W. A. Craig, Inc.
Construction & Engineering

QUARTERLY GROUNDWATER MONITORING REPORT
Fourth Quarter 2003

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

PREPARED FOR:
Mr. Aziz Kandahari
Himalaya Trading Company
2951 High Street
Oakland, California 94619

SUBMITTED TO:
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Project No. 3936
December 2, 2003

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Principle Engineer

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INTRODUCTION

This report presents the results of the fourth quarter 2003 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 Health Care Services (ACHCS). The groundwater monitoring this quarter was conducted on October 28, 2003.

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 about 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 respective 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-southwest. 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 has been impacted by gasoline-related volatile organic compounds (VOCs) at concentrations well above regulatory action levels. These VOCs include benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MtBE). The following information was taken from a groundwater monitoring report dated November 14, 2000 by Aqua Science Engineers, Inc. (ASE). The ASE report indicates that 2,550 pounds of ORC® slurry were 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 pre-existing 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 by ASE in September 2000 after proving ineffective at reducing petroleum hydrocarbon concentrations in the groundwater.

The ASE report indicates that a Tier 2 Risk-Based Corrective Action (RBCA) analysis was performed for the Site 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 ACHCS. The comments were addressed in the final

document by the principal consultant, Mr. Christopher Palmer. According to ASE's report, the ACHCS 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. ACHCS 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 ACHCS has not yet given its approval to implement the recommended corrective action.

On October 28, 2003 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, temperature, pH, and specific conductance;
- Analyzed groundwater samples for the following compounds: total petroleum hydrocarbons as gasoline (TPH-g), methyl tert-butyl ether (MtBE), benzene, toluene, ethylbenzene, and xylenes (BTEX), and the fuel additives DIPE, EtBE, MtBE, 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 (**Appendix A**). Prior to the measurements, the wells were uncapped and the water levels 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 volumes of standing water were purged from each well before collecting groundwater samples. Wells were purged using a clean disposable polyethylene bailer. The 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, after purging one casing volume, and after sampling the well. The field water quality measurements were recorded on monitoring well sampling logs (**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 by a subcontractor who transports the water by tanker truck to Seaport Environmental, Inc., or by WAC staff who transport the water in the 55-galoon drums to Seaport Environmental, Inc. Seaport Environmental, Inc. is a licensed disposal facility in Redwood City, California.

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 number, project number, and date. 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 McCampbell Analytical, Inc. (MAI). Samples were analyzed for TPH-g by EPA Method 8015C modified, for MtBE and BTEX by EPA Method 8021B, and for the fuel additives DIPE, EtBE, MtBE, tAME, tBA, methanol, ethanol, EDB, and 1,2-DCA by EPA Method 8260B. The Method 8260B analysis for MtBE is generally considered to be more accurate than Method 8021B. Therefore, discussions in this report will use the MtBE results determined by Method 8260B.

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 8.61 feet below top of casing (toc) in MW-10 to 9.56 feet below toc in MW-9. Groundwater elevations varied from 123.40 feet above mean sea level (amsl) in well MW-6 to 118.58 feet amsl in MW-10. A groundwater elevation contour map for the Site is presented on **Figure 3**. The elevation contours indicate that the direction of groundwater flow is south-westerly. The groundwater gradient was calculated using static water elevations in wells MW-1, MW-8, and MW-9. The resulting flow direction was indicated as S8°W with a gradient of 0.033 ft/ft. The groundwater flow and gradient for this quarter is consistent with previous monitoring events.

Groundwater Analytical Results

The laboratory test data for the monitoring wells are summarized in **Table 3** and the analytical reports are included in **Appendix B**. The laboratory detected MtBE in all monitoring wells accept for well MW-6. MtBE concentrations were above the SSTL in well MW-5 (14,000 µg/L)

and MW-7 (17,000 µg/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 only found in samples from well MW-7. Well MW-7 yielded benzene at 750 µg/L, toluene at 370 µg/L, ethylbenzene at 750 µg/L, and xylenes at 1,000 µg/L. This well is immediately adjacent and directly downgradient from the former USTs. Benzene was detected in well MW-5 at 290 µg/L. The SSTL for benzene is 200 µg/L. No other BTEX constituents were observed above their SSTL in well MW-5.

TPH-g was detected in three wells. Well MW-5 yielded 740 µg/L, well MW-7 yielded 10,000 µg/L and well MW-10 yielded 76 µg/L. There is no SSTL for TPH-g established for this Site.

CONCLUSIONS

The direction of groundwater flow is southwesterly with a gradient of 0.033 ft/ft. MtBE is the most widely distributed contaminant in groundwater. During this monitoring event, MtBE was above the SSTL in two monitoring wells (MW-5 and MW-7) located adjacent to the former USTs.

BTEX constituents were detected in well MW-7. The only BTEX constituent detected in well MW-5 above the SSTL was benzene. All of the BTEX constituents were detected in well MW-7 above the SSTL.

The hydrocarbon plume is localized in the area immediately surrounding the former USTs.

RECOMMENDATIONS

WAC recommends that ozone sparging be implemented to reduce contaminant concentrations to below the SSTL cleanup goals as described in the *Feasibility Study/Interim Corrective Action Plan* (CAP) dated July 28, 2003. Ms. Donna Drogos of the ACEH requested additional information during a phone call with Tim Cook of WAC on September 4, 2003. This information was provided in an addendum to the corrective action plan dated September 10, 2003. As of this date, the ACEH has not responded to the CAP and we are unable to proceed without their approval.

We recommend that well MW-3 be sampled on a semi-annual schedule rather than quarterly. Sampling well MW-3 is redundant, since well MW-1 provides coverage for that part of the Site. The next quarterly monitoring will occur in January 2003.

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
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
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
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
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
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
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
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

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
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
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

Table 3
Analytical Results for Groundwater Samples
2951 High Street
Oakland, California

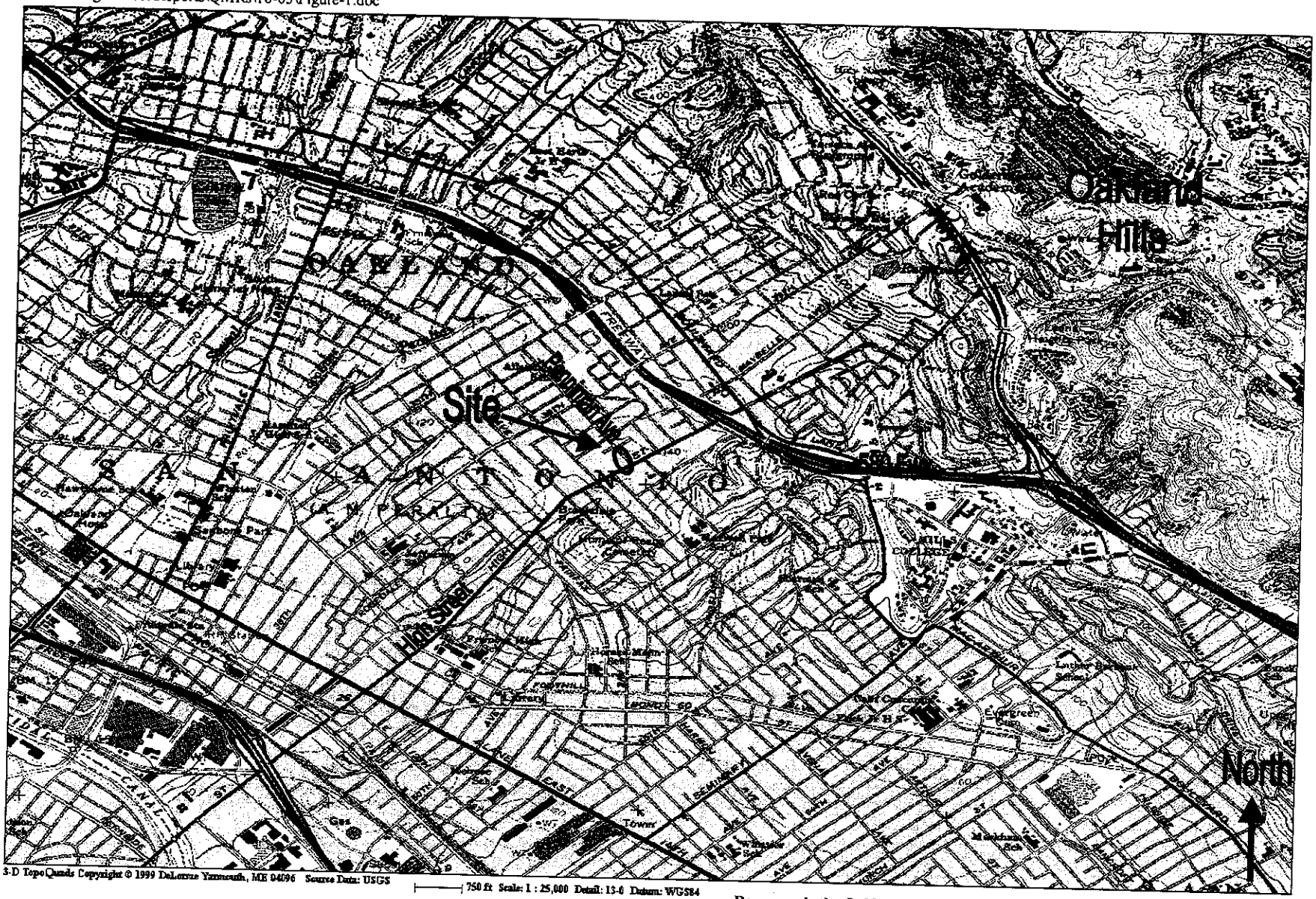
Well ID	Date	TPH-g	benzene	toluene	ethyl-benzene	xylenes	MtBE	DIPE	EtBE	tAME	tBA	methanol	ethanol	EDB	DCA
MW-6	1/13/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	3/27/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	6/27/97	<50	<0.5	<0.5	<0.5	<0.5	<5	NT	NT	NT	NT	NT	NT	NT	NT
	9/22/97	<50	<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	0.54	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<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
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
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
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
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
SSTL		NE	**200**	**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	EtBE	Ethyl tert-Butyl Ether	EDB	Ethylene Dibromide
MtBE	Methyl tert-Butyl Ether	tAME	tert-Amyl Methyl Ether	DCA	1,2-Dichloroethane
DIPE	Di-isopropyl Ether	tBA	tert-Butanol		

FIGURES

P:\3936 High Street\Reports\QMRs\10-03\Figure-1.doc



Base map is the Oakland East 7.5-minute quad (USGS, 1980).

W. A. CRAIG, INC.

Environmental Contracting and Consulting

6940 Tremont Road

Dixon, California 95620

Site Location Map

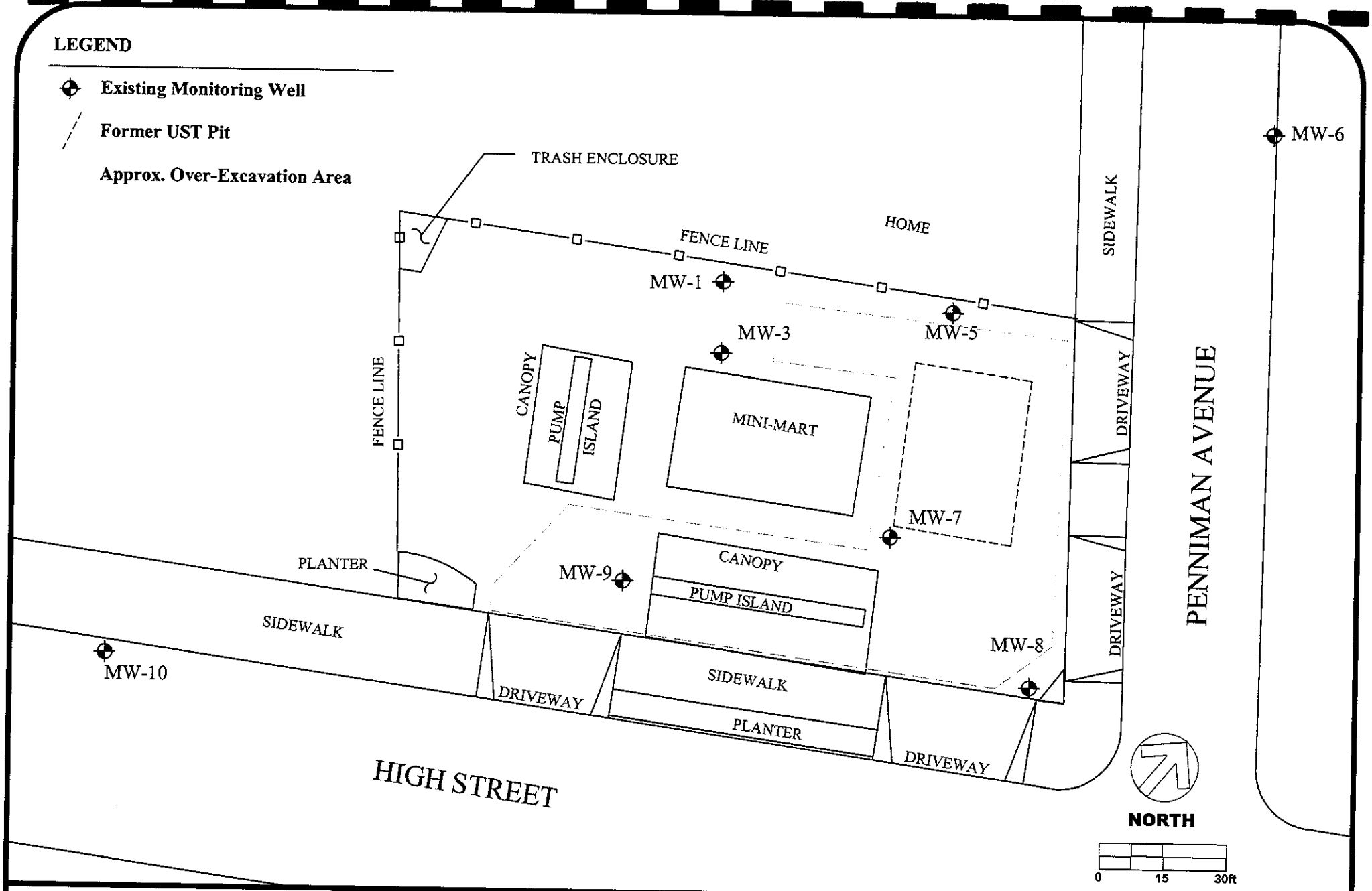
Express Gas & Mart

2951 High Street, Oakland, California

FIGURE

1

Job No. 3936

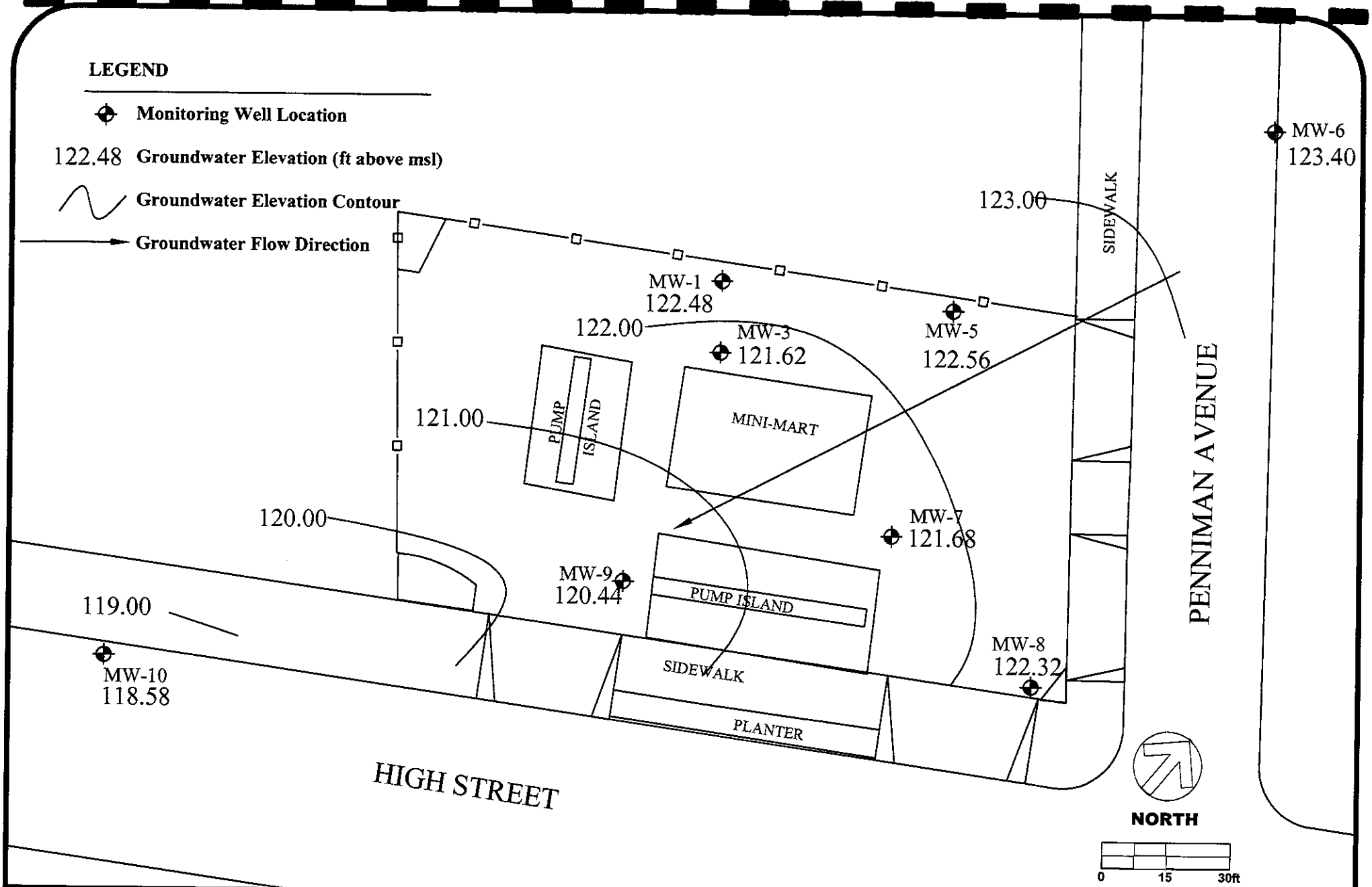


W.A. Craig, Inc.
6940 Tremont Road LIC# 455752
Dixon, California 95620-9603
PH# (707) 693-2929 Fax# (707) 693-2922

Site Plan

Express Gas & Mart
2951 High Street
Oakland, California

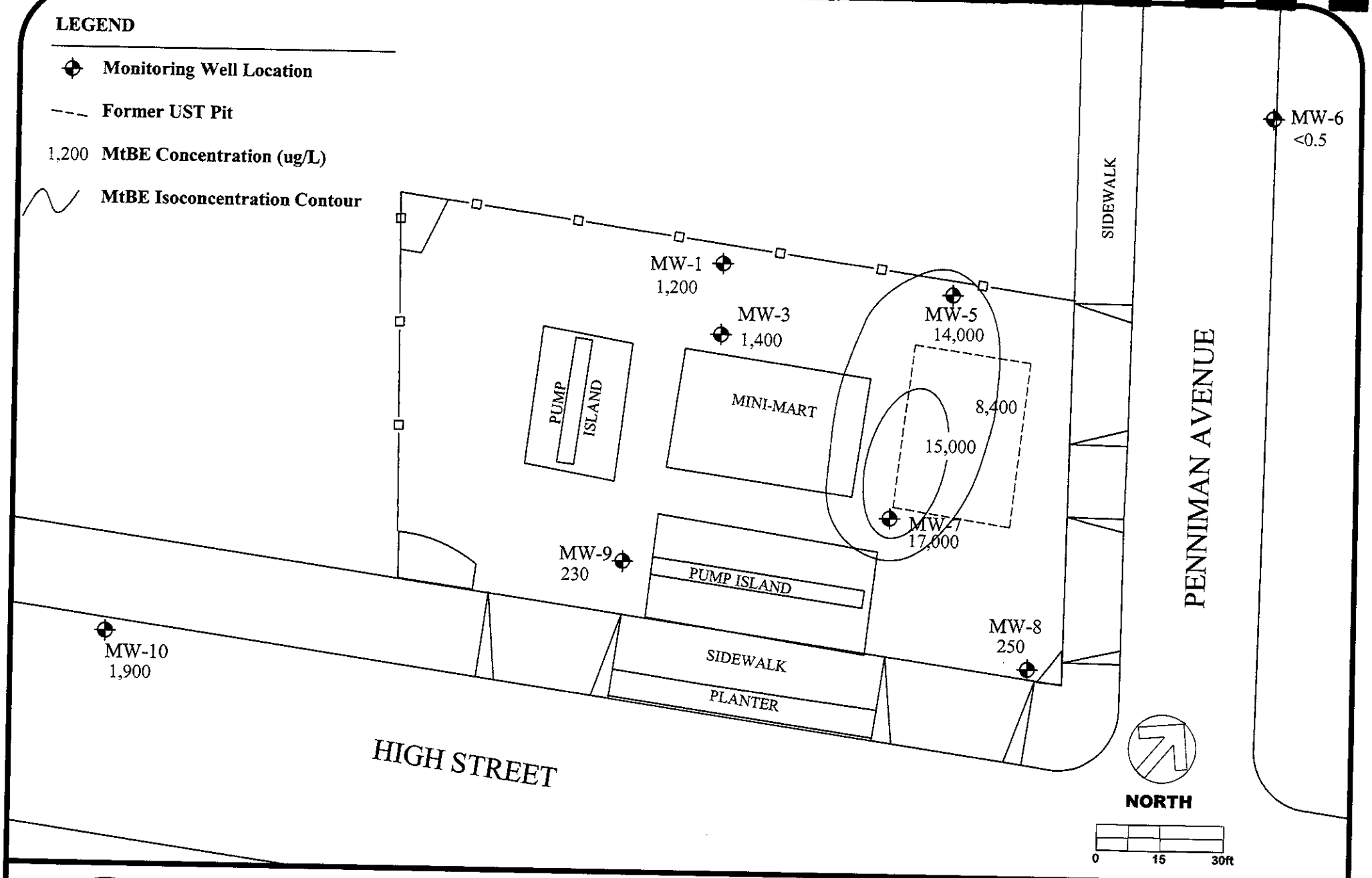
Project #: 3936	Figure: 2
Date: 12/2/03	
Scale: 1"=30'	



W.A. Craig, Inc.
6940 Tremont Road LIC# 455752
Dixon, California 95620-9603
PH# (707) 693-2929 Fax# (707) 693-2922

Groundwater Elevations
October 28, 2003
Express Gas & Mart
2951 High Street
Oakland, California

Project #: 3936	Figure: 3
Date: 11/7/03	
Scale: 1"=30'	



W.A. Craig, Inc.
6940 Tremont Road LIC# 455752
Dixon, California 95620-9603
PH# (707) 693-2929 Fax# (707) 693-2922

MtBE Concentrations in Groundwater
October 28, 2003
Express Gas & Mart
2951 High Street
Oakland, California

Project #: 3936	Figure: 4
Date: 12/2/03	
Scale: 1"=30'	

APPENDIX A
MONITORING WELL SAMPLING LOGS

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: High St

DATE: 10/28/03

JOB #: 3936

SAMPLER'S INITIALS: CM

WELL ID: MW-7

WELL DIAMETER (in):

WELL DEPTH (ft):

DEPTH TO WATER (ft): 9.25

WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal):

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.

3 VOLUMES (gal): 7.8

PURGE METHOD: bailer

SAMPLING METHOD: bailer

D.O. Initially: .99@20.5

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
12:18	2	21.8	6.49	1318	murky		some odor / no sheen
	4	21.7	6.49	1320			.53@20.3 1st C.V.
	6	21.3	6.49	1351			
	7	20.8	6.49	1367			
	8	20.7	6.5	1382			
							D.O After Purge and Sample .43@20.5

WELL ID: MW-8

WELL DIAMETER (in):

WELL DEPTH (ft):

DEPTH TO WATER (ft): 8.83

WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal):

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.

3 VOLUMES (gal): 8

PURGE METHOD: bailer

SAMPLING METHOD: bailer

D.O. Initially: .91@21.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
12:40	2	23.7	6.89	584	cloudy		NO
	4	23.3	6.77	591			one clean up
	6	22.8	6.77	607			.52@21.3 1st C.V.
	7	22.4	6.78	610			
	8	22.3	6.78	615			
							D.O After Purge and Sample 1.04@21.3

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Hyn St

DATE: 10/28/03 JOB #: 3936

SAMPLER'S INITIALS: CM

WELL ID: MW- 9 WELL DIAMETER (in):

WELL DEPTH (ft): DEPTH TO WATER (ft): 9.56 WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal): 3 VOLUMES (gal): 7.7

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: 2.41 @ 20.4

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
1:55	2	22.7	7.11	1116			NOS
	4	22.5	7.19	1124			.68 @ 20.3 1st C.V.
	6	22.1	7.26	1166			good recharge
	7	21.8	7.29	1165			
	8	21.6	7.31	1166			
							D.O After Purge and Sample 1.02 @ 20.3

WELL ID: MW- 10 WELL DIAMETER (in):

WELL DEPTH (ft): DEPTH TO WATER (ft): 8.61 WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal): 3 VOLUMES (gal): 8.2

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: 2.55 @ 19.6

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
2:05	2	21.5	7.00	669	clear		NOS
	4	21.2	6.94	668			good recharge .72 @ 19.7
	6	21.2	6.93	675			
	7	21.2	6.91	681			
	8	21.2	6.92	683			
							D.O After Purge and Sample .66 @ 19.7

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Nigh 59 JOB #: 3936

DATE: 12/25/03 SAMPLER'S INITIALS: cm

WELL ID: MW-~~8~~ 1 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): ~~9.43~~ 9.16 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 7.25

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: ~~.67@19.1~~ .51@19.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
11.31	2	22.5	6.35	561			NOS
	4	22.4	6.34	569			Draw Down 7' / .63@19.6 ← 1st C.V
	6	21.9	6.36	574			
	7	21.6	6.38	584			
	8	21.3	6.37	586			
							D.O After Purge and Sample .61@20.4

WELL ID: MW-~~8~~ 3 WELL DIAMETER (in): _____

WELL DEPTH (ft): _____ DEPTH TO WATER (ft): ~~9.16~~ 9.43 WATER COLUMN Ht (ft): _____

STANDING WATER VOLUME (gal): _____ 3 VOLUMES (gal): 7.9

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: bailer SAMPLING METHOD: bailer

D.O. Initially: ~~.51@19.3~~ .67@19.1

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
1:07	2	20.9	7.03	551			NOS
	4	20.7	6.73	569			Draw down = 8'
	6	20.5	6.56	531			.55@19.7 1st C.V
	7	20.1	6.48	519			
	8	19.8	6.40	517			
							D.O After Purge and Sample .53@20.1

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: High St

DATE: 10/25/03 JOB #: 3136

WELL ID: MW-6 WELL DIAMETER (in): SAMPLER'S INITIALS: CM

WELL DEPTH (ft): DEPTH TO WATER (ft): 9.18 WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal): 3 VOLUMES (gal): 10.1

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: 1.26 @ 19.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
10:15	2	21.3	6.65	611	moddy		NO5
	4	21.1	6.85	612			
	6	20.8	7.00	603			1.31 @ 19.3
	8	20.3	6.77	612			draw down ~ 5'
	10.5	20.4	6.78	619			
							D.O After Purge and Sample 1.25 @ 19.4

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

WELL DEPTH (ft): DEPTH TO WATER (ft): 9.43 WATER COLUMN Ht (ft):

STANDING WATER VOLUME (gal): 3 VOLUMES (gal): 10.3

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: 1.83 @ 19.7

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
	2	23.0	7.25	1951			
	4	22.7	7.32	1981			Some odor
	6	21.1	7.60	1.95 ms			0.56 @ 19.7
	8	21.1	7.81	1.97			Slow Recharge / Bailed Dry
	10	21.1	7.91	1.96			
							D.O After Purge and Sample 1.68 @ 19.9

APPENDIX B
LABORATORY ANALYTICAL REPORT

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

W. A. Craig Inc.	Client Project ID: #3936; High St.	Date Sampled: 10/28/03
6940 Tremont Road		Date Received: 10/28/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 10/30/03-11/04/03
	Client P.O.:	Date Analyzed: 10/30/03-11/04/03

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0310468

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-6	W	ND	ND	ND	ND	ND	ND	1	102
002A	MW-5	W	740,f	10,000	290	ND<5.0	ND<5.0	7.2	10	120
003A	MW-1	W	ND	1100	ND	ND	ND	ND	1	102
004A	MW-3	W	ND	1500	ND	ND	ND	ND	1	102
005A	MW-9	W	ND	230	ND	ND	ND	ND	1	103
006A	MW-10	W	76,f	1900	ND	ND	ND	ND	1	109
007A	MW-7	W	10,000,a	20,000	750	370	750	1000	20	107
008A	MW-8	W	ND	250	ND	ND	ND	ND	1	106
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
		S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical Inc.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

W. A. Craig Inc.	Client Project ID: #3936; High St.	Date Sampled: 10/28/03
6940 Tremont Road		Date Received: 10/28/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 10/30/03-10/31/03
	Client P.O.:	Date Analyzed: 10/30/03-10/31/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0310468

Lab ID	0310468-001B	0310468-002B	0310468-003B	0310468-004B	Reporting Limit for DF =1	
Client ID	MW-6	MW-5	MW-1	MW-3		
Matrix	W	W	W	W		
DF	1	330	100	100	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<170	ND<50	ND<50	NA	0.5
t-Butyl alcohol (TBA)	ND	ND<1700	ND<500	ND<500	NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<170	ND<50	ND<50	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<170	ND<50	ND<50	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<170	ND<50	ND<50	NA	0.5
Ethanol	ND	ND<17,000	ND<5000	ND<5000	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND<170	ND<50	ND<50	NA	0.5
Methanol	ND	ND<170,000	ND<50,000	ND<50,000	NA	500
Methyl-t-butyl ether (MTBE)	ND	14,000	1200	1400	NA	0.5
Surrogate Recoveries (%)						
%SS:	103	102	97.8	99.3		
Comments	i		i			

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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W. A. Craig Inc.	Client Project ID: #3936; High St.	Date Sampled: 10/28/03
6940 Tremont Road		Date Received: 10/28/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 10/30/03-10/31/03
	Client P.O.:	Date Analyzed: 10/30/03-10/31/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0310468

Lab ID	0310468-005B	0310468-006B	0310468-007B	0310468-008B	Reporting Limit for DF =1	
Client ID	MW-9	MW-10	MW-7	MW-8		
Matrix	W	W	W	W		
DF	10	100	1000	10	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<50	ND<500	ND<5.0	NA	0.5
t-Butyl alcohol (TBA)	57	ND<500	ND<5000	ND<50	NA	5.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<50	ND<500	ND<5.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<50	ND<500	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND<5.0	ND<50	ND<500	ND<5.0	NA	0.5
Ethanol	ND<500	ND<5000	ND<50,000	ND<500	NA	50
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<50	ND<500	ND<5.0	NA	0.5
Methanol	ND<5000	ND<50,000	ND<500,000	ND<5000	NA	500
Methyl-t-butyl ether (MTBE)	230	1900	17,000	250	NA	0.5
Surrogate Recoveries (%)						
%SS:	94.1	99.3	99.7	97.5		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0310468

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 9129 Spiked Sample ID: 0310468-008A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	60	94.2	96.2	2.18	108	108	0	70	130
MTBE	252.90	10	NR	NR	NR	87	92.2	5.83	70	130
Benzene	ND	10	106	106	0	93.3	96.4	3.20	70	130
Toluene	ND	10	105	105	0	97.4	100	2.68	70	130
Ethylbenzene	ND	10	108	107	0.803	111	112	1.00	70	130
Xylenes	ND	30	110	110	0	100	103	3.28	70	130
%SS:	106	100	107	106	0.764	100	101	1.32	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

McCampbell Analytical Inc.
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QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0310468

EPA Method: SW8260B Extraction: SW5030B BatchID: 9127 Spiked Sample ID: 0310489-007A

	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
tert-Amyl methyl ether (TAME)	ND	10	109	103	5.74	110	105	4.17	70	130
t-Butyl alcohol (TBA)	ND	50	103	101	1.66	113	114	1.40	70	130
1,2-Dibromoethane (EDB)	ND	10	113	110	2.65	116	115	1.31	70	130
1,2-Dichloroethane (1,2-DCA)	ND	10	119	116	2.07	117	113	3.62	70	130
Diisopropyl ether (DIPE)	ND	10	125	123	1.63	120	116	2.68	70	130
Ethanol	ND	500	104	102	2.37	94.9	96.2	1.34	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	110	108	2.23	111	108	2.71	70	130
Methanol	ND	2500	99.7	101	1.22	98.7	98.7	0	70	130
Methyl-t-butyl ether (MTBE)	0.58	10	111	109	1.80	114	110	4.39	70	130
%SS1:	104	100	104	105	1.27	100	99.1	1.23	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

WOC

0310468

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
(925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

Turn Around Time: RUSH 24 HR 48 HR 72 HR 5 DAY
EDF Required: Yes No

Report To: Tim Cook Bill To: W. A. Craig, Inc.
Company: W.A. Craig, Inc.
Address: 6940 Tremont Rd., Dixon, CA 95620
E-Mail: tech@wacraig.com
Tel: (707) 693-2929 Fax: (707) 693-2922
Project #: 2136 Proj. Name: High St.
Project Location: Oakland CA
Sampler Signature:

SAMPLE ID	DEPTH	DATE	TIME	# Containers	Type Containers	MATRIX: Water	MATRIX: Soil	METHOD PRESERVED: Ice	HCl	HNO_3	H_2SO_4
MW-6		10/28/03	10:15	3	VOA	X		X	X		
MW-5						X					
MW-1			11:31								
MW-3			11:07								
MW-9			11:55								
MW-10			1:05								
MW-7			12:18								
MW-8			12:40								

Analysis Request

BTEX+MtBE & TPH-g (8021B & 8015M)	TPH as Diesel (8015M)	Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	Halogenated VOCs (EPA 601 / 8010)	BTEX only (EPA 602 / 8021B)	Fuel Additives/Oxygenates (EPA 8260)	VOCs (EPA 8260) 8 Oxygenates only	SVOCs (EPA 625/8270)	Pesticides (EPA 608/8081)	PCBs only (EPA 608/8080)	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)
X							X						

Comments

Relinquished By:	Date:	Time:	Received By:
Clayton McKee	10/28/03	2:40	
	10/28	7:15	

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVATION VOAs O&G METALS OTHER
APPROPRIATE CONTAINERS ✓
PERSERVED IN LAB

McCampbell Analytical Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0310468

Client:

W. A. Craig Inc.
6940 Tremont Road
Dixon, CA 95620-9603

TEL: (707) 693-2929
FAX: (707) 693-2922
ProjectNo: #3936; High St.
PO:

Date Received: **10/28/03**
Date Printed: **10/28/03**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests		
					<>	SW8021B/8015Cm	SW8260B
0310468-001	MW-6	Water	10/28/03	☐	A	A	B
0310468-002	MW-5	Water	10/28/03	☐		A	B
0310468-003	MW-1	Water	10/28/03	☐		A	B
0310468-004	MW-3	Water	10/28/03	☐		A	B
0310468-005	MW-9	Water	10/28/03	☐		A	B
0310468-006	MW-10	Water	10/28/03 1:05:00	☐		A	B
0310468-007	MW-7	Water	10/28/03	☐		A	B
0310468-008	MW-8	Water	10/28/03	☐		A	B

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.