



W. A. Craig, Inc.
Construction & Engineering

**QUARTERLY GROUNDWATER
MONITORING REPORT**
First Quarter 2004

PROJECT SITE:
Express Gas & Mart
2951 High Street
Oakland, California 94619

PREPARED FOR:
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Himalaya Trading Company
2951 High Street
Oakland, California 94619

SUBMITTED TO:
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Hazardous Materials Division
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Project No. 3936

February 23, 2004

Alameda County
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Environmental Health

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PROFESSIONAL CERTIFICATION

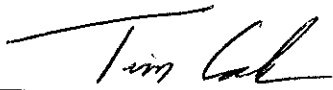
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2951 High Street
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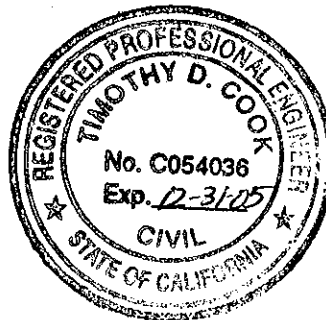
**By: W.A. Craig, Inc.
Project No. 3936
February 23, 2004**

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Tim Cook, P.E.
Principle Engineer



INTRODUCTION

This report presents the results of the first quarter 2004 groundwater monitoring at Express Gas & Mart, located at 2951 High Street in Oakland, California (the "Site"). The sampling described herein is part of an ongoing characterization of subsurface contamination that was caused by accidental releases from an underground storage tank (UST) system that was replaced in 2001. The contaminant investigation is being conducted by W.A. Craig, Inc. (WAC) on behalf of Mr. Aziz Kandahari. The lead regulatory agency overseeing the investigation is Alameda County Environmental Health Department (ACEH). The groundwater monitoring this quarter was conducted on January 13, 2004.

PHYSICAL SETTING

Site Location

Express Gas & Mart is a self-service gasoline station and convenience store located on the corner of High Street and Penniman Avenue, in southeastern Oakland. The Site location is shown on **Figure 1** and Site features are shown on **Figure 2**. The surrounding area is densely developed. Neighboring properties include commercial and residential developments.

Topography and Drainage

The Site is located about 3½ miles inland from San Francisco Bay. The Site location is near the base of the Oakland Hills, at a surface elevation of approximately 132 feet above mean sea level (amsl). Hilly topography occurs directly southeast of the Site, a short distance beyond High Street. The ground surface at the Site slopes toward High Street, but the regional topographic slope is southwesterly away from the Oakland Hills. There are no surface water bodies in the Site vicinity.

Geology and Soils

The Site area is located on an alluvial apron that extends northwest-southeast between San Francisco Bay on the west and the northern Diablo Range on the east. The active Hayward Fault forms a structural boundary between the alluvial apron and the Diablo Range. Surficial sediments at the Site have been classified as Holocene-age alluvial fan and fluvial deposits (Helley, E.J. and Graymer, R.W., 1997). These sediments are described as gravelly sand and sandy gravel that grade into sand and silty clay. The nearby hilly areas directly southeast of the Site are underlain by similar, though older, deposits of Pleistocene age.

WAC drilled and sampled soil borings at the Site to install new monitoring wells. Soils encountered in the 25-foot deep borings were predominantly gravelly to sandy silts with some interbedded silt and silty fine sand. Groundwater was positively identified in two of the four borings, at depths of 16 feet below grade (fbg) and 4 fbg. The latter boring was drilled offsite, within High Street.

Groundwater

The Site is within the San Francisco Bay regional watershed. The Quaternary alluvial deposits of the region host important aquifers. Slightly less than half the region's water supply is derived from groundwater. The balance is obtained from imported surface water. Confined groundwater occurs at a depth of approximately 21 fbg at Express Gas & Mart. The aquifer formation is primarily gravelly sandy silt. Static water levels in the onsite monitoring wells have ranged from about 5 to 9 fbg, depending upon the season. The water level data indicate the direction of groundwater flow is south-southeast. Field measurements of specific conductance among the monitoring wells have ranged from approximately 400 to 2,000 microsiemens, suggesting that the mineralogic quality of the groundwater is variable.

PROJECT BACKGROUND

The history of subsurface contamination investigations at the Site predates WAC's involvement starting in 2001. Groundwater monitoring has been conducted periodically at the Site since early 1995. Groundwater quality is impacted by petroleum hydrocarbons such as benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MtBE). A report by Aqua Science Engineers, Inc. (ASE), dated November 14, 2000, indicates that 2,550 pounds of ORC® slurry was injected into borings along the northern and eastern side of the former USTs in June 1997. The ORC® apparently increased the dissolved oxygen (DO) levels in the five nearby monitoring wells for approximately one year. Contaminant concentrations were also reduced in well MW-5 during that period. ORC® socks were installed in wells MW-4 and MW-5 in August 1998 after the DO concentrations had declined again. The ORC® socks were removed in September 2000 after proving ineffective at reducing petroleum hydrocarbon concentrations in the groundwater.

A Tier 2 Risk-Based Corrective Action (RBCA) analysis was performed for the Site Mr. Christopher Palmer in August 1997. The RBCA was conducted to develop site-specific threshold levels (SSTLs) for petroleum hydrocarbon contaminants in soil and groundwater. The RBCA was reviewed and commented on by ACEH. The ACEH approved the RBCA in a letter dated October 21, 1997.

On February 28, 2001, WAC collected soil samples from along the product line leading to the gas pumps adjacent to High Street. High concentrations of petroleum hydrocarbons were

detected in all soil samples. WAC subsequently prepared a *Site Investigation Workplan* dated March 26, 2001 to conduct a soil and groundwater investigation around the gas pumps. ACEH approved the workplan and requested that the USTs and contaminated soils be removed and properly disposed of.

Six soil borings were drilled and sampled by WAC in late April 2001. Sampling results from the borings confirmed that leakage from the gas pumps had impacted soil and groundwater. The dispenser pumps, product lines, and four steel, gasoline USTs were excavated and removed from the Site by WAC in May 2001. The USTs were inspected and appeared to be in good condition. However, soil samples from the base and the sides of the UST excavation contained high concentrations of gasoline constituents. WAC excavated additional contaminated soil from the Site in a number of separate mobilizations between May 9 and September 27, 2001. Approximately 3,700 tons of petroleum hydrocarbon contaminated soil was removed and disposed of at B&J Class II landfill in Vacaville, California. The over-excavation area is depicted on **Figure 2**.

Following Site restoration and re-opening of the Express Gas & Mart, little additional activity occurred until March 2003, when WAC installed four new monitoring wells to obtain further data on the extent of the MtBE contamination in groundwater. Monitoring well construction information is included in **Table 1**. WAC also resumed quarterly groundwater monitoring in April 2003, for the first time since the September 2000 sampling reported by ASE. The April 2003 analytical data indicated that MtBE was above the SSTL in wells MW-5 and MW-7.

Based on the April 2003 groundwater sampling results, WAC recommended corrective action to remediate the subsurface contamination at the Site to below the SSTLs. WAC prepared a *Feasibility Study/Corrective Action Plan* dated July 28, 2003 and recommended the installation of an ozone sparge remediation system in the vicinity of the former USTs. The ACEH has not yet given its approval to implement the recommended corrective action.

On January 13, 2004 purging and sampling of groundwater in eight monitoring wells was conducted.

SCOPE OF WORK

The scope of work performed during this quarter included the following tasks:

- Purged and sampled groundwater from eight monitoring wells;
- Collected field measurements from the eight monitoring wells, including water level, DO concentrations, temperature, pH, and specific conductance;

- Analyzed groundwater samples for the following compounds: TPH-g, MtBE, BTEX, DIPE, EtBE, tAME, tBA, methanol, ethanol, EDB, and 1,2-DCA (see notes on **Table 3** for chemical names), and;
- Prepared this *Quarterly Groundwater Monitoring Report*.

FIELD PROCEDURES

Water Level Measurements

The water levels in the monitoring wells were obtained using an electronic water level indicator and recorded on monitoring well sampling logs included in **Appendix A**. Prior to the measurements, the wells were uncapped and water levels were allowed to equilibrate with atmospheric pressure for at least 30 minutes. Water level measurements were referenced to the top of the well casings. The depth-to-water measurements were used to calculate the standing well volume and the amount of water to be purged prior to collecting groundwater samples. The depth to water and surveyed wellhead elevations are also used to determine the static groundwater elevation and flow direction.

Monitoring Well Purging and Sampling

After obtaining the water level data, WAC staff purged and sampled the monitoring wells. At least three well casing volumes of water were purged from each well before collecting groundwater samples. Wells were purged using a clean disposable polyethylene bailer. The DO concentration, pH, temperature, and specific conductance (electrical conductivity) of the groundwater were intermittently monitored with portable instrumentation during purging. The DO concentration was measured in-situ immediately after uncapping the well and after sampling the well. Field measurements were recorded on sampling logs included in **Appendix A**.

The water level indicator and the instrument probes were decontaminated after each use by washing in an Alconox® detergent solution followed by a tap water rinse. Well purge water was placed into 55-gallon drums for temporary onsite storage. The drums are emptied as needed and the purge water is disposed of at an appropriate disposal facility.

Upon completion of purging activities, groundwater samples were collected from each monitoring well using a disposable polyethylene bailer. The groundwater samples were decanted from the bailer into laboratory-supplied, 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid (HCl). Care was taken to ensure that the vials were completely filled, leaving no headspace. Each sample container was labeled with the well ID, project number, and date collected. Labeled samples were stored in the field in ice chests cooled with ice until delivery to the laboratory under chain-of-custody control.

Laboratory Analyses

The groundwater samples were submitted under chain-of-custody control to Kiff Analytical LLC (KIFF). All samples and sample parameters were analyzed using EPA 8260B. KIFF is certified by the State of California to perform these analyses.

DATA EVALUATION

Groundwater Levels and Gradient

Water level data for the monitoring wells are summarized in **Table 2**. The depth to water this quarter ranged from 6.83 feet below top of casing (toc) in MW-9 to 4.03 feet below toc in MW-1. Groundwater elevations varied from 127.61 feet above mean sea level (amsl) in well MW-1 to 121.04 feet amsl in MW-10. Groundwater elevations are shown on **Figure 3**. Groundwater elevations indicate that the direction of groundwater flow is southerly. The groundwater gradient was calculated using static water elevations in wells MW-3, MW-8, and MW-9. The resulting flow direction was indicated as S4°W with a gradient of 0.040 ft/ft. The groundwater flow and gradient this quarter are consistent with previous monitoring events.

Groundwater Analytical Results

MtBE was detected in samples from all the monitoring wells except MW-6. The MtBE concentration was above the SSTL in well MW-7 at 22,000 micrograms per liter ($\mu\text{g/L}$). Well MW-5 and MW-7 are the closest wells to the former USTs. The extent of the MtBE plume above the SSTL is shown on **Figure 4**.

BTEX constituents were detected in wells MW-1, MW-5 and MW-7. Wells MW-5 and MW-7 were the only wells with hydrocarbon constituents above the SSTLs this quarter. Well MW-7 is located immediately downgradient from the former USTs and yielded concentrations of benzene, ethylbenzene, xylenes and MtBE above SSTLs. Well MW-5 is located within 12 feet of the former USTs and yielded benzene above the SSTL. Groundwater analytical results are summarized in **Table 3**. The laboratory analytical reports are included in **Appendix B**.

CONCLUSIONS

On January 13, 2004 the direction of groundwater flow was southerly with a gradient of 0.040 ft/ft. MtBE and benzene are the principal constituents of concern in shallow groundwater. Benzene, ethylbenzene, xylenes and MtBE were detected above their respective SSTLs in well MW-7, which is located immediately downgradient of the former USTs. Benzene was detected above the SSTL in well MW-5.

As observed in previous monitoring events, the hydrocarbon constituents above SSTLs in shallow groundwater are localized to the area immediately surrounding the former USTs.

RECOMMENDATIONS

We recommend the installation of an ozone sparging system as described in the *Feasibility Study/Interim Corrective Action Plan (CAP)* dated July 28, 2003. The ACEH approved this approach in a letter to the owner dated February 18, 2004.

The installation of the groundwater treatment system will commence this next quarter. The next quarterly monitoring will occur in April 2003.

TABLES

FIGURES

APPENDIX A
MONITORING WELL SAMPLING LOGS

APPENDIX B
LABORATORY ANALYTICAL REPORT

TABLES

Table 1

**Monitoring Well Construction Information
2951 High Street, Oakland, California**

Well ID	Date Installed	Total Depth (ft)	Screened Interval (ft)	Water-Bearing Unit	Top of Casing Elevation (ft msl)	Northing (ft)	Easting (ft)
MW-1	2/95	25	N/A	N/A	131.64	2,112,552.4	6,070,038.2
MW-3	2/95	25	N/A	N/A	131.05	2,112,539.6	6,070,048.6
MW-5	12/9/96	30	5-30	N/A	131.99	2,112,582.0	6,070,083.6
MW-6	1/7/97	30	5-30	N/A	132.58	2,112,662.5	6,070,113.5
MW-7	3/24/03	25	15-25	gravelly sandy silt	130.93	2,112,533.2	6,070,106.3
MW-8	3/24/03	25	15-25	gravelly sandy silt	131.15	2,112,527.9	6,070,153.7
MW-9	3/25/03	25	15-25	silty gravelly sand	130.00	2,112,484.8	6,070,065.6
MW-10	4/4/03	25	15-25	sandy silt	127.19	2,112,393.3	6,069,984.7

Notes:

All wells are 2-inch diameter casing and screen.

ft msl, feet above mean sea level. N/A = data not available.

Wells surveyed by Virgil Chavez Land Surveying on April 15, 2003.

MW-1, MW-3, MW-5, and MW-6 were installed by Aqua Science Engineers, Inc.

MW-7, MW-8, MW-9, and MW-10 were installed by W.A. Craig, Inc.

Table 2
Groundwater Levels in Monitoring Wells
2951 High Street, Oakland, California

Well ID	Date	TOC Elevation	DTW	Groundwater Elevation
MW-1	4/4/03	131.64	5.07	126.57
	7/16/03		7.32	124.32
	10/28/03		9.16	122.48
	1/13/04		4.03	127.61
MW-3	4/4/03	131.05	5.86	125.19
	7/16/03		7.86	123.19
	10/28/03		9.43	121.62
	1/13/04		5.76	125.29
MW-5	4/4/03	131.99	6.94	125.05
	7/16/03		8.17	123.82
	10/28/03		9.43	122.56
	1/13/04		6.27	125.72
MW-6	4/4/03	132.58	5.13	127.45
	7/16/03		7.99	124.59
	10/28/03		9.18	123.40
	1/13/04		5.97	126.61
MW-7	4/4/03	130.93	7.06	123.87
	7/16/03		8.11	122.82
	10/28/03		9.25	121.68
	1/13/04		6.80	124.13
MW-8	4/4/03	131.15	6.60	124.55
	7/16/03		7.79	123.36
	10/28/03		8.83	122.32
	1/13/04		6.02	125.13
MW-9	4/4/03	130.00	7.35	122.65
	7/16/03		8.50	121.50
	10/28/03		9.56	120.44
	1/13/04		6.83	123.17
MW-10	4/23/03	127.19	7.06	120.13
	7/16/03		7.72	119.47
	10/28/03		8.61	118.58
	1/13/04		6.15	121.04

Notes:

Elevations are in feet above mean sea level.

TOC, Top of casing. DTW, Depth to water in feet below TOC.

Table 3

Analytical Results for Groundwater Samples
2951 High Street, Oakland, California

Well ID	Date	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	DIPE	EtBE	tAME	tBA	methanol	ethanol	EDB	DCA
MW-1	2/23/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/26/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	8/23/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	4/4/03	<50	<0.5	<0.5	<0.5	<0.5	270	<5	<5	<5	<50	<5,000	<500	<5	<5
	7/16/03	<50	<0.5	<0.5	<0.5	<0.5	420	<10	<10	<10	<100	<10,000	<1,000	<10	<10
	10/28/03	<50	<0.5	<0.5	<0.5	<0.5	1,200	<50	<50	<50	<500	<50,000	<5,000	<50	<50
	1/13/04	58	0.85	<0.5	3.1	8.4	380	<0.5	<0.5	<0.5	<5.0	<50	<5	<0.5	<0.5
MW-3	2/23/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/26/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	8/23/95	<50	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT
	4/4/03	<50	<0.5	<0.5	<0.5	<0.5	1,600	<25	<25	<25	<250	<25,000	<2,500	<25	<25
	7/16/03	<50	<0.5	<0.5	<0.5	<0.5	1,200	<50	<50	<50	<500	<50,000	<5,000	<50	<50
	10/28/03	<50	<0.5	<0.5	<0.5	<0.5	1,400	<50	<50	<50	<500	<50,000	<5,000	<50	<50
	1/13/04	<200	<2	<2	<2	<2	790	<2	<2	<2	<20	<200	<20	<2	<2
MW-5	12/13/96	3,600	180	350	81	510	430	NT	NT	NT	NT	NT	NT	NT	NT
	3/27/97	120,000	28,000	16,000	2,600	10,000	64,000	NT	NT	NT	NT	NT	NT	NT	NT
	6/27/97	6,300	10,000	2,400	290	4,500	43,000	NT	NT	NT	NT	NT	NT	NT	NT
	9/22/97	<50,000	7.9	3.3	0.6	3.3	30,000	NT	NT	NT	NT	NT	NT	NT	NT
	12/6/97	<5,000	33	12	<5	7.3	33,000	NT	NT	NT	NT	NT	NT	NT	NT
	3/23/98	29,000	150	160	130	320	34,000	NT	NT	NT	NT	NT	NT	NT	NT
	6/10/98	53,000	7,000	2,400	540	3,400	67,000	NT	NT	NT	NT	NT	NT	NT	NT
	7/23/98	36,000	1,000	270	<120	740	51,000	NT	NT	NT	NT	NT	NT	NT	NT
	9/16/98	56,000	3,400	1,300	430	1,800	84,000	NT	NT	NT	NT	NT	NT	NT	NT
	11/23/98	63,000	5,700	2,900	500	2,200	87,000	NT	NT	NT	NT	NT	NT	NT	NT
	3/5/99	42,000	<250	<250	<250	<250	38,000	NT	NT	NT	NT	NT	NT	NT	NT
	6/17/99	37,000	510	85	5.6	89	61,000	NT	NT	NT	NT	NT	NT	NT	NT
	9/15/99	54,000	8,500	1,800	420	2,400	55,000	NT	NT	NT	NT	NT	NT	NT	NT
	12/9/99	34,000	1,600	230	130	570	33,000	NT	NT	NT	NT	NT	NT	NT	NT
	3/6/00	21,000	7,800	870	440	2,100	30,000	NT	NT	NT	NT	NT	NT	NT	NT
	6/7/00	<50,000	11,000	890	570	3,000	68,000	NT	NT	NT	NT	NT	NT	NT	NT
	9/18/00	40,000	4,900	<250	<250	1,700	46,000	NT	NT	NT	NT	NT	NT	NT	NT
	4/4/03	1,800	560	<5.0	<5.0	30	19,000	<330	<330	<330	<3,300	<330,000	<33,000	<330	<330
	7/16/03	2,800	1,000	<5	10	80	16,000	<200	<200	<200	<2,000	<200,000	<20,000	<200	<200
10/28/03	740	290	<5.0	<5.0	7.2	14,000	<170	<170	<170	<1,700	<170,000	<17,000	<170	<170	
1/13/04	<500	48	<5	<5	<5	2,000	<5	<5	<5	<50	<500	<50	<5	<5	

Table 3

Analytical Results for Groundwater Samples
2951 High Street, Oakland, California

Well ID	Date	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	DIPE	EtBE	tAME	tBA	methanol	ethanol	EDB	DCA
MW-6	1/13/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	3/27/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	6/27/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	9/22/97	<50	<0.5	<0.5	<0.5	<0.5	24	NT	NT	NT	NT	NT	NT	NT	NT
	12/6/97	94	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	3/23/98	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	6/10/98	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	7/23/98	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	9/16/98	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	3/5/99	55	<0.5	0.92	0.5	1.3	<5	NT	NT	NT	NT	NT	NT	NT	NT
	6/17/99	<50	<0.5	<0.5	<0.5	<0.5	8.0	NT	NT	NT	NT	NT	NT	NT	NT
	9/15/99	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	12/9/99	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	3/6/00	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	6/7/00	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	4/4/03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<500	<50	<0.5	<0.5
	7/16/03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	0.54	<0.5	<0.5	<0.5	<5	<500	<50	<0.5
10/28/03	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5	
1/13/04	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5	
MW-7	4/4/03	1,400	54	27	15	180	26,000	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500
	7/16/03	18,000	1,100	630	1,100	2,000	13,000	<200	<200	<200	<2,000	<200,000	<20,000	<200	<200
	10/28/03	10,000	750	370	750	1,000	17,000	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500
	1/13/04	7,200	430	150	560	550	22,000	<50	<50	<50	<500	<5000	<500	<50	<50
MW-8	4/4/03	<50	<0.5	<0.5	<0.5	<0.5	230	<5	<5	<5	<50	<5,000	<500	<5	<5
	7/16/03	<50	<0.5	<0.5	<0.5	<0.5	340	<5	<5	<5	<50	<5,000	<500	<5	<5
	10/28/03	<50	<0.5	<0.5	<0.5	<0.5	250	<5.0	<5.0	<5.0	<50	<5,000	<500	<5	<5.0
	1/13/04	<50	<0.5	<0.5	<0.5	<0.5	140	<0.5	<0.5	<0.5	<5.0	<50	<5	<0.5	<0.5
MW-9	4/4/03	<50	<0.5	<0.5	<0.5	<0.5	85	<1.5	<1.5	<1.5	<12	<1,200	<120	<1.5	2
	7/16/03	<50	<0.5	<0.5	<0.5	<0.5	170	<2.5	<2.5	3	27	<2,500	<250	<2.5	<2.5
	10/28/03	<50	<0.5	<0.5	<0.5	<0.5	230	<5.0	<5.0	<5.0	57	<5,000	<500	<5.0	<5.0
	1/13/04	<50	<0.5	<0.5	<0.5	<0.5	55	<0.5	<0.5	0.72	5.8	<50	<5	<0.5	1

Table 3

**Analytical Results for Groundwater Samples
2951 High Street, Oakland, California**

Well ID	Date	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	DIPE	EtBE	tAME	tBA	methanol	ethanol	EDB	DCA
MW-10	4/23/03	79	<0.5	<0.5	<0.5	<0.5	1,900	<25	<25	58	<250	<25,000	<2,500	<25	<25
	7/16/03	73	20	<0.5	<0.5	<0.5	1,100	<20	<20	39	<200	<20,000	<2,000	<20	<20
	10/28/03	76	<0.5	<0.5	<0.5	<0.5	1,900	<50	<50	<50	<500	<50,000	<5,000	<50	<50
	1/13/04	<500	<5	<5	<5	<5	2,300	<5	<5	72	<50	<500	<50	<5	<5
SSTL		NE	34	270	180	470	8,400	NE	NE	NE	NE	NE	NE	NE	NE

Notes: SSTLs are site-specific target levels developed for the site by Aqua Science Engineers, Inc. in 1997. **Bold** concentrations exceed the SSTL. Concentrations are micrograms per liter (ug/L). NE, SSTL not established for this compound. NT, analyte not tested. Data prior to April 2003 are from *Groundwater Monitoring Report for September 2000 Sampling* by Aqua Science Engineers, Inc. dated 11/14/2000. * Oxygen Release Compound (ORC) was injected into borings on the south side of MW-5 in late June 1997. ** ORC socks were placed in MW-5 in August 1998 and removed in September 2000.

TPH-g Total Petroleum Hydrocarbons as gasoline

MtBE Methyl tert-Butyl Ether

DIPE Di-isopropyl Ether

EtBE Ethyl tert-Butyl Ether

tAME tert-Amyl Methyl Ether

tBA tert-Butanol

EDB Ethylene Dibromide

DCA 1,2-Dichloroethane

FIGURES

APPENDIX A
MONITORING WELL SAMPLING LOGS

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: High St

JOB #: 3936

DATE: 1/13/04

SAMPLER'S INITIALS: CM

WELL ID: MW-1 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): 4.03 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 10.5

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bailer SAMPLING METHOD: bailer

D.O. Initially: 0.17 @ 19.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
11:15	2	19.1	6.51	622			good recharge / No S
	4	19.4	6.50	635			
	6	19.8	6.51	590			
	8	20.3	6.53	577			
	10	20.5	6.56	551			
		19.4				0.75	D.O After Purge and Sample

WELL ID: MW-3 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): 5.76 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 9.6

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bailer SAMPLING METHOD: bailer

D.O. Initially: 0.25 @ 19.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
11:40	2	18.8	6.45				
	4	19.0	6.46	576			
	6	19.5	6.44	609			
	8	20.1	6.47	608			
	10	20.3	6.48	615			
		19.3				0.32	D.O After Purge and Sample

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: High St JOB #: 3936
 DATE: 1/13/04 SAMPLER'S INITIALS: CM

WELL ID: MW-6 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): 5.97 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 12

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bauler SAMPLING METHOD: bauler

D.O. Initially: 2.7 @ 19.4

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
10:00	2	20.0	6.72	626			Nos / good recovery
	4	20.3	6.73	627			
	6	20.4	6.75	617			
	8	20.6	6.78	619			
	10	20.6	6.78	622			
	12	20.6	6.81	623			
		19.5				2.4	D.O After Purge and Sample

WELL ID: MW-5 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): 6.27 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 11.8

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bauler SAMPLING METHOD: bauler

D.O. Initially: 5.7 @ 19.8

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
10:30	2	21.4	7.88	1361			Slow Recovery / Bailed dry
	4	21.0	7.71	1420			
	6	21.5	7.95	1010			
	8	21.6	8.15	1793			
		19.7				2.97	D.O After Purge and Sample

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: High St

JOB #: 3936

DATE: 1/13/04

SAMPLER'S INITIALS: CM

WELL ID: MW-7

WELL DIAMETER (in): _____

WELL DEPTH (ft): _____

DEPTH TO WATER (ft): 6.80

WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____

3 VOLUMES (gal): 9

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: ba/ur

SAMPLING METHOD: ba/ur

D.O. Initially: 1.9 @ 20.5

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
11:00	2	20.7	6.66	1385			
	4	21.0	6.65	1396			
	6	21.3	6.62	1411			
	8	21.3	6.63	1400			
	9	21.4	6.65	1380			
		20.4				0.74	D.O After Purge and Sample

WELL ID: MW-8

WELL DIAMETER (in): _____

WELL DEPTH (ft): _____

DEPTH TO WATER (ft): 6.02

WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____

3 VOLUMES (gal): 9.5

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: ba/ur

SAMPLING METHOD: ba/ur

D.O. Initially: 5.8 @ 21.9

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
12:00	2	22.0	6.86	563			
	4	22.3	6.84	568			
	6	22.5	6.86	574			
	8	22.5	6.86	572			
	10	22.5	6.90	570			
		21.3				0.83	D.O After Purge and Sample

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: M199 St

JOB #: 3936

DATE: 1/14/04

SAMPLER'S INITIALS: CM

WELL ID: MW-10

WELL DIAMETER (in): _____

WELL DEPTH (ft): _____

DEPTH TO WATER (ft): 6.15

WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____

3 VOLUMES (gal): 9.4

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bauler

SAMPLING METHOD: bauler

D.O. Initially: 13 @ 19.7

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
	2	19.8	7.16	678			<i>Not good recharge</i>
	4	20.1	7.17	679			
	6	20.4	7.17	688			
	8	20.5	7.17	691			
	10	20.3	7.16	694			
		19.6				2.27	D.O After Purge and Sample

WELL ID: MW-9

WELL DIAMETER (in): _____

WELL DEPTH (ft): _____

DEPTH TO WATER (ft): 6.83

WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____

3 VOLUMES (gal): 9

To obtain standing volume in gallons, multiply the water column height by 0.17 for 2-inch well or 0.66 for a 4-inch well.

PURGE METHOD: bauler

SAMPLING METHOD: bauler

D.O. Initially: 11 @ 20.5

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
12:21	2	21.8	7.62	1200			<i>good recharge</i>
	4	21.8	7.54	1219			
	6	21.6	7.53	1276			
	8	21.6	7.53	1261			
	10	21.6	7.44	1247			
		20.5				4.7	D.O After Purge and Sample

APPENDIX B
LABORATORY ANALYTICAL REPORT



Report Number : 36645

Date : 01/20/2004

Tim Cook
W.A. Craig, Inc.
6940 Tremont Road
Dixon, CA 95620

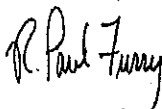
Subject : 8 Water Samples
Project Name : High St.
Project Number : 3936

Dear Mr. Cook,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,


R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

Sample : MW-1

Matrix : Water

Lab Number : 36645-01

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.85	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	3.1	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	8.4	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	380	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	58	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	110		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	95.2		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry

Project Name : High St.

Project Number : 3936

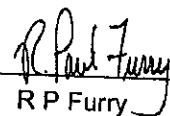
Sample : MW-3

Matrix : Water

Lab Number : 36645-02

Sample Date : 01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Toluene	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	790	2.0	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 20	20	ug/L	EPA 8260B	01/15/2004
Methanol	< 200	200	ug/L	EPA 8260B	01/15/2004
Ethanol	< 20	20	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 2.0	2.0	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 200	200	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	94.8		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

Sample : MW-5

Matrix : Water

Lab Number : 36645-03

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	48	5.0	ug/L	EPA 8260B	01/15/2004
Toluene	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	2000	5.0	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Methanol	< 500	500	ug/L	EPA 8260B	01/15/2004
Ethanol	< 50	50	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 500	500	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	94.3		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

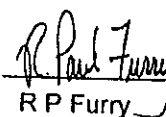
Sample : MW-6

Matrix : Water

Lab Number : 36645-04

Sample Date : 01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	94.6		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936


Sample : MW-7

Matrix : Water

Lab Number : 36645-05

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	430	50	ug/L	EPA 8260B	01/15/2004
Toluene	150	50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	560	50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	550	50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	22000	50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 50	50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 50	50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 500	500	ug/L	EPA 8260B	01/15/2004
Methanol	< 5000	5000	ug/L	EPA 8260B	01/15/2004
Ethanol	< 500	500	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 50	50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 50	50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	7200	5000	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	93.7		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

Sample : MW-8

Matrix : Water

Lab Number : 36645-06

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	140	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	94.0		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

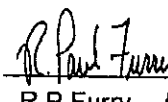
Sample : MW-9

Matrix : Water

Lab Number : 36645-07

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	55	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	0.72	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	5.8	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	1.0	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	95.1		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry



Report Number : 36645

Date : 01/20/2004

Project Name : High St.

Project Number : 3936

Sample : MW-10

Matrix : Water

Lab Number : 36645-08

Sample Date :01/13/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Toluene	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	2300	5.0	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	72	5.0	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Methanol	< 500	500	ug/L	EPA 8260B	01/15/2004
Ethanol	< 50	50	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 500	500	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	93.8		% Recovery	EPA 8260B	01/15/2004

Approved By:  R P Furry

QC Report : Method Blank Data

Project Name : High St.

Project Number : 3936

Report Number : 36645

Date : 01/20/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	93.8		%	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	01/15/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
Methanol	< 50	50	ug/L	EPA 8260B	01/15/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	01/15/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	01/15/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/15/2004
Toluene - d8 (Surr)	99.1		%	EPA 8260B	01/15/2004
4-Bromofluorobenzene (Surr)	94.2		%	EPA 8260B	01/15/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By: R. Paul Furry
R P Furry

QC Report : Matrix Spike/ Matrix Spike Duplicate

Report Number : 36645

Date : 01/20/2004

Project Name : **High St.**

Project Number : **3936**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	36662-01	1.9	40.0	40.0	41.5	40.5	ug/L	EPA 8260B	1/15/04	99.0	96.4	2.71	70-130	25
Toluene	36662-01	10	40.0	40.0	49.4	52.0	ug/L	EPA 8260B	1/15/04	97.2	104	6.35	70-130	25
Tert-Butanol	36662-01	38	200	200	237	234	ug/L	EPA 8260B	1/15/04	99.6	97.8	1.80	70-130	25
Methyl-t-Butyl Ether	36662-01	37	40.0	40.0	74.8	75.0	ug/L	EPA 8260B	1/15/04	93.6	94.2	0.666	70-130	25
Benzene	36666-18	<0.50	40.0	40.0	47.0	46.0	ug/L	EPA 8260B	1/15/04	118	115	2.24	70-130	25
Toluene	36666-18	<0.50	40.0	40.0	45.5	44.2	ug/L	EPA 8260B	1/15/04	114	111	2.74	70-130	25
Tert-Butanol	36666-18	<5.0	200	200	211	212	ug/L	EPA 8260B	1/15/04	106	106	0.378	70-130	25
Methyl-t-Butyl Ether	36666-18	2.4	40.0	40.0	46.7	46.4	ug/L	EPA 8260B	1/15/04	111	110	0.678	70-130	25

KIFF ANALYTICAL, LLC

Approved By: R P Furry

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Report Number : 36645

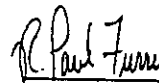
Date : 01/20/2004

Project Name : High St.

Project Number : 3936

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	1/15/04	97.6	70-130
Toluene	40.0	ug/L	EPA 8260B	1/15/04	106	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/15/04	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/15/04	93.7	70-130
Benzene	40.0	ug/L	EPA 8260B	1/15/04	113	70-130
Toluene	40.0	ug/L	EPA 8260B	1/15/04	108	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/15/04	102	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/15/04	104	70-130

KIFF ANALYTICAL, LLC

Approved By:  R P Furry

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800



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 Davis, CA 95616
 Lab: 530.297.4800
 Fax: 530.297.4808

Lab No. 36645

Page 1 of 1

Project Contact (Hardcopy or PDF To):
 Tim Cook

Company / Address:
 W. A. Craig, INC., 6940 Tremont Rd, Dixon, CA

Phone No.: 707-693-2929
Fax No.: 707-693-2922

Project Number: 3936
P.O. No.:

Project Name:
 High St

California EDF Report? Yes No

Recommended but not mandatory to complete this section:
Sampling Company Log Code:

Global ID:

EDF Deliverable To (Email Address):
 Thanield@wacraig.com

Sampler Signature: *Ch...*

Chain-of-Custody Record and Analysis Request

Analysis Request

Project Address: High St, CA	Sampling		Container			Preservative				Matrix		BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas (8260B)	7 Oxygenates/TPH Gas (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL <input type="checkbox"/> W.E.T. <input type="checkbox"/>	TAT	For Lab Use Only			
	Date	Time	40 ml VOA	SLEEVE	POLY	AMBER	HCl	HNO ₃	ICE	NONE	WATER																SOIL		
MW-1	7/13/04	11:15	X				X	X				X																	01
MW-2																													02
MW-3		11:40																											03
MW-4																													04
MW-5		10:30																											05
MW-6		10:00																											06
MW-7		11:00																											07
MW-8		12:00																											08
MW-9		12:21																											
MW-10		1:00																											

Relinquished by: *Clayton Moteri* **Date:** 7/13/04 **Time:** 2:35 **Received by:** *James Dale*

Relinquished by: *James Dale* **Date:** 7/13/04 **Time:** 5:30p **Received by:** _____

Relinquished by: _____ **Date:** 07/13/04 **Time:** 1730 **Received by Laboratory:** *Kevin Hayes* KIFF Analytical **Bill to:** _____