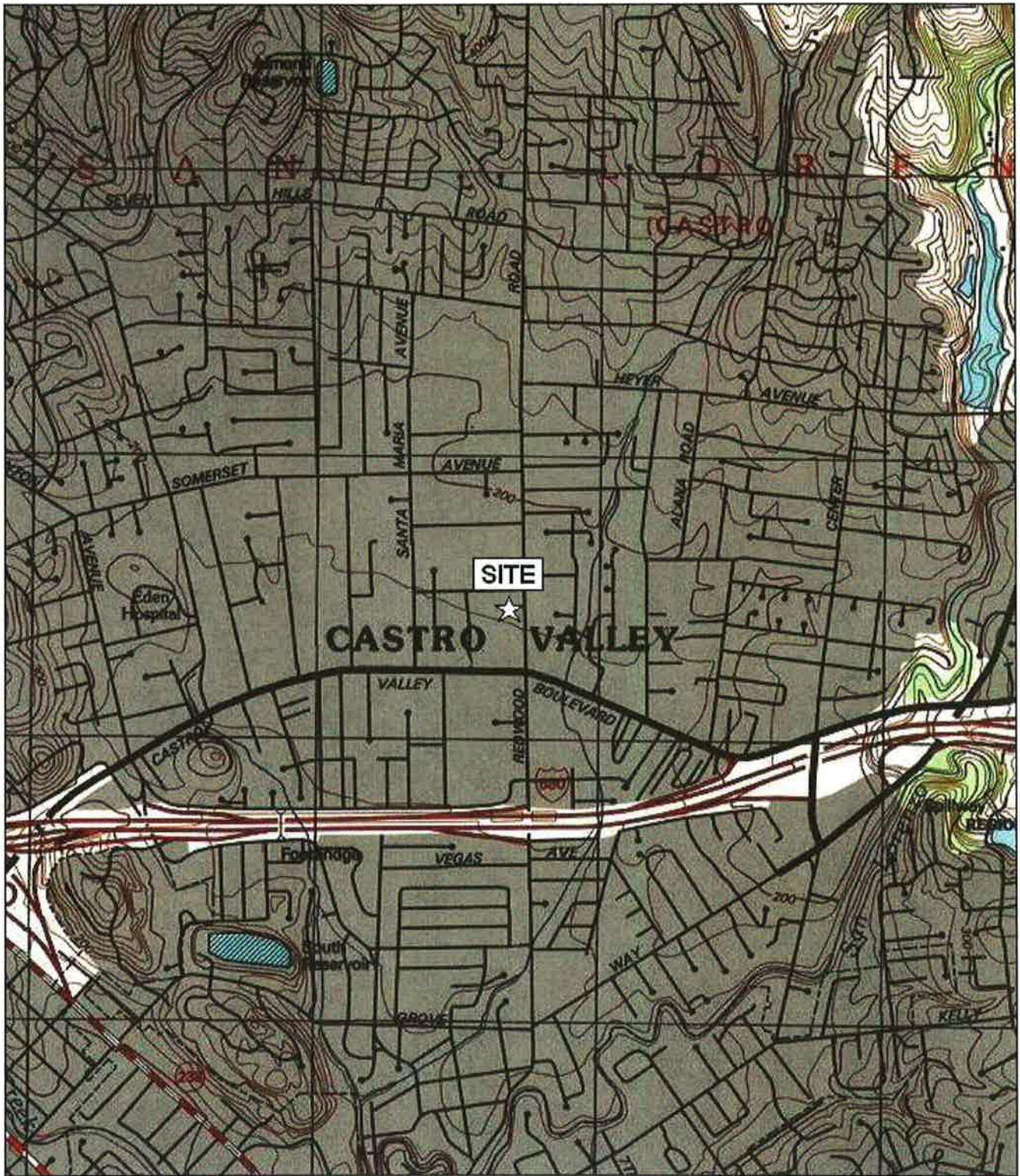
-: Unable to calculate elevation

Table 6
Summary of Groundwater Flow Direction and Gradient Data
Former Unocal Service Station
20405 Redwood Road, Castro Valley, California

Date	Flow Direction	Gradient (Feet/Foot)
11/1/92	Southeast	0.006
1/27/93	Southeast	0.01
3/4/93	Southeast	0.01
7/1/93	Southeast	0.01
10/19/93	South	0.005
1/12/94	South	0.001
5/13/94	Southwest	0.007
10/13/94	South	0.001
1/31/95	South	0.002
5/17/95	South	0.009
10/30/95	South	0.007
4/12/96	South	0.008
11/5/96	South	0.008
4/9/97	South	0.01
8/23/01	South	0.008
9/17/03	Southeast	0.01
11/20/08	Southeast	0.01
2/5/09	South-southeast	0.01
8/25/09	-	-
8/4/10	East-southeast	0.01
1/7/11	South-southeast	0.02
4/8/11	South-southeast	0.01
10/13/11	South-southeast	0.01
5/2/12	South	0.006

Notes:
 -: Unable to calculate flow direction

FIGURES



TN * /MN
15°



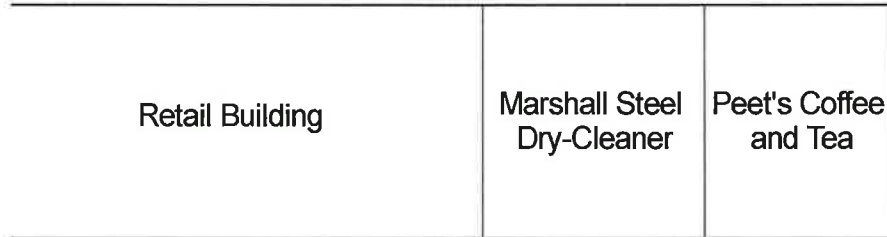
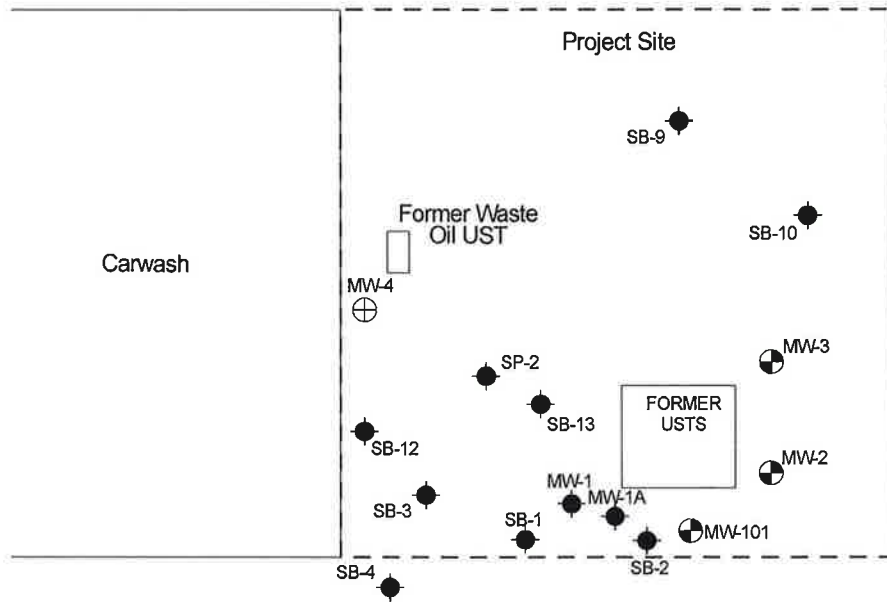
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

BSK
Associates
Engineers & Laboratories

SITE VICINITY
FORMER UNOCAL SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA

FIGURE 1

PROJECT: E0805401S



Sidewalk

Redwood Road



LEGEND

- ⊕ Monitoring Well
- ⊕ Abandoned Monitoring Well
- ◆ Soil Boring

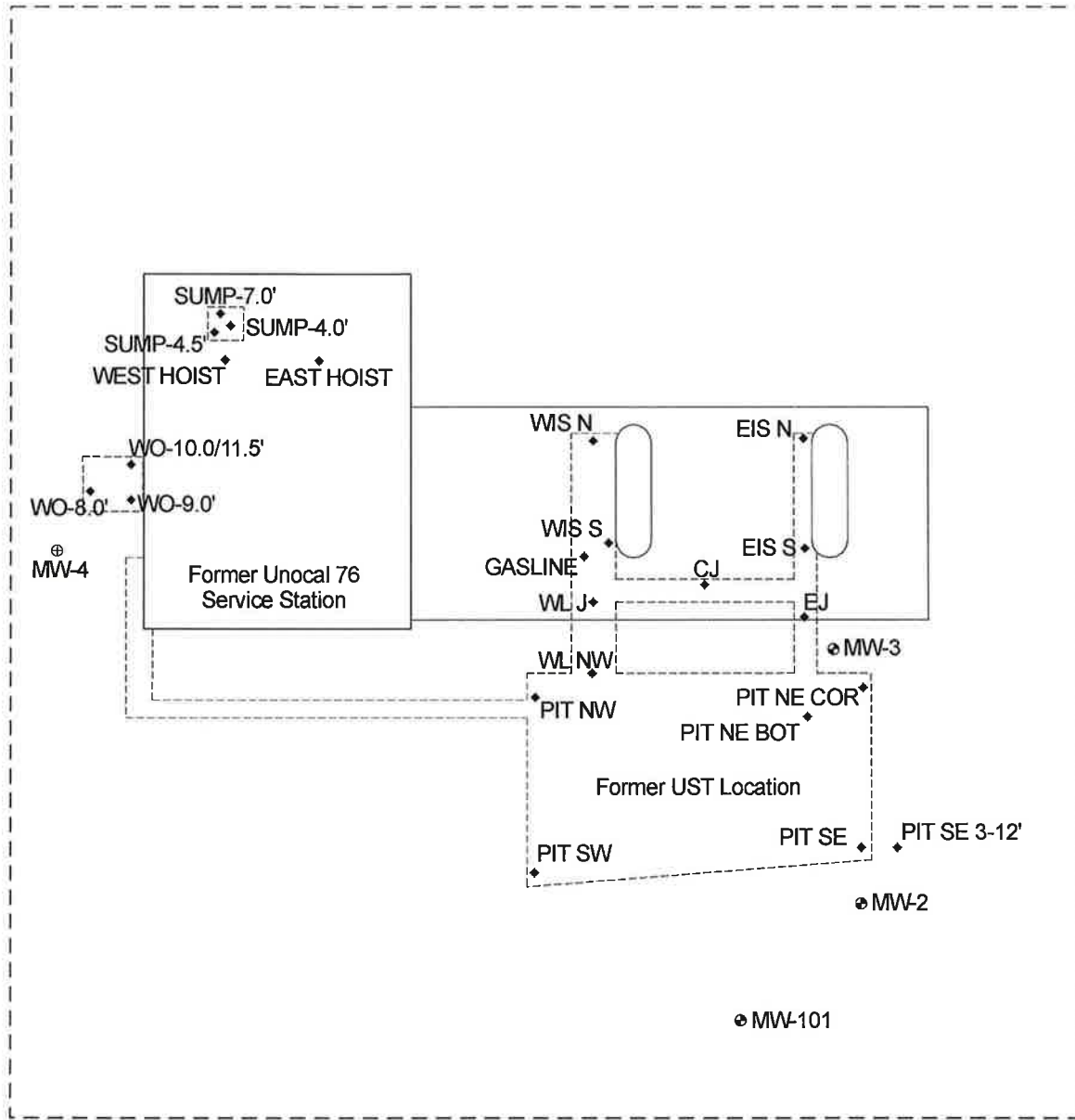


SITE PLAN
 FORMER UNOCAL SERVICE STATION
 20405 REDWOOD ROAD
 CASTRO VALLEY, CALIFORNIA

FIGURE 2

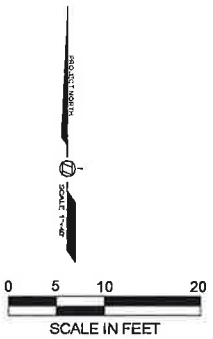
PROJECT: E0805401S

DATE: 1/6/10



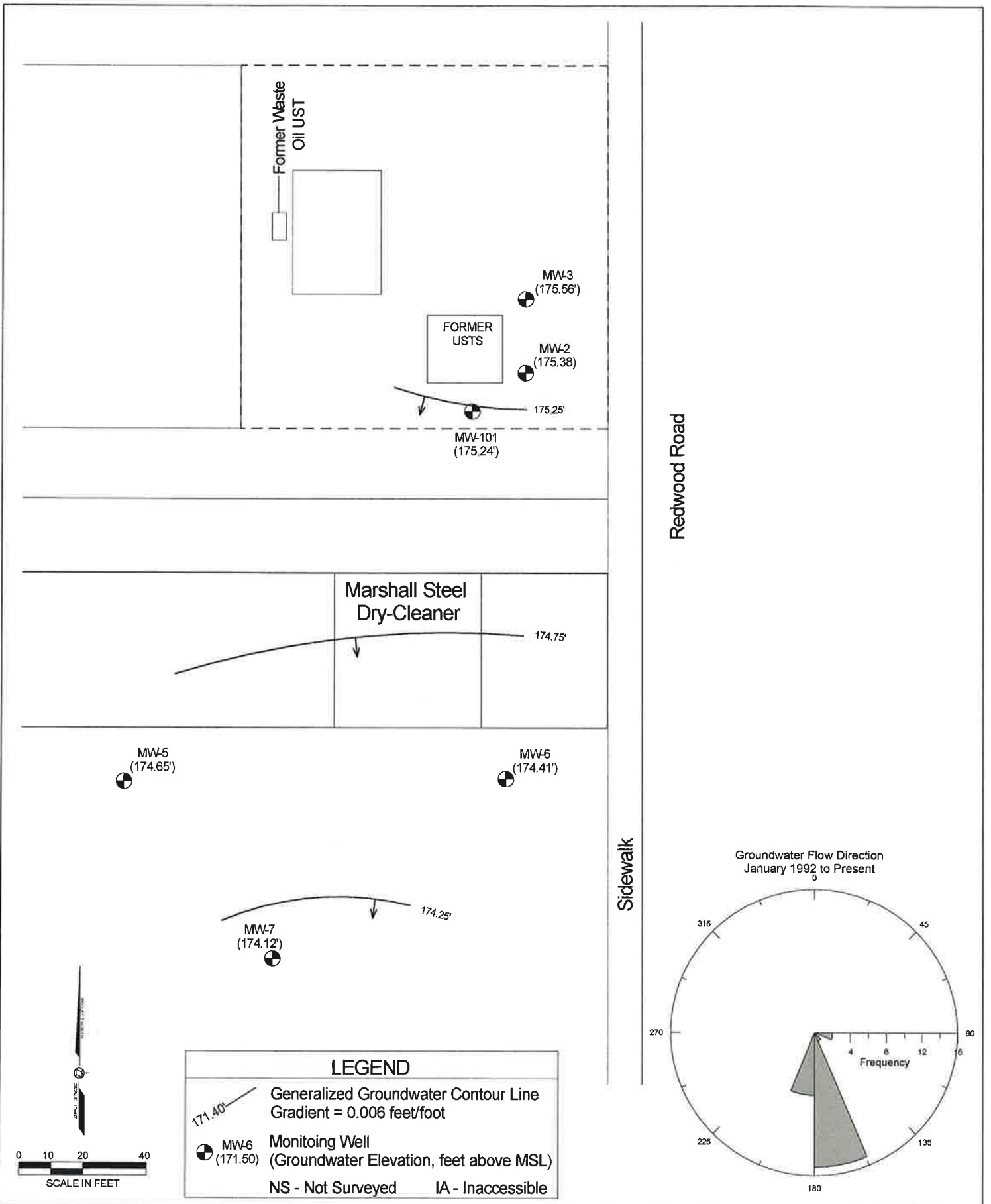
Redwood Road

← Driveway to Shopping Center



LEGEND	
◆	Soil Sample Location
⊞	Approximate Extent of Excavation
⊕	Monitoring Well Location
⊕	Abandoned Monitoring Well Location

	<p>EXTENT OF EXCAVATIONS AND EXCAVATION SOIL SAMPLE LOCATIONS FORMER UNOCAL SERVICE STATION 20405 REDWOOD ROAD CASTRO VALLEY, CALIFORNIA</p>	<p>FIGURE 3</p>
		<p>PROJECT: E0805401S</p>
		<p>DATE: 2/12/09</p>



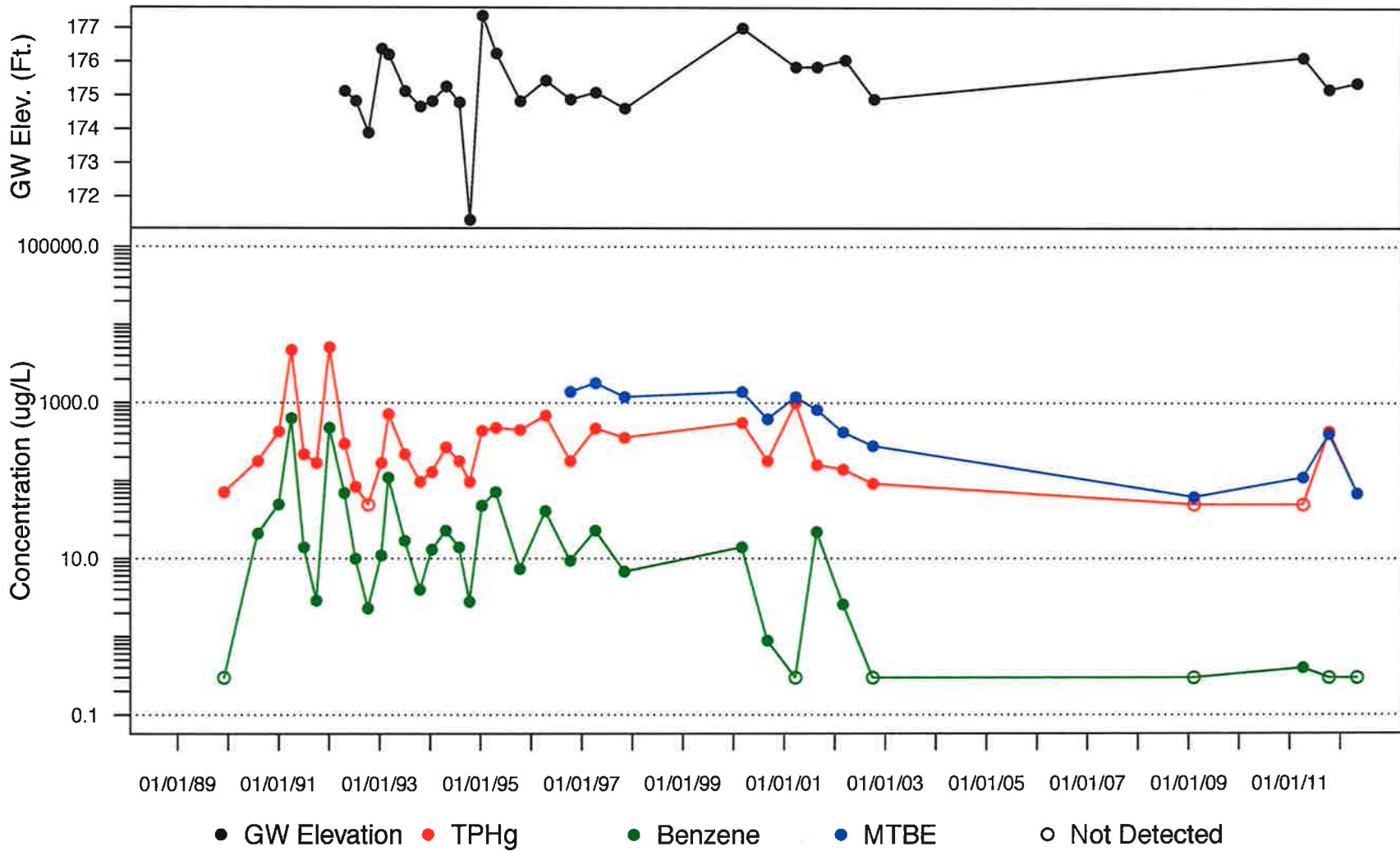
GENERALIZED GROUNDWATER ELEVATION MAP
MAY 2012

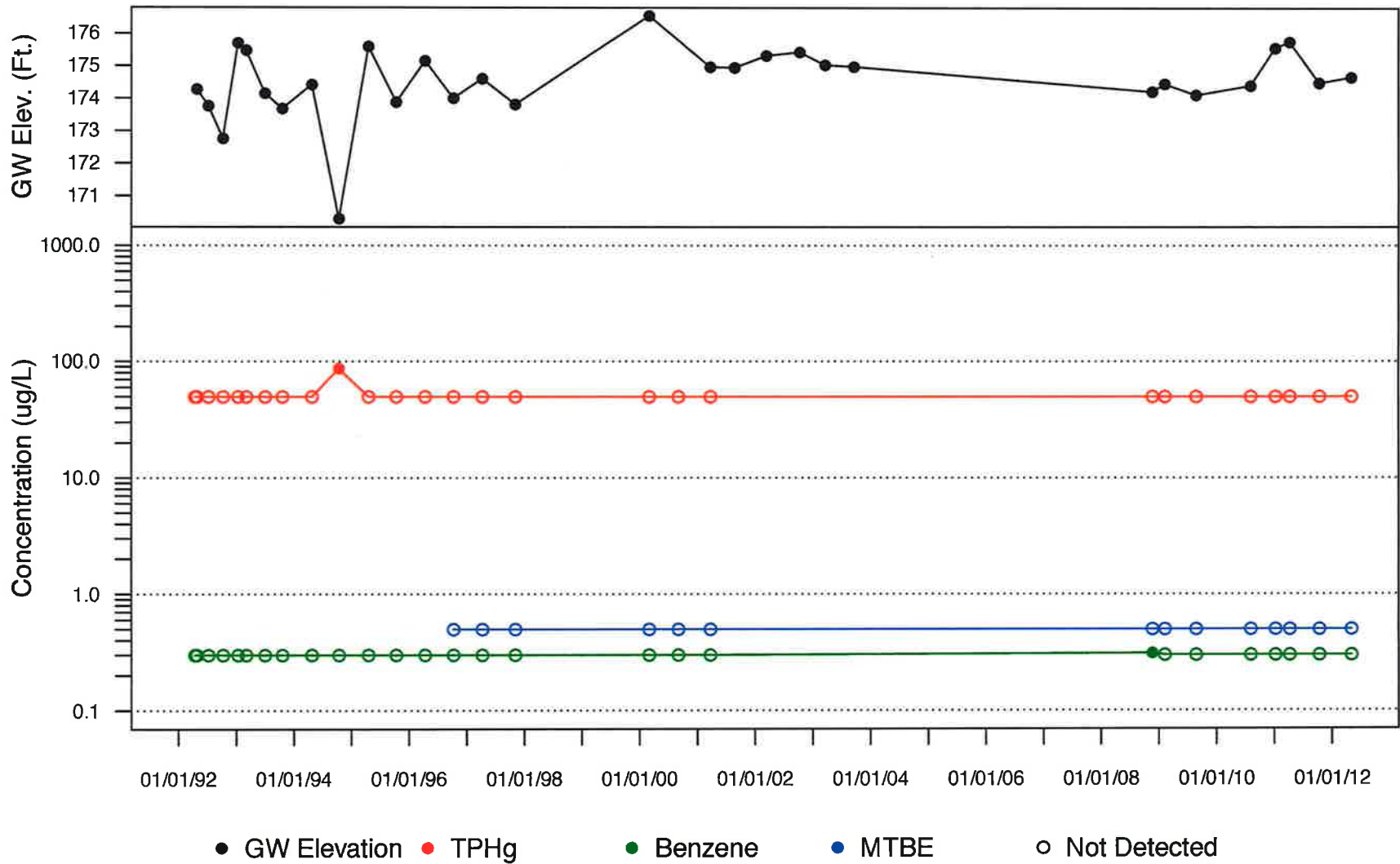
FORMER UNOCAL SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA

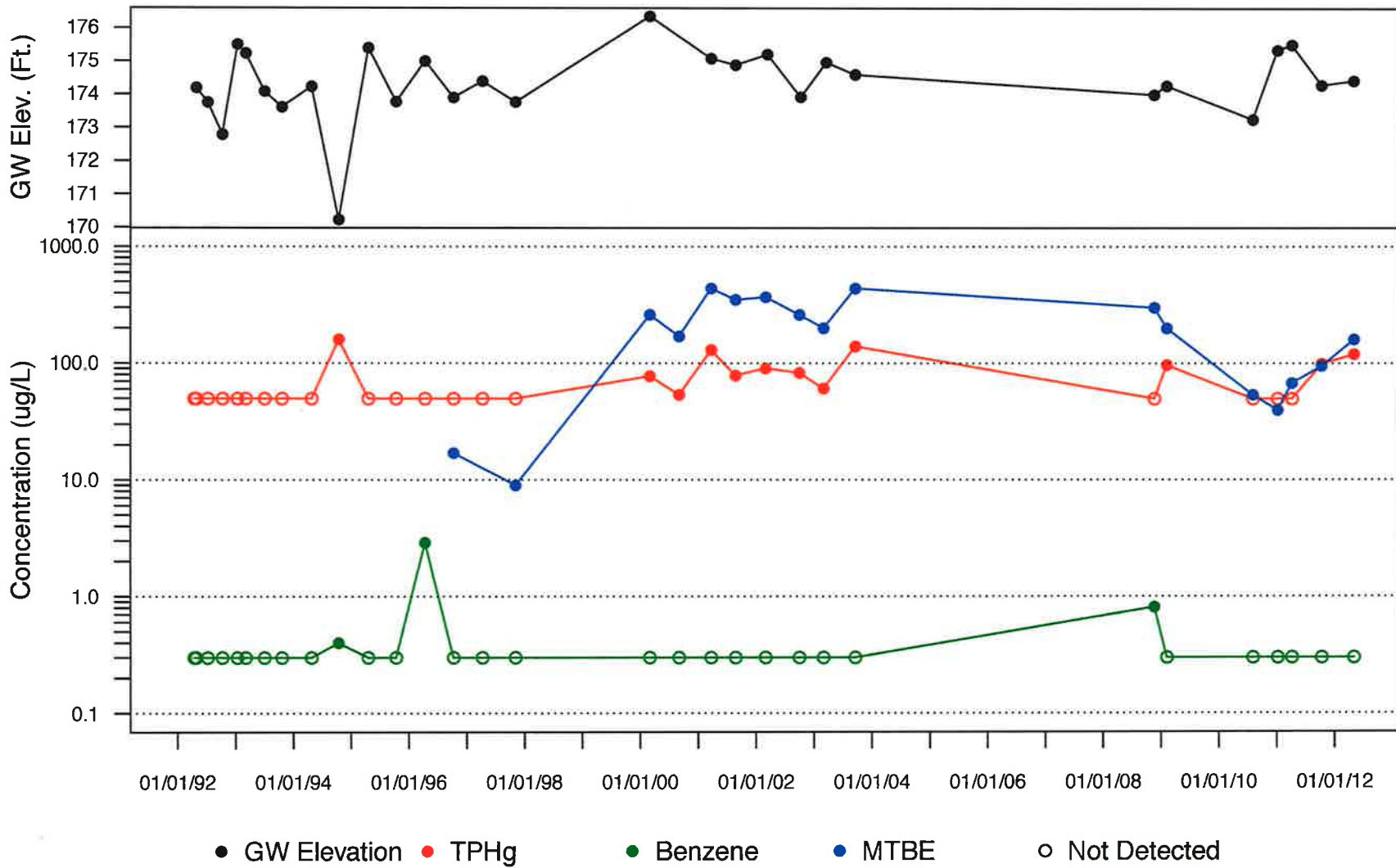
FIGURE 4

PROJECT: E0805401S

DATE: 5/7/12

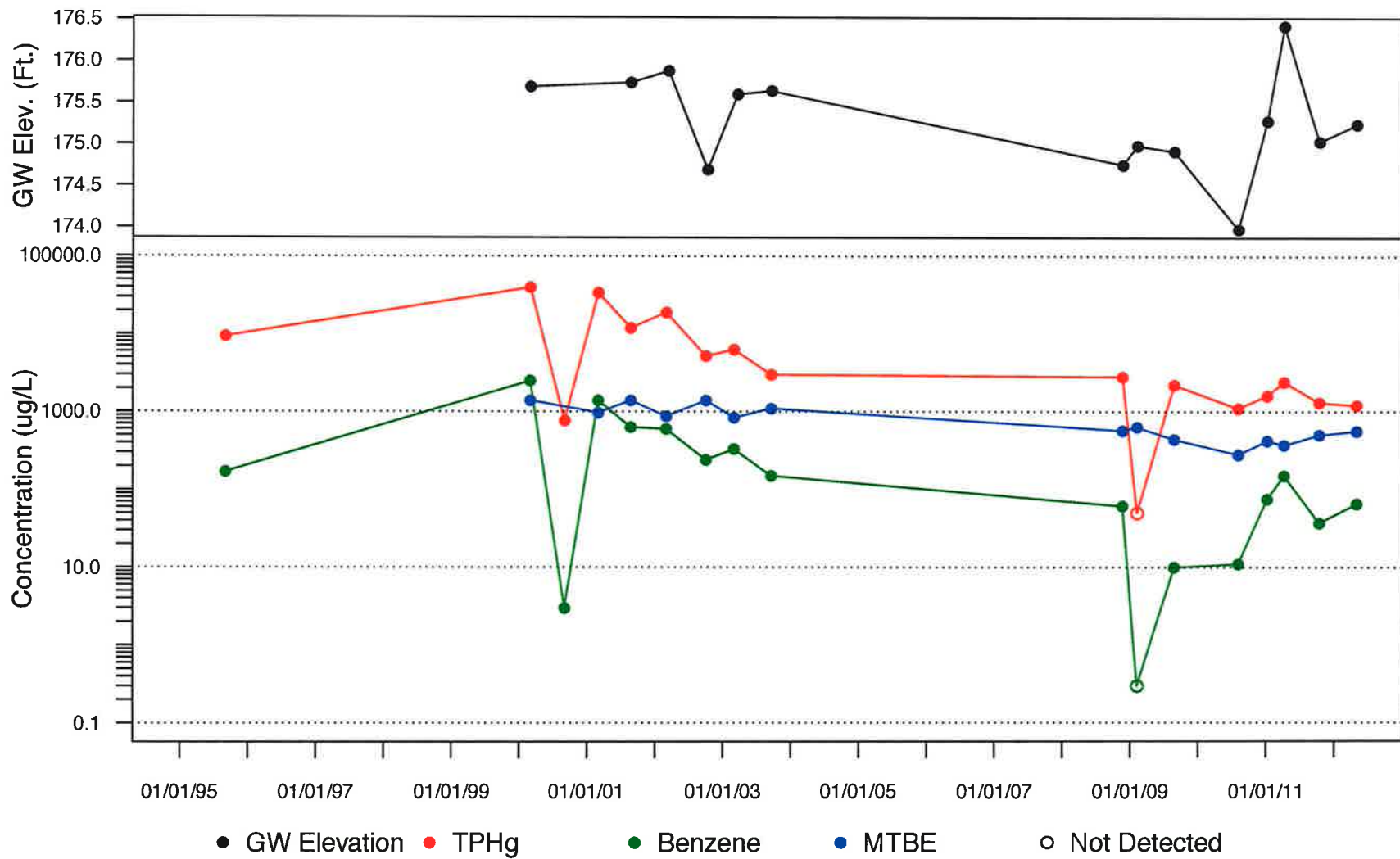






MW-6 TIME-SERIES PLOTS
 FORMER UNOCAL SERVICE STATION
 20405 REDWOOD ROAD
 CASTRO VALLEY, CALIFORNIA

FIGURE 8
 PROJECT: E0805401S
 DATE: 6/14/12



MW-101 TIME-SERIES PLOTS
 FORMER UNOCAL SERVICE STATION
 20405 REDWOOD ROAD
 CASTRO VALLEY, CALIFORNIA

FIGURE 10

PROJECT: E0805401S

DATE: 6/14/12

APPENDIX A

WATER SAMPLE LOG

Project Name: <u>Unocal</u>	Job #:	Field Personnel: E. Basel
Day: Mon Tu <u>Wed</u> Thur Fri Sat Sun <small>(circle one)</small>	Date: <u>5/2/12</u>	Weather: Clear <u>Partly Cloudy</u> Overcast Rain <small>(circle)</small> Cold <u>Engl</u> Warm Hot Very Hot

Well:	HW-101	Water Level Measurement Technique: (Circle) Electric Sounder Ser # <u>X</u> Not Measured
Static Depth to Water-Ft. (A)	<u>10.20</u>	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) Electric <u>X</u> Pump Hand Bailed Other _____ Dedicated System: Yes <u>X</u>
Total Depth of Casing-Ft. (B)	<u>29.34</u>	
Total Ft. of Water (B-A)	<u>19.14</u>	
Casing Dia-in.	<u>4</u> 6" 8"	
Casing Capacity-gal/ft (C)	<u>65</u> 1.46 2.50	Dedicated System: Yes <u>X</u> No
Gallons per Casing Volume	(B-A)*C <u>12.5</u>	pH Calibration: <u>X</u> 4.0 <u>X</u> 7.0 10.0 EC Calibration(μmhos) <u>1413</u>

Time	Gallons Purged	Casing Volumes	PH	EC (μmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
<u>11:34</u>	<u>0</u>	<u>0</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	Started Purge/Opened Sample Port
<u>11:39</u>	<u>12.5</u>	<u>1</u>	<u>6.65</u>	<u>865</u>	<u>19.6</u>	<u>-</u>	<u>clear, HC odor</u>
<u>11:44</u>	<u>25</u>	<u>2</u>	<u>6.53</u>	<u>853</u>	<u>20.0</u>	<u>-</u>	<u>" "</u>
<u>12:10</u>	<u>37.5</u>	<u>3</u>	<u>6.73</u>	<u>838</u>	<u>20.</u>	<u>-</u>	<u>" "</u>

						Sampled/Stopped
Chloride	Sulfate	Nitrate	X4,4	Other Field Results:		

Purge Pump On	Discharge Measurement: (Circle) <u>Bucket</u> Tank Flowmeter
Purge Pump Off	Sample Collection Method: <u>X</u> Direct From Discharge Hose
Total Gallons Purged	<u> </u> Teflon Bailer <u>X</u> Disposable Bailer
Purge Rate (gpm)	Ice Chest Coolant <u> </u> Crushed Ice <u>X</u> Blue Ice Ice Chest Temp (EC) <u> </u>

Sample Time	Analyses	Amount/Container Used	Sample Description
<u>12:15</u>			

Well Vault Type:	Floating Product: <u> </u> Yes <u> </u> No <u> </u> NA
Lock Number/Type:	Thickness: <u> </u>
Drums Filled/Used:	Description: <u> </u>

Notes: Water stopped pumping at ~30 gal. Stopped pump for 10 min + lowered pump more

WATER SAMPLE LOG

Project Name: <u>Unocal</u>	Job #:	Field Personnel: E. Basel
Day: Mon Tu Wed Thur Fri Sat Sun <small>(circle one)</small>	Date: <u>5/2/02</u>	Weather: Clear Partly Cloudy Overcast Rain <small>(circle)</small> Cold Cool Warm Hot Very Hot

Well: <u>HW-2</u>	Water Level Measurement Technique: (Circle) Electric Sounder Ser # _____ Not Measured
Static Depth to Water-Ft. (A) <u>10.11</u>	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) Electric Pump Hand Bailed
Total Depth of Casing-Ft. (B) <u>28.73</u>	
Total Ft. of Water (B-A) <u>18.62</u>	Other _____
Casing Dia-in. <u>4" 6" 8"</u>	Dedicated System: Yes <input checked="" type="checkbox"/> No
Casing Capacity-gal/ft (C) <u>1.63</u> .653 1.46 2.50	Dedicated System: Yes <input checked="" type="checkbox"/> No
Gallons per Casing Volume (B-A)*C <u>3.04</u>	pH Calibration: <u>X</u> 4.0 <u>X</u> 7.0 <u> </u> 10.0 EC Calibration(µmhos) <u>1413</u>

Time	Gallons Purged	Casing Volumes	PH	EC (µmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
<u>10:27</u>	<u>0</u>	<u>0</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	Started Purge/Opened Sample Port
<u>10:29</u>	<u>3.5</u>	<u>1</u>	<u>6.68</u>	<u>587</u>	<u>19.4</u>	<u>-</u>	<u>cloudy dk gray, H₂SO₄ + sulfuric? odor</u>
<u>10:31</u>	<u>7</u>	<u>2</u>	<u>6.54</u>	<u>568</u>	<u>19.3</u>	<u>-</u>	<u>less cloudy/turbid, "</u>
<u>10:33</u>	<u>10.5</u>	<u>3</u>	<u>6.40</u>		<u>19.5</u>	<u>-</u>	<u>"</u>

						Sampled/Stopped
Chloride	Sulfate	Nitrate	X4.4	Other Field Results:		

Purge Pump On	Discharge Measurement: (Circle) Bucket Tank Flowmeter
Purge Pump Off	Sample Collection Method: <u> </u> Direct From Discharge Hose <u> </u> Teflon Bailer <u> </u> Disposable Bailer
Total Gallons Purged	
Purge Rate (gpm)	Ice Chest Coolant <u> </u> Crushed Ice <u> </u> Blue Ice Ice Chest Temp (EC) <u> </u>

Sample Time	Analyses	Amount/Container Used	Sample Description
<u>10:45</u>			

Well Vault Type:	Floating Product: <u> </u> Yes <u> </u> No <u> </u> NA
Lock Number/Type:	Thickness: _____
Drums Filled/Used:	Description: _____

Notes: _____

WATER SAMPLE LOG

Project Name: <u>Unocal</u>	Job #:	Field Personnel: <u>E. Basel</u>
Day: Mon Tu <u>Wed</u> Thur Fri Sat Sun <small>(circle one)</small>	Date: <u>5/12/12</u>	Weather: Clear <u>Partly Cloudy</u> Overcast Rain <small>(circle)</small> Cold <u>Wet</u> Hot Very Hot

Well: <u>MW-3</u>	Water Level Measurement Technique: (Circle) Electric Sounder Ser # _____ Not Measured
Static Depth to Water-Ft. (A) <u>10.37</u>	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) Electric Pump Hand Bailed
Total Depth of Casing-Ft. (B) <u>18.56 21.94</u>	Other _____
Total Ft. of Water (B-A) <u>8.19 19.57</u>	Dedicated System: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>
Casing Dia-in. <u>2</u> 4" 6" 8"	Dedicated System: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Casing Capacity-gal/ft (C) <u>0.653 1.46 2.50</u>	pH Calibration: <input checked="" type="checkbox"/> 4.0 <input checked="" type="checkbox"/> 7.0 <input type="checkbox"/> 10.0 EC Calibration(µmhos) <u>1413</u>
Gallons per Casing Volume (B-A)*C <u>0.59 3.19</u>	

Time	Gallons Purged	Casing Volumes	PH	EC (µmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
12:45	3.5	0	---	---	---	---	Started Purge/Opened Sample Port
12:47	8.75	1	6.82	678	20.4	-	lightly turbid odorless
12:50	7.0	2	6.59	677	19.7	-	" , light HColor
12:54	10.50	3	6.45	670	19.7	-	" " "

Chloride	Sulfate	Nitrate	X4.4	Sampled/Stopped
				Other Field Results:

Purge Pump On	Discharge Measurement: (Circle) <u>Bucket</u> Tank Flowmeter
Purge Pump Off	Sample Collection Method: <input checked="" type="checkbox"/> Direct From Discharge Hose
Total Gallons Purged	<input type="checkbox"/> Teflon Bailer <input checked="" type="checkbox"/> Disposable Bailer
Purge Rate (gpm)	Ice Chest Coolant <input type="checkbox"/> Crushed Ice <input checked="" type="checkbox"/> Blue Ice Ice Chest Temp (EC) _____

Sample Time	Analyses	Amount/Container Used	Sample Description
13:05			

Well Vault Type:	Floating Product: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Lock Number/Type:	Thickness: _____
Drums Filled/Used:	Description: _____

Notes: Something was blocking the well @ 13.56', broke through it after ~~several~~ dropping sampler onto it several times

WATER SAMPLE LOG

Project Name:	Job #:	Field Personnel: E. Basel
Day: Mon Tu <u>Wed</u> Thur Fri Sat Sun <small>(circle one)</small>	Date: 5/21/12	Weather: Clear <u>Partly Cloudy</u> Overcast Rain <small>(circle)</small> Cold <u>Cool</u> Warm Hot Very Hot

Well:	MW-5	Water Level Measurement Technique: (Circle) Electric Sounder Ser # <u>X</u> Not Measured
Static Depth to Water-Ft. (A)	11.35	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) <u>Electric Pump</u> Hand Bailed
Total Depth of Casing-Ft. (B)	34.02	
Total Ft. of Water (B-A)	22.67	Other _____
Casing Dia-in.	<u>2</u> " 4" 6" 8"	Dedicated System: Yes <u>X</u> No
Casing Capacity-gal/ft (C)	<u>16</u> .653 1.46 2.50	Dedicated System: Yes <u>X</u> No
Gallons per Casing Volume	(B-A)*C <u>3.76</u>	pH Calibration: <u>X</u> 4.0 <u>X</u> 7.0 10.0 EC Calibration(µmhos) 1413

Time	Gallons Purged	Casing Volumes	PH	EC (µmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
08:14	0	0	---	---	---	---	Started Purge/Opened Sample Port
08:16	4	1	6.19	575	19.2	---	clear, sulfur? odor
08:18	8	2	6.18	576	19.5	---	clear, "
08:20	12	3	6.28	584	19.5	---	" "

Chloride	Sulfate	Nitrate	X44	Sampled/Stopped
				Other Field Results:

Purge Pump On	Discharge Measurement: (Circle) <u>Bucket</u> Tank Flowmeter
Purge Pump Off	Sample Collection Method: _____ Direct From Discharge Hose
Total Gallons Purged	_____ Teflon Bailer _____ Disposable Bailer
Purge Rate (gpm)	Ice Chest Coolant _____ Crushed Ice _____ Blue Ice Ice Chest Temp (EC) _____

Sample Time	Analyses	Amount/Container Used	Sample Description
08:30			

Well Vault Type:	Floating Product: ___ Yes ___ No ___ NA
Lock Number/Type:	Thickness: _____
Drums Filled/Used:	Description: _____

Notes: _____

WATER SAMPLE LOG

Project Name: <u>Unocel</u>	Job #:	Field Personnel: <u>E. Basel</u>
Day: Mon Tu <u>Wed</u> Thur Fri Sat Sun <small>(circle one)</small>	Date: <u>5/2/12</u>	Weather: Clear Partly Cloudy <u>Overcast</u> Rain <small>(circle)</small> Cold <u>(Cool)</u> Warm Hot Very Hot

Well: <u>MW-6</u>	Water Level Measurement Technique: (Circle) Electric Sounder Ser # <u>X</u> Not Measured
Static Depth to Water-Ft. (A) <u>11.63</u>	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) <u>Electric Pump</u> Hand Bailed
Total Depth of Casing-Ft. (B) <u>26.54</u>	
Total Ft. of Water (B-A) <u>14.86</u>	Other _____
Casing Dia-in. <u>(2") 4" 6" 8"</u>	Dedicated System: Yes <u>No</u>
Casing Capacity-gal/ft (C) <u>(163) .653 1.46 2.50</u>	Dedicated System: Yes <u>X</u> No
Gallons per Casing Volume (B-A)*C <u>2.42</u>	pH Calibration: <u>X</u> 4.0 <u>X</u> 7.0 10.0 EC Calibration(µmhos) <u>1413</u>

Time	Gallons Purged	Casing Volumes	PH	EC (µmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
<u>07:10</u>	<u>0</u>	<u>0</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>Started Purge/Opened Sample Port</u>
<u>07:11</u>	<u>2.5</u>	<u>1</u>	<u>6.14</u>	<u>676</u>	<u>17.4</u>	<u>---</u>	<u>H cloudy, HC odor</u>
<u>07:12</u>	<u>5</u>	<u>2</u>	<u>5.88</u>	<u>720</u>	<u>18.1</u>	<u>---</u>	<u>less cloudy, HC odor</u>
<u>07:13</u>	<u>7.5</u>	<u>3</u>	<u>5.78</u>	<u>734</u>	<u>18.7</u>	<u>---</u>	<u>" light HC odor</u>

Chloride	Sulfate	Nitrate	X4.4	Sampled/Stopped
				Other Field Results:

Purge Pump On	Discharge Measurement: (Circle) <u>Bucket</u> Tank Flowmeter
Purge Pump Off	Sample Collection Method: <u>Direct From Discharge Hose</u>
Total Gallons Purged	<u>Teflon Bailer</u> Disposable Bailer
Purge Rate (gpm)	Ice Chest Coolant <u>Crushed Ice</u> Blue Ice Ice Chest Temp (EC) _____

Sample Time	Analyses	Amount/Container Used	Sample Description
<u>07:30</u>		<u>6 VOA's w/ NCA</u>	
		<u>1 x IL amber w/ H2SO4</u>	

Well Vault Type:	Floating Product: <u>Yes</u> <u>No</u> <u>NA</u>
Lock Number/Type:	Thickness: _____
Drums Filled/Used:	Description: _____

Notes: _____

WATER SAMPLE LOG

Project Name: <u>Unocal</u>	Job #:	Field Personnel: <u>E. Basel</u>
Day: Mon Tu <u>Wed</u> Thur Fri Sat Sun <small>(circle one)</small>	Date: <u>5/2/12</u>	Weather: Clear <u>Partly Cloudy</u> Overcast Rain <small>(circle)</small> Cold <u>Warm</u> Hot Very Hot

Well: <u>HW-7</u>	Water Level Measurement Technique: (Circle) Electric Sounder Ser # <u>X</u> Not Measured
Static Depth to Water-Ft. (A) <u>10.70</u>	Purge Method: Grundfos Submersible Pump Pneumatic Pump (Circle) Electric Pump Hand Bailed Other _____ Dedicated System: Yes <u>X</u> No
Total Depth of Casing-Ft. (B) <u>27.08</u>	
Total Ft. of Water (B-A) <u>16.38</u>	
Casing Dia-in. <u>2"</u> 4" 6" 8"	Dedicated System: Yes <u>X</u> No
Casing Capacity-gal/ft (C) <u>163</u> .653 1.46 2.50	pH Calibration: <u>X</u> 4.0 <u>X</u> 7.0 10.0 EC Calibration(μmhos) <u>1413</u>
Gallons per Casing Volume (B-A)*C <u>2.67</u>	

Time	Gallons Purged	Casing Volumes	PH	EC (μmhos)	Temp (EF) (EC)	Turbidity NTU or D.O.mg/l	Remarks (Color, Odor, Turbidity, etc.)
09:12	0	0	---	---	---	---	Started Purge/Opened Sample Port
09:13	3	1	6.26	229	19.1	---	cloudy dk gray light HC odor
09:15	6	2	6.27	466	19.6	---	clear, light HC odor
09:17	9	3	6.28	510	19.7	---	" "
09:19	12	4	6.26	528	19.9	---	" "

Chloride	Sulfate	Nitrate	X4.4	Sampled/Stopped
				Other Field Results:

Purge Pump On	Discharge Measurement: (Circle) <u>Bucket</u> Tank Flowmeter
Purge Pump Off	Sample Collection Method: _____ Direct From Discharge Hose
Total Gallons Purged	_____ Teflon Bailer _____ Disposable Bailer
Purge Rate (gpm)	Ice Chest Coolant _____ Crushed Ice _____ Blue Ice Ice Chest Temp (EC) _____

Sample Time	Analyses	Amount/Container Used	Sample Description
09:35			

Well Vault Type:	Floating Product: _____ Yes _____ No _____ NA
Lock Number/Type:	Thickness: _____
Drums Filled/Used:	Description: _____

Notes: _____

APPENDIX B

Jeff Yeazell
BSK Associates - Sacramento
3140 Gold Camp Drive Suite 160
Rancho Cordova, CA 95670

Dear Jeff Yeazell,

Thank you for selecting BSK Associates for your analytical testing needs. We have prepared this report in response to your request for analytical services. Enclosed are the results of analyses for samples received by the laboratory on 05/04/2012 07:45.

If additional clarification of any information is required, please contact your Client Services Representative, John Montierth at (800) 877-8310 or (559) 497-2888.

BSK ASSOCIATES



John Montierth
Client Services Representative

Case Narrative

Work Order Information

Client Name: BSK Associates - Sacramento
Client Code: BSKAs9293
Work Order: A2E0464
Project: Unocal Castro Valley
Client Project: E0805401S

Submitted by: E. Basel
Shipped by: ONTRAC
COC Number:
TAT: 10
PO #:

Sample Receipt Conditions

Cooler: Default Cooler **Temp. °C:** 0
Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Cooler: New Cooler **Temp. °C:** 0
Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-SAC

Report Manager

Jeff Yeazell

Report Format

MultiOrder.rpt



Certificate of Analysis

Jeff Yeazell
 BSK Associates - Sacramento
 3140 Gold Camp Drive Suite 160
 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-01
Sample Date: 05/02/2012 07:30
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-6

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Benzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethylbenzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*m,p-Xylenes	EPA 8260B	ND	0.40	ug/L	1	A204808	05/08/12	05/08/12	
*o-Xylene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
*Toluene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	106 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	102 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Toluene-d8</i>	EPA 8260B	100 %							<i>Acceptable range: 70-130 %</i>
*Total Xylenes, EPA 8260B		ND	0.50						
<u>TPH-Diesel by GC-FID</u>									
*TPH as Diesel	EPA 8015B	ND	50	ug/L	1	A204695	05/07/12	05/11/12	
<i>Surrogate: Tetracosane</i>	EPA 8015B	97.7 %							<i>Acceptable range: 45-189 %</i>
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	120	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	81 %							<i>Acceptable range: 70-130 %</i>

Lab Sample ID: A2E0464-01RE1
Sample Date: 05/02/2012 07:30
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-6

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
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Certificate of Analysis

Jeff Yeazell
 BSK Associates - Sacramento
 3140 Gold Camp Drive Suite 160
 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-01RE1
Sample Date: 05/02/2012 07:30
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-6

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (BTEX and Oxygenates) by GC-MS									
*Methyl-t-butyl ether	EPA 8260B	160	1.0	ug/L	2	A204865	05/09/12	05/09/12	
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	110 %							Acceptable range: 70-130 %
Surrogate: Bromofluorobenzene	EPA 8260B	97 %							Acceptable range: 70-130 %
Surrogate: Toluene-d8	EPA 8260B	97 %							Acceptable range: 70-130 %

Lab Sample ID: A2E0464-02
Sample Date: 05/02/2012 08:30
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-5

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics (BTEX and Oxygenates) by GC-MS									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Benzene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Ethylbenzene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*m,p-Xylenes	EPA 8260B	ND	0.40	ug/L	1	A204865	05/09/12	05/09/12	
*Methyl-t-butyl ether	EPA 8260B	ND	0.50	ug/L	1	A204865	05/09/12	05/09/12	
*o-Xylene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204865	05/09/12	05/09/12	
*Toluene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
Surrogate: 1,2-Dichloroethane-d4	EPA 8260B	112 %							Acceptable range: 70-130 %
Surrogate: Bromofluorobenzene	EPA 8260B	109 %							Acceptable range: 70-130 %
Surrogate: Toluene-d8	EPA 8260B	100 %							Acceptable range: 70-130 %
*Total Xylenes, EPA 8260B		ND	0.50						
TPH-Diesel by GC-FID									
*TPH as Diesel	EPA 8015B	260	50	ug/L	1	A204695	05/07/12	05/11/12	HC04

A2E0464 FINAL 05152012 0912



Certificate of Analysis

Jeff Yeazell
 BSK Associates - Sacramento
 3140 Gold Camp Drive Suite 160
 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-02
Sample Date: 05/02/2012 08:30
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-5

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<i>Surrogate: Tetracosane</i>	EPA 8015B	76.1 %							
				<i>Acceptable range: 45-189 %</i>					
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	80 %							
				<i>Acceptable range: 70-130 %</i>					

Lab Sample ID: A2E0464-03
Sample Date: 05/02/2012 09:35
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-7

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Benzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethylbenzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*m,p-Xylenes	EPA 8260B	ND	0.40	ug/L	1	A204808	05/08/12	05/08/12	
*Methyl-t-butyl ether	EPA 8260B	ND	0.50	ug/L	1	A204808	05/08/12	05/08/12	
*o-Xylene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
*Toluene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	119 %							
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	94 %							
<i>Surrogate: Toluene-d8</i>	EPA 8260B	108 %							
				<i>Acceptable range: 70-130 %</i>					
				<i>Acceptable range: 70-130 %</i>					
				<i>Acceptable range: 70-130 %</i>					
*Total Xylenes, EPA 8260B		ND	0.50						
<u>TPH-Diesel by GC-FID</u>									
*TPH as Diesel	EPA 8015B	190	50	ug/L	1	A204695	05/07/12	05/11/12	X01

A2E0464 FINAL 05152012 0912



Certificate of Analysis

Jeff Yeazell
 BSK Associates - Sacramento
 3140 Gold Camp Drive Suite 160
 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-03
Sample Date: 05/02/2012 09:35
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-7

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<i>Surrogate: Tetracosane</i>	EPA 8015B	82.1 %							
<i>Acceptable range: 45-189 %</i>									
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	1900	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	96 %							
<i>Acceptable range: 70-130 %</i>									

Lab Sample ID: A2E0464-04
Sample Date: 05/02/2012 10:45
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-2

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Benzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethylbenzene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*m,p-Xylenes	EPA 8260B	ND	0.40	ug/L	1	A204808	05/08/12	05/08/12	
*Methyl-t-butyl ether	EPA 8260B	69	0.50	ug/L	1	A204808	05/08/12	05/08/12	
*o-Xylene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
*Toluene	EPA 8260B	ND	0.30	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	111 %							
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	100 %							
<i>Surrogate: Toluene-d8</i>	EPA 8260B	100 %							
<i>Acceptable range: 70-130 %</i>									
*Total Xylenes, EPA 8260B		ND	0.50						
<u>TPH-Diesel by GC-FID</u>									
*TPH as Diesel	EPA 8015B	130	50	ug/L	1	A204695	05/07/12	05/11/12	X01

A2E0464 FINAL 05152012 0912



Certificate of Analysis

Jeff Yeazell
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Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-04
Sample Date: 05/02/2012 10:45
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-2

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<i>Surrogate: Tetracosane</i>	EPA 8015B	78.2 %							
<i>Acceptable range: 45-189 %</i>									
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	69	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	84 %							
<i>Acceptable range: 70-130 %</i>									

Lab Sample ID: A2E0464-05
Sample Date: 05/02/2012 12:15
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-101

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*m,p-Xylenes	EPA 8260B	18	0.40	ug/L	1	A204808	05/08/12	05/08/12	
*o-Xylene	EPA 8260B	2.5	0.30	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204808	05/08/12	05/08/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
*Toluene	EPA 8260B	0.57	0.30	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	98 %							
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	113 %							
<i>Surrogate: Toluene-d8</i>	EPA 8260B	112 %							
<i>Acceptable range: 70-130 %</i>									
<i>Acceptable range: 70-130 %</i>									
<i>Acceptable range: 70-130 %</i>									
*Total Xylenes, EPA 8260B		20	0.50						
<u>TPH-Diesel by GC-FID</u>									
*TPH as Diesel	EPA 8015B	860	250	ug/L	5	A204695	05/07/12	05/11/12	HC04
<i>Surrogate: Tetracosane</i>	EPA 8015B	98.0 %							
<i>Acceptable range: 45-189 %</i>									
<u>TPH-Gasoline by GC-MS</u>									

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 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-05
Sample Date: 05/02/2012 12:15
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-101

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	1200	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	78 %							<i>Acceptable range: 70-130 %</i>

Lab Sample ID: A2E0464-05RE1
Sample Date: 05/02/2012 12:15
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-101

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*Benzene	EPA 8260B	65	3.0	ug/L	10	A204865	05/09/12	05/09/12	
*Ethylbenzene	EPA 8260B	70	3.0	ug/L	10	A204865	05/09/12	05/09/12	
*Methyl-t-butyl ether	EPA 8260B	560	5.0	ug/L	10	A204865	05/09/12	05/09/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	99 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	102 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Toluene-d8</i>	EPA 8260B	103 %							<i>Acceptable range: 70-130 %</i>

Lab Sample ID: A2E0464-06
Sample Date: 05/02/2012 13:05
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-3

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dibromoethane (EDB)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	

A2E0464 FINAL 05152012 0912



Certificate of Analysis

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 BSK Associates - Sacramento
 3140 Gold Camp Drive Suite 160
 Rancho Cordova, CA 95670

Report Issue Date: 05/15/2012 9:12
Received Date: 05/04/2012
Received Time: 07:45

Lab Sample ID: A2E0464-06
Sample Date: 05/02/2012 13:05
Sample Type: Grab

Client Project: E0805401S
Sampled by: E. Basel
Matrix: Water

Sample Description: MW-3

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Volatile Organics (BTEX and Oxygenates) by GC-MS</u>									
*1,2-Dichloroethane	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Benzene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*Di-isopropyl ether (DIPE)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*Ethylbenzene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*m,p-Xylenes	EPA 8260B	ND	0.40	ug/L	1	A204865	05/09/12	05/09/12	
*Methyl-t-butyl ether	EPA 8260B	5.0	0.50	ug/L	1	A204865	05/09/12	05/09/12	
*o-Xylene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
*tert-Amyl Methyl Ether (TAME)	EPA 8260B	ND	1.0	ug/L	1	A204865	05/09/12	05/09/12	
*tert-Butyl alcohol (TBA)	EPA 8260B	ND	50	ug/L	1	A204865	05/09/12	05/09/12	
*Toluene	EPA 8260B	ND	0.30	ug/L	1	A204865	05/09/12	05/09/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	EPA 8260B	107 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Bromofluorobenzene</i>	EPA 8260B	99 %							<i>Acceptable range: 70-130 %</i>
<i>Surrogate: Toluene-d8</i>	EPA 8260B	100 %							<i>Acceptable range: 70-130 %</i>
*Total Xylenes, EPA 8260B		ND	0.50						
<u>TPH-Diesel by GC-FID</u>									
*TPH as Diesel	EPA 8015B	ND	50	ug/L	1	A204695	05/07/12	05/11/12	
<i>Surrogate: Tetracosane</i>	EPA 8015B	91.1 %							<i>Acceptable range: 45-189 %</i>
<u>TPH-Gasoline by GC-MS</u>									
*TPH as Gasoline	LUFT GC/MS	ND	50	ug/L	1	A204808	05/08/12	05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	LUFT GC/MS	86 %							<i>Acceptable range: 70-130 %</i>



Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
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Batch: A204695

Analyst: PYA

Prepared: 05/07/2012

Blank (A204695-BLK1) EPA 8015B - Quality Control

TPH as Diesel	ND	50	ug/L							05/11/12	
<i>Surrogate: Tetracosane</i>	9.1			10		91	45-189			05/11/12	

Blank Spike (A204695-BS1) EPA 8015B - Quality Control

TPH as Diesel	410	50	ug/L	500		82	60-140			05/11/12	
<i>Surrogate: Tetracosane</i>	10			10		100	45-189			05/11/12	

Blank Spike Dup (A204695-BSD1) EPA 8015B - Quality Control

TPH as Diesel	420	50	ug/L	500		83	60-140	2	30	05/11/12	
<i>Surrogate: Tetracosane</i>	10			10		101	45-189			05/11/12	

Batch: A204808

Analyst: AMN

Prepared: 05/08/2012

Blank (A204808-BLK1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	ND	1.0	ug/L							05/08/12	
1,2-Dichloroethane	ND	1.0	ug/L							05/08/12	
Benzene	ND	0.30	ug/L							05/08/12	
Di-isopropyl ether (DIPE)	ND	1.0	ug/L							05/08/12	
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	ug/L							05/08/12	
Ethylbenzene	ND	0.30	ug/L							05/08/12	
m,p-Xylenes	ND	0.40	ug/L							05/08/12	
Methyl-t-butyl ether	ND	0.50	ug/L							05/08/12	
o-Xylene	ND	0.30	ug/L							05/08/12	
tert-Amyl Methyl Ether (TAME)	ND	1.0	ug/L							05/08/12	
tert-Butyl alcohol (TBA)	ND	50	ug/L							05/08/12	
Toluene	ND	0.30	ug/L							05/08/12	
TPH as Gasoline	ND	50	ug/L							05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	1.9			2.0		96	70-130			05/08/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	1.4			2.0		70	70-130			05/08/12	
<i>Surrogate: Bromofluorobenzene</i>	2.1			2.0		106	70-130			05/08/12	
<i>Surrogate: Toluene-d8</i>	2.1			2.0		104	70-130			05/08/12	

Blank Spike (A204808-BS1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	10	1.0	ug/L	10		100	83.3-121			05/08/12	
1,2-Dichloroethane	11	1.0	ug/L	10		106	77-129			05/08/12	
Benzene	11	0.30	ug/L	10		105	79.5-127			05/08/12	
Di-isopropyl ether (DIPE)	8.4	1.0	ug/L	10		84	67.9-135			05/08/12	
Ethyl tert-Butyl Ether (ETBE)	8.5	1.0	ug/L	10		85	72.3-132			05/08/12	
Ethylbenzene	11	0.30	ug/L	10		111	85.2-123			05/08/12	
m,p-Xylenes	21	0.40	ug/L	20		107	85.3-124			05/08/12	
Methyl-t-butyl ether	20	0.50	ug/L	20		98	73.6-130			05/08/12	
o-Xylene	11	0.30	ug/L	10		111	83.8-124			05/08/12	
tert-Amyl Methyl Ether (TAME)	8.4	1.0	ug/L	10		84	72.4-130			05/08/12	
tert-Butyl alcohol (TBA)	110	50	ug/L	100		111	32.2-195			05/08/12	
Toluene	11	0.30	ug/L	10		109	84.8-120			05/08/12	
TPH as Gasoline	220	50	ug/L	250		87	70-130			05/08/12	

A2E0464 FINAL 05152012 0912



Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
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Batch: A204808

Analyst: AMN

Prepared: 05/08/2012

Blank Spike (A204808-BS1) EPA 8260B - Quality Control

Surrogate: 1,2-Dichloroethane-d4	2.2			2.0		109	70-130			05/08/12	
Surrogate: 1,2-Dichloroethane-d4	2.0			2.0		98	70-130			05/08/12	
Surrogate: Bromofluorobenzene	2.2			2.0		109	70-130			05/08/12	
Surrogate: Toluene-d8	2.1			2.0		104	70-130			05/08/12	

Blank Spike Dup (A204808-BSD1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	9.6	1.0	ug/L	10		96	83.3-121	5	30	05/08/12	
1,2-Dichloroethane	10	1.0	ug/L	10		103	77-129	3	30	05/08/12	
Benzene	10	0.30	ug/L	10		101	79.5-127	4	30	05/08/12	
Di-isopropyl ether (DIPE)	8.0	1.0	ug/L	10		80	67.9-135	4	30	05/08/12	
Ethyl tert-Butyl Ether (ETBE)	8.1	1.0	ug/L	10		81	72.3-132	5	30	05/08/12	
Ethylbenzene	11	0.30	ug/L	10		106	85.2-123	4	30	05/08/12	
m,p-Xylenes	20	0.40	ug/L	20		102	85.3-124	5	30	05/08/12	
Methyl-t-butyl ether	19	0.50	ug/L	20		93	73.6-130	5	30	05/08/12	
o-Xylene	11	0.30	ug/L	10		107	83.8-124	4	30	05/08/12	
tert-Amyl Methyl Ether (TAME)	8.1	1.0	ug/L	10		81	72.4-130	4	30	05/08/12	
tert-Butyl alcohol (TBA)	100	50	ug/L	100		104	32.2-195	7	30	05/08/12	
Toluene	10	0.30	ug/L	10		102	84.8-120	7	30	05/08/12	
Surrogate: 1,2-Dichloroethane-d4	2.0			2.0		99	70-130			05/08/12	
Surrogate: Bromofluorobenzene	2.0			2.0		100	70-130			05/08/12	
Surrogate: Toluene-d8	1.9			2.0		97	70-130			05/08/12	

Batch: A204865

Analyst: AMN

Prepared: 05/09/2012

Blank (A204865-BLK1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	ND	1.0	ug/L							05/09/12	
1,2-Dichloroethane	ND	1.0	ug/L							05/09/12	
Benzene	ND	0.30	ug/L							05/09/12	
Di-isopropyl ether (DIPE)	ND	1.0	ug/L							05/09/12	
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	ug/L							05/09/12	
Ethylbenzene	ND	0.30	ug/L							05/09/12	
m,p-Xylenes	ND	0.40	ug/L							05/09/12	
Methyl-t-butyl ether	ND	0.50	ug/L							05/09/12	
o-Xylene	ND	0.30	ug/L							05/09/12	
tert-Amyl Methyl Ether (TAME)	ND	1.0	ug/L							05/09/12	
tert-Butyl alcohol (TBA)	ND	50	ug/L							05/09/12	
Toluene	ND	0.30	ug/L							05/09/12	
Surrogate: 1,2-Dichloroethane-d4	2.0			2.0		101	70-130			05/09/12	
Surrogate: Bromofluorobenzene	2.2			2.0		108	70-130			05/09/12	
Surrogate: Toluene-d8	2.0			2.0		100	70-130			05/09/12	

Blank Spike (A204865-BS1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	8.8	1.0	ug/L	10		88	83.3-121			05/09/12	
1,2-Dichloroethane	9.3	1.0	ug/L	10		93	77-129			05/09/12	
Benzene	9.4	0.30	ug/L	10		94	79.5-127			05/09/12	
Di-isopropyl ether (DIPE)	7.8	1.0	ug/L	10		78	67.9-135			05/09/12	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
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Batch: A204865

Analyst: AMN

Prepared: 05/09/2012

Blank Spike (A204865-BS1) EPA 8260B - Quality Control

Ethyl tert-Butyl Ether (ETBE)	7.6	1.0	ug/L	10		76	72.3-132			05/09/12	
Ethylbenzene	9.9	0.30	ug/L	10		99	85.2-123			05/09/12	
m,p-Xylenes	19	0.40	ug/L	20		95	85.3-124			05/09/12	
Methyl-t-butyl ether	17	0.50	ug/L	20		87	73.6-130			05/09/12	
o-Xylene	9.7	0.30	ug/L	10		97	83.8-124			05/09/12	
tert-Amyl Methyl Ether (TAME)	7.7	1.0	ug/L	10		77	72.4-130			05/09/12	
tert-Butyl alcohol (TBA)	89	50	ug/L	100		89	32.2-195			05/09/12	
Toluene	9.9	0.30	ug/L	10		99	84.8-120			05/09/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.0</i>			<i>2.0</i>		<i>101</i>	<i>70-130</i>			<i>05/09/12</i>	
<i>Surrogate: Bromofluorobenzene</i>	<i>2.2</i>			<i>2.0</i>		<i>112</i>	<i>70-130</i>			<i>05/09/12</i>	
<i>Surrogate: Toluene-d8</i>	<i>2.1</i>			<i>2.0</i>		<i>107</i>	<i>70-130</i>			<i>05/09/12</i>	

Blank Spike Dup (A204865-BSD1) EPA 8260B - Quality Control

1,2-Dibromoethane (EDB)	8.6	1.0	ug/L	10		86	83.3-121	2	30	05/09/12	
1,2-Dichloroethane	10	1.0	ug/L	10		102	77-129	9	30	05/09/12	
Benzene	10	0.30	ug/L	10		101	79.5-127	7	30	05/09/12	
Di-isopropyl ether (DIPE)	7.9	1.0	ug/L	10		79	67.9-135	1	30	05/09/12	
Ethyl tert-Butyl Ether (ETBE)	7.5	1.0	ug/L	10		75	72.3-132	1	30	05/09/12	
Ethylbenzene	11	0.30	ug/L	10		108	85.2-123	8	30	05/09/12	
m,p-Xylenes	20	0.40	ug/L	20		102	85.3-124	7	30	05/09/12	
Methyl-t-butyl ether	17	0.50	ug/L	20		87	73.6-130	1	30	05/09/12	
o-Xylene	10	0.30	ug/L	10		104	83.8-124	7	30	05/09/12	
tert-Amyl Methyl Ether (TAME)	7.6	1.0	ug/L	10		76	72.4-130	1	30	05/09/12	
tert-Butyl alcohol (TBA)	73	50	ug/L	100		73	32.2-195	19	30	05/09/12	
Toluene	10	0.30	ug/L	10		103	84.8-120	4	30	05/09/12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.1</i>			<i>2.0</i>		<i>103</i>	<i>70-130</i>			<i>05/09/12</i>	
<i>Surrogate: Bromofluorobenzene</i>	<i>2.3</i>			<i>2.0</i>		<i>115</i>	<i>70-130</i>			<i>05/09/12</i>	
<i>Surrogate: Toluene-d8</i>	<i>2.1</i>			<i>2.0</i>		<i>104</i>	<i>70-130</i>			<i>05/09/12</i>	

Certificate of Analysis

05/15/2012

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
- Sample(s) received, prepared, and analyzed within the method specified criteria unless otherwise noted within this report.
- The results relate only to the samples analyzed in accordance with test(s) requested by the client on the Chain of Custody document. Any analytical quality control exceptions to method criteria that are to be considered when evaluating these results have been flagged and are defined in the data qualifiers section.
- All results are expressed on wet weight basis unless otherwise specified.
- All positive results for EPA Methods 504.1, 502.2, and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Results contained in this analytical report must be reproduced in its entirety.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- BSK Analytical Laboratories certifies that the test results contained in this report meet all requirements of the NELAC Standards for applicable certified drinking water chemistry analyses unless qualified or noted in the Case Narrative.
- Analytical data contained in this report may be used for regulatory purposes to meet the requirements of the Federal or State drinking water, wastewater, and hazardous waste programs.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- * - This is not a NELAP accredited analyte.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- (2) The digestion used to produce this result deviated from EPA 200.2 by excluding hydrochloric acid in order to produce acceptable recoveries for affected metals.
- (2C) Result reported from secondary analytical column.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.

Certifications:

State of California - CDPH - ELAP	1180
State of California - CDPH - NELAP	04227CA
State of Nevada - NDEP	CA000792009A
State of Hawaii - DOH	04227CA

Definitions and Flags for Data Qualifiers

mg/L:	Milligrams/Liter (ppm)	M:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	:	DL x Dilution	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	ND:	None Detected at RL	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	pCi/L:	Picocuries per Liter	Present:	1 or more CFU/100mLs
		NR:	Non-Reportable	RL Mult:	RL Multiplier

X01 Lower molecular weight hydrocarbons decreased and higher molecular weight hydrocarbons increased as compared to diesel.

HC04 Chromatogram does not resemble a typical fuel fingerprint. Hydrocarbon result attributable to presence of individual compounds at high concentrations.

A2E0464



BSK Associates - Sacramento

BSKAs9293



05042012

Turnaround: Standard

Due Date: 5/18/2012



*Required Fields

Temp: *80*

Company/Client Name*: **BSK Sacramento** Report Attention*: **Jeff Yeazell** Invoice To*: _____ Phone*: _____ Fax*: _____
 Additional cc's: _____ PO#: _____ E-mail*: **jyeazell@bskinc.com**

Address*: _____ City*: _____ State*: _____ Zip*: _____
 Project: **Unocal Castro Valley** Project #: **E0805401S**
 Regulatory Carbon Copies: CDPH Fresno Co Merced Co Tulare Co Madera Co Other: _____

Reporting Options: Trace (J-Flag) Swamp EDD Type: _____ How would you like your completed results sent?*: E-Mail Fax Mail
 Sampler Name (Printed/Signature)*: **EBasei** *EBasei* TAT*: Standard - 10 Business Days **Rush. Date Needed: _____ **Surcharge: _____
 Regulatory Compliance: EDT to California DPH System Number*: _____ Geotracker #: _____

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description*	Sampled*		Matrix*	Comments / Station Code / WTRAX	BTEX/TPH-G (8020/8015M)	TPH-Diesel (8015M)	Fuel Oxygenates (8260B)	Lead Scavengers (8260B)
		Date	Time						
1	MW-6	5/2/12	07:30	GW		X	X	X	X
2	MW-5	5/2/12	08:30	GW		X	X	X	X
3	MW-7	5/2/12	09:35	GW		X	X	X	X
4	MW-2	5/2/12	10:45	GW		X	X	X	X
5	MW-101	5/2/12	12:15	GW		X	X	X	X
6	MW-3	5/2/12	13:05	GW		X	X	X	X

Relinquished by: (Signature and Printed Name) *EBasei* *EBasei* Company: **BSK** Date: **5/2/12** Time: **12:10** Received by: (Signature and Printed Name) _____ Company: _____

Received for Lab by: (Signature and Printed Name) *Sue Samantna Garti* Date: **5/2/12** Time: **7:15** Payment Received at Delivery: _____ Check / Cash: _____ Amount: _____ PIA#: _____ Int: _____
 Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Courier: _____ Custody Seal Y/N: Chilling Process Begun: / N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

Sample Integrity Pg. 1 of 2



Date Received 5/4/12

Section 1- Receiving Information

Sample Transport: ONTRAC UPS PMS Walk-In BSK-Courier GSO Fed Exp. Other: _____

Samples arrived at lab on same day sampled: Yes _____ No P Has Chilling Process Begun: Yes X No _____

Coolers/Ice Chests Description/Temperature(s): (If more than 5 received, list information in comment section)

1) Ø 2) _____ 3) _____ 4) _____ 5) _____

Was Temperature In Range: Y N N/A Received On Ice: Wet Blue Received Ambient: Y N

Describe type of packing materials: ~~Bubble Wrap~~ Foam Packing Peanuts Paper Other: _____

Initial Receipt: BSK-Visalia BSK-Bakersfield BSK-SAC BSK-FAL

Were ice chest custody seals present? Y N Intact: Y N

Section 2- COC Info.

	Completed		Info From Container	Completed		Info From Container
	Yes	No		Yes	No	
Was COC Received	<u>---</u>					Analysis Requested
Date Sampled	<u>---</u>				<u>---</u>	Hold times less than 72hr
Time Sampled	<u>---</u>					Client Name
Sample ID	<u>---</u>					Address
Special Storage/Handling Ins.		<u>---</u>				Telephone #

Section 3- Bottles / Analysis

	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?	<u>---</u>			
Were bottle custody seals present?		<u>---</u>		
Were bottle custody seals intact?		<u>---</u>		
Did all bottle labels agree with COC?	<u>---</u>			
Were correct containers used for the tests requested?	<u>---</u>			
Were correct preservations used for the tests requested?	<u>---</u>			
Was a sufficient amount of sample sent for tests indicated?	<u>---</u>			
Were bubbles present in VOA Vials? (Volatile Methods Only)		<u>---</u>		
Were Ascorbic Acid Bottles received with the VOAs?		<u>---</u>		

Section 4- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container: _____ Preservation: _____ Dt/Time/Init _____

Container: _____ Preservation: _____ Dt/Time/Init _____

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR: _____ Notified By/Time: _____

Explanations / Comments

Report Comment Entered:

Labeled by: MS @1709 Labels checked by: MA @1726 RUSH Paged by: _____ @ _____

Sample Integrity Pg 2 of 2

BSK Bottles (Yes) No



250ml (A) 500ml (B) 1Liter (C) Amber Glass (AG)

Container(s) Received	1-6					
Bacti Na ₂ S ₂ O ₃						
None (p) <small>White Cap</small>						
None (p) <small>Blue Cap</small> w/NH ₄ + Buffer						
HNO ₃ (p) <small>Red Cap</small>						
H ₂ SO ₄ (p) <small>Yellow Cap</small>						
NaOH (p) <small>Green Cap</small>						
EDA (p) <small>Brown Cap/Label</small>						
Other:						
Dissolved Oxygen 300ml (g)						
250ml (AG) None						
250ml (AG) H ₂ SO ₄ COD <small>Yellow Label</small>						
250ml (AG) Na ₂ S ₂ O ₃ 515, 547 <small>Blue Label</small>						
250ml (AG) Na ₂ S ₂ O ₃ + MCAA 531.1 <small>Orange Label</small>						
250ml (AG) NH ₄ Cl 552 <small>Purple Label</small>						
250ml (AG) EDA DBPs <small>Brown Label</small>						
250ml (AG) Other:						
500ml (AG) None						
500ml (AG) H ₂ SO ₄ <small>Yellow Label</small>						
1 Liter (AG) None						
1 Liter (AG) H ₂ SO ₄ O&G /TPH-Diesel <small>Yellow Label</small>	1					5/11
1 Liter (AG) Na ₂ S ₂ O ₃ 548 / 525 / 521 <small>Blue Label</small>						5
1 Liter (P) Na ₂ S ₂ O ₃ + H ₂ SO ₄ 549						
1 Liter (AG) NaOH+ZnAc Sulfide						
40ml VOA Vial Clear – HCL	6					
40ml VOA Vial Clear – Buffer pH 4						
40ml VOA Vial Clear – None						
40ml VOA Vial Amber – Na ₂ S ₂ O ₃						
40ml VOA Vial Clear - Na ₂ S ₂ O ₃ 504, 505						
40ml VOA Vial Clear – H ₃ PO ₄						
Other:						
½ Gallon (p)						
Asbestos 1Liter Plastic/Foil						
Radon 200ml Clear (g)						
Low Level Hg/Metals Double Baggie						
Bioassay Jug						
Ampule						
PT Sample Bottle						
250 Clear Glass Jar						
500 Clear Glass Jar						
1 Liter Clear Glass Jar						
Plastic Bag						
Soil Tube Brass / Steel / Plastic						
Tedlar Bags						