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QUARTERLY GROUNDWATER MONITORING REPORT
First Quarter 2003

PROJECT SITE:

Oakland Truck Stop
1107 5th Street
Oakland, California

PREPARED FOR:

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Project No. 3628

March 24, 2003

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PROFESSIONAL CERTIFICATION

QUARTERLY GROUNDWATER MONITORING REPORT

First Quarter 2003

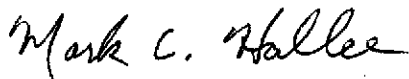
Oakland Truck Stop
1107 5th Street
Oakland, California
Fuel Leak Site No. RO0000234

by W.A. Craig, Inc.

Project No. 3628
March 24, 2003

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INTRODUCTION

This report has been prepared to document the results of quarterly groundwater monitoring at the Oakland Truck Stop in Oakland, California (the "Site"). The quarterly monitoring was conducted on February 12, 2003. The monitoring is part of an ongoing investigation of subsurface contamination caused by accidental fuel releases from underground storage tanks (USTs). The work is being performed by W.A. Craig, Inc. (WAC) on behalf of Rinehart Distributing, Inc. The lead agency overseeing the investigation is Alameda County Environmental Health Services (ACEHS). The corrective action case has been designated as Fuel Leak Site No. RO0000234.

Site Location and Description

The Oakland Truck Stop is located at 1107 5th Street in Oakland, California (**Figure 1**). The property is owned by Mr. Tony Muir, who has leased the Site to Rino Pacific, Inc. and Rinehart Distributing, Inc. (Rinehart). The Site is located in a commercial and industrial part of west Oakland. Improvements to the property include a service station building, two underground storage tanks, four fuel dispenser islands, a truck scale, and a scale house. The principal features at the Site are shown on **Figure 2**.

The property is bounded on the north by 5th Street, an elevated BART rail track, and the Nimitz Freeway, on the west by Adeline Street, on the east by Chestnut Street, and on the south by Oliver's Hoffbrau (restaurant) and parking lot. The surface elevation at the Site is approximately 10 feet above mean sea level. The topography is flat, with a gentle slope to the southwest. The nearest surface water body is the Oakland Estuary, located approximately 2,400 feet to the south.

The groundwater table fluctuates seasonally between about 10 inches and 4 feet below grade. The direction of groundwater flow has varied from southwest to north, and may be affected by localized recharge from leaking water or sewer lines. Because of this variability, interpretation of the groundwater gradient is sometimes uncertain.

Site Background

The Site was developed as a truck stop approximately 40 years ago and has been in operation throughout the subsequent period. Three 10,000-gallon USTs and one 8,000-gallon UST were formerly maintained at the Site. Two of the 10,000-gallon USTs were used to store diesel fuel and the third was for unleaded gasoline. The 8,000-gallon UST also stored unleaded gasoline. Prior to a recent remodel of the Site, fuel system product lines were of single-wall fiberglass construction.

In 1995 an accidental release of fuel occurred due to a leak in a product line. The faulty product line was replaced as soon as the leak was discovered. Groundwater monitoring wells MW-1 through MW-3 were installed in November 1996 for an assessment of contamination caused by the release. Interim remediation was performed by installing two product recovery sumps equipped with skimmers. Approximately six gallons of gasoline were recovered and the free product thickness was reduced to a sheen in the recovery sumps. The sumps were removed from the Site during leaseholder improvements in 1999.

The four older USTs were replaced with two 15,000-gallon, double-wall fiberglass USTs in March 1999. An interim remedial action was necessary during the UST replacements in order to address contaminated soil and groundwater. The following table presents a summary of the interim remedial activities performed at the Site by Trinity Excavating and Engineering, Inc. of Santa Rosa, California.

Feb 8-10, 1999	Excavated to top of tanks and rinsed four USTs
Feb 11, 1999	Removed and disposed the USTs offsite (observed by Fire Inspector)
Mar 3-4, 1999	Removed approximately 2,100 tons of contaminated soil from excavation bottom and sides. Collected soil samples as directed by Fire Inspector. Tested excavation and stockpile samples. Removed groundwater from pit as needed. Pumped approximately 33,000 gallons of contaminated groundwater into temporary storage tanks.
Feb 24 - May 19, 1999	Loaded, manifested, and disposed 2,000 tons of contaminated soil at the Forward non-hazardous disposal facility near Stockton, California.
Feb 11 - May 6, 1999	Placed approximately 1,700 tons of backfill.
May 3-5, 1999	Transported and disposed contaminated water at Seaport Environmental, Inc., a licensed disposal facility in Redwood City, California.

Groundwater monitoring wells MW-4 through MW-9 were installed in August of 2000 during additional site characterization activities. Petroleum hydrocarbon contamination was detected in each of the new wells, and particularly in MW-7. The latter well was also noted to contain floating petroleum product on several occasions.

The ACEHS issued a letter to Rinehart on July 27, 2001 requesting that additional investigation be performed to delineate the extent of petroleum hydrocarbons contamination. A *Site Investigation Work Plan* was subsequently prepared by WAC and approved by the ACEHS. The ensuing investigation included the installation of two monitoring wells on the adjacent property to the south (Oliver's Hoffbrau), and the replacement of monitoring well MW-3 with MW-3N. These tasks were completed on May 8, 2002.

On May 23, 2002 ACEHS requested an investigation to determine whether hydrocarbons were migrating offsite along preferential pathways such as utility trenches. WAC submitted a Work Plan to ACEHS, which was approved with only minor changes. The utility conduit investigation was conducted on July 19, 2002 and focused upon the sanitary sewer lines underlying 5th Street and Chestnut Street. The resulting sampling data indicated high concentrations of contaminants directly north of the Site. Methyl tert-butyl ether (MtBE) concentrations were 170,000 to 460,000 µg/L in grab groundwater samples from borings drilled along the 5th Street sewer line. In contrast, borings along the Chestnut Street sewer indicated there was little migration of contaminants east of the Site. The results of this investigation were described in WAC's October 28, 2002 report entitled *Quarterly Groundwater Monitoring and Utility Corridor Investigation Report, Third Quarter 2002*.

WAC prepared an *Interim Remedial Action Plan (IRAP)* for the Site on December 31, 2002. The IRAP recommended that four major tasks be implemented: 1) free product removal from well MW-7; 2) installation of two monitoring wells north of 5th Street, and another well at the corner of 5th and Chestnut; 3) conduct additional investigation along the sewer line corridor of 5th Street; and 4) installation of an ozone-sparge system to reduce contaminant concentrations in the vicinity of the former USTs. The ACEHS requested several minor changes to the proposed IRAP, but otherwise granted its approval on March 4, 2003.

Site Conceptual Model

A conceptual model for the Site was developed for the IRAP based on data collected through November 2002, including information from the earlier sewer corridor investigation. The Site conceptual model has the following characteristics:

- There are high concentrations of petroleum hydrocarbon constituents dissolved in the shallow groundwater (i.e., from 4 to 15 feet deep).
- MtBE is the primary dissolved-phase chemical of concern in the groundwater.
- The highest contaminant concentrations occur north of the UST pit, but the downgradient extent of the plume is not yet defined.
- Free-phase petroleum product is present in the vicinity of well MW-7.
- Tert-butyl alcohol (tBA), a by-product of MtBE degradation, has only recently been detected in groundwater samples from MW-5 and MW-6, indicating limited natural attenuation of the MtBE.
- The sanitary sewer trench running along 5th Street may be a pathway for the lateral migration of contaminated groundwater (this will be evaluated further when the IRAP recommendations are implemented).

- The Site is underlain at a depth of 12 to 15 feet by silty-clay and clayey-silt commonly referred to as the Bay Mud. This relatively impermeable strata has limited the vertical migration of petroleum hydrocarbons.
- There are no beneficial users of groundwater within 1,000 feet of the Site.

Beneficial Uses of Groundwater

Corrective actions at the Oakland Truck Stop are subject to several regulatory considerations. The shallow aquifer beneath the Site has no beneficial use as a drinking water resource due to the high total dissolved solids concentration (TDS >3,000 mg/L). Proposed Groundwater Amendments to the Water Quality Control Plan (Basin Plan) of April 2000 state that shallow groundwater to a depth of about 100 feet in portions of the East Bay Plain is often brackish due to seawater intrusion. However, the Basin Plan also indicates that well yields may be sufficient for industrial or irrigation uses. In the East Bay Plain there are deep aquifers that will continue to be designated as potential drinking water resources. Under this setting, the deep aquifers (defined as aquifers below the Yerba Buena Mud) are subject to protection as potential drinking water resources.

The Basin Plan states that in areas where groundwater has no beneficial use as a drinking water resource, remedial action objectives should be protective of ecological receptors, human health, and potential non-potable uses for groundwater (e.g., irrigation or industrial process supply). In addition, State Board Resolution No. 92-49 states that polluted sites shall continue to be required to demonstrate that 1) reasonably adequate source removal has occurred, 2) the plume has been reasonably defined both laterally and vertically, and 3) a long-term monitoring program is established to verify that the plume is stable and will not impact ecological receptors or human health.

Cleanup Goals

WAC considered potential cleanup goals for the site in the recent IRAP (December 31, 2002). The Site does not qualify for the use of the City of Oakland's Risk-Based Screening Levels (RBSL) because non-aqueous phase petroleum hydrocarbons are present, and at least one preferential pathway for off-site migration has been identified (i.e., the sewer line trench along 5th Street). Therefore, interim cleanup goals must address these issues:

- Removal of non-aqueous phase hydrocarbons (free-product) in the vicinity of well MW-7; and
- Reduction of contaminant concentrations in the source area to mitigate potential offsite migration along buried utility lines.

After these two interim remedial goals are achieved, the Oakland Risk-Based Corrective Action process will be used to help select a final remedial solution.

SCOPE OF WORK

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

- Installed a passive product skimmer in well MW-7 at the start of January 2003;
- Performed regular visits to the Site to empty product collected by the skimmer;
- Replaced damaged vaults on wells MW-4, MW-6, MW-8, and MW-9;
- Measured dissolved oxygen concentrations and static water levels in eight onsite and two offsite monitoring wells;
- Purged each monitoring well of stagnant water while collecting field measurements of water quality parameters;
- Collected groundwater samples from the 10 monitoring wells;
- Analyzed the groundwater samples for: total petroleum hydrocarbons (TPH, gasoline and diesel range, by Method 8015CM); MtBE, benzene, toluene, ethylbenzene, and xylenes (BTEX, by Method 8021B); and the fuel additives DIPE, EtBE, MtBE, tAME, tBA, methanol, ethanol, EDB, and 1,2-DCA (by Method 8260B; see notes to **Table 3** for chemical names); and
- Prepared this *Quarterly Monitoring Report*.

FIELD METHODS

Groundwater Level Measurements

WAC staff began the quarterly monitoring by measuring water levels in all 10 wells installed for the Site investigation. The measurements were made using an electronic well sounder. Prior to taking a measurement, the cap was removed from each well and the water level was allowed to equilibrate with atmospheric pressure for approximately 30 minutes. The static depth-to-water measurements were used to obtain groundwater elevations (**Table 1**). The water level measurements were also used to calculate the volume of standing water in each well. It was noted during the monitoring that the protective vaults of four wells were damaged. WAC staff replaced the damaged vaults on February 25, 2003.

Groundwater Purging and Sampling

After taking the water level measurements, WAC staff purged and sampled groundwater from the 10 monitoring wells. At least three volumes of standing water were purged from each well prior to collecting the groundwater samples. Purging was accomplished using a disposable polyethylene bailer. The temperature, pH, conductivity, and turbidity of the groundwater were intermittently monitored with portable instrumentation during purging of each well. Dissolved oxygen measurements were also made prior to the start of purging. The resulting water quality measurements were recorded on Monitoring Well Sampling Logs (**Appendix A**).

Groundwater samples were collected using disposable polyethylene bailers and then decanted into 40-ml vials specific to volatile organic analyses (VOA vials). The sample vials were provided by the laboratory and were pre-preserved with hydrochloric acid (HCl). Samples for TPH-d analyses were placed into 1-liter amber glass bottles without acid preservative. Samples were stored in the field in ice chests cooled with ice until delivery to the laboratory. The samples were submitted under chain-of-custody control to McCampbell Analytical, Inc. (MAI). MAI is a DHS-certified laboratory located in Pacheco, California.

All reusable down-well equipment was decontaminated after each use by washing in a laboratory-grade detergent solution followed by a tap water or deionized water rinse. Well purge water was placed into 55-gallon DOT drums pending the receipt of the laboratory analyses. Drummed purge water was transported to Seaport Environmental, Inc., a licensed disposal facility located in Redwood City, California.

Floating Product Removal

A passive skimmer was placed inside monitoring well MW-7 on January 9, 2003. The skimmer has the capacity to collect one liter of free product before it must be emptied. WAC staff visited the Site on January 9, 14, 21, and 28 to service the skimmer. Approximately 1.15 liters of product were removed from MW-7 during January. The product emptied from the skimmer was placed in a 55-gallon DOT drum for temporary storage. A record of the product recovered is included in **Appendix B**. Static groundwater levels are currently at the seasonal high, and nearly above the screened interval of MW-7. Thus, little free product is entering that well at present.

DATA EVALUATION

Groundwater Levels

Groundwater level data are summarized in **Table 1**. The depth to water measurements this quarter ranged from 1.07 feet below top of casing at MW-10 to 5.64 feet at MW-7. Static water levels at the Site were on average 0.74 feet higher than the last monitoring event in November

2002. Groundwater elevations were highest in the southernmost well, MW-10, and generally decreased northward. Well MW-11 had a static elevation that was roughly 4 feet lower than would be expected given its southern location. Well MW-1 also had a static elevation that was nearly one foot lower than would be expected for its location. Anomalous water levels have been noted in these two wells in the past.

Groundwater elevation contours for the Site are depicted on **Figure 2**. The contours indicate that the groundwater flow direction is north-northeast. This is similar to previous observations. The gradient was calculated using water levels in MW-3N, MW-4, and MW-9. The resulting calculations indicate the flow direction is N13°E with a slope of 0.023 ft/ft.

Graphs of groundwater elevation versus time for selected monitoring wells are presented on **Figure 3**. The graphs illustrate a seasonal cycle in water levels. The water levels generally rise in winter and decline in summer. The magnitude of the rise and fall is about ½ to 1 foot. The graphs also show that the water level in upgradient monitoring well MW-11 is distinctly different than the other wells.

Groundwater Sampling Results

The wells were purged and sampled on February 12, 2003. The dissolved oxygen (DO) concentration was measured in each well prior to sampling. The DO readings are summarized on **Table 2**. Other field water quality measurements are noted on the Monitoring Well Sampling Logs in **Appendix A**. The DO measurements indicate that oxygen concentrations remain quite low in all wells. Only three wells had a DO concentration above 0.5 mg/L (MW-1, MW-9, and MW-11), and the highest DO was only 1.03 mg/L in MW-1. The average among all monitoring wells was 0.39 mg/L, or about 4% of the potential oxygen saturation concentration.

The specific conductance (SC) of the groundwater (an indicator of TDS concentration) generally ranges between 1,000 and 2,000 microSiemens (μ S). However, the SC in MW-10 is generally much lower, at only 515 μ S this quarter. In contrast, the SC in MW-1 and MW-9 is generally within the range of 4,000 to 5,000 μ S. These two wells are both located in the southwestern quadrant of the Site.

Groundwater samples were laboratory analyzed for TPH (gasoline and diesel range) using EPA Method 8015 (modified), for BTEX and MtBE using EPA Method 8021B, and for fuel additives (mainly oxygenates) using EPA Method 8260B. The Method 8260B analysis for MtBE is generally considered to be more accurate than Method 8021B. Consequently, the discussions in this report will use the MtBE results determined by Method 8260B. The analytical data are summarized on **Table 3** and the laboratory reports are included in **Appendix C**.

The gasoline oxygenate MtBE was detected in nine of 10 monitoring wells, with eight of the wells exceeding the 13 $\mu\text{g/L}$ California Maximum Contaminant Level (MCL) for drinking water. This result is similar to last quarter. Upgradient well MW-10 was the only one reported to be non-detect for MtBE. In the past, however, traces of MtBE have been detected in MW-10. The detected MtBE concentrations this quarter ranged from a low of 3 $\mu\text{g/L}$ in upgradient well MW-11 to a high of 110,000 $\mu\text{g/L}$ in MW-7. As in the past, MtBE concentrations were above 50,000 $\mu\text{g/L}$ in wells MW-4, MW-7, and MW-8.

Figure 4 depicts the current lateral extent of the MtBE plume in shallow groundwater. MtBE concentrations are highest along the northern side of the Site. The plume undoubtedly extends offsite to the north, as indicated by sampling results from WAC's sewer trench investigation in mid-2002. **Figure 5** shows graphs of MtBE versus time for monitoring wells with the highest concentrations. The graphs suggest that MtBE levels have been slowly decreasing over time, except in well MW-6, where the MtBE concentration appears to fluctuate with a year-long wavelength.

Other fuel additives/oxygenates have generally not been detected in the groundwater samples (**Table 3**). The single exception to that observation is tBA, which was first detected in MW-6 during the August 2002 monitoring event. Since then, tBA has also been detected in MW-5. These two wells are located adjacent to the former USTs. The current sampling results indicate tBA concentrations of 3,200 $\mu\text{g/L}$ and 4,600 $\mu\text{g/L}$, respectively, for MW-5 and MW-6. tBA can form as a result of the incomplete breakdown of MtBE. If this is the reason for tBA's recent detection, then it indicates that indigenous microbes are capable of effecting biodegradation of the contaminants. The California DHS has established a drinking water Action Level of 12 $\mu\text{g/L}$ for tBA.

TPH-d was detected in all wells at concentrations ranging from 71 $\mu\text{g/L}$ in MW-10 to 75,000 $\mu\text{g/L}$ in MW-7. As in prior monitoring events, BTEX and TPH-g were generally below the laboratory reporting limits in most wells. Well MW-7 is the main exception to that generalization, and exhibits high concentrations of BTEX and TPH-g (**Table 3**). The general absence of BTEX contamination at the Site is illustrated on **Figure 6**, which depicts the analytical results for benzene this quarter. Only two monitoring wells had detectable benzene (MW-5 and MW-7).

CONCLUSIONS

The groundwater elevation data indicate that the gradient is north-northeasterly, which is generally similar to prior recent quarters. Dissolved oxygen concentrations remain within, or close to, the anaerobic range in all wells. This may be due in part to the biodegradation of

hydrocarbons and the resulting consumption of DO. Other evidence of possible biodegradation is provided by the recent detections of tBA, which is a breakdown product of MtBE.

The specific conductance (conductivity) of the groundwater indicates that the California secondary drinking water MCL (900 μ S) is exceeded in almost all wells, and particularly in wells MW-1 and MW-9. The single exception is MW-10, where the SC is well below the secondary MCL. This suggests that there may be a leaking water line in the vicinity of MW-10, which would bias the sampling data from that well.

The laboratory data indicate little significant change in contaminant concentrations since last quarter. The highest levels of contamination are located along the northern side of the Site, and particularly around wells MW-4 and MW-7. MtBE is the primary chemical of concern impacting groundwater. The dissolved MtBE plume has spread offsite an undetermined distance to the north, and may be migrating preferentially along the sewer line trench beneath 5th Street. Although MtBE concentrations remain significantly above the MCL in most wells, there appears to be a trend of slowly decreasing MtBE concentrations over the past two years in many of the monitoring wells. Well MW-11 in particular has experienced a steady decline in MtBE from 310 μ g/L in May 2002 to only 2.6 μ g/L in the current quarter. Considering the high concentrations of MtBE and moderately high concentrations of TPH-g and TPH-d at this Site, the general absence of correspondingly elevated BTEX concentrations is surprising. Well MW-7 is the only one that has elevated BTEX concentrations.

RECOMMENDATIONS

The ACEHS conditionally approved the IRAP in a letter to Rinehart dated March 4, 2003. We are currently preparing a cost estimate to submit to the UST Cleanup Fund. The IRAP will be modified to incorporate the changes requested by ACEHS. The IRAP will be implemented upon approval of the costs by the UST Cleanup Fund. May or June 2003 is tentatively expected to be the timeframe for completion of the additional field investigations and installation of the ozone-sparg system that were recommended in the IRAP. We will continue with quarterly groundwater monitoring and servicing the product skimmer in well MW-7 as needed. The next quarterly monitoring will occur in May 2003.

TABLES

TABLE 1
GROUNDWATER LEVELS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-1 (10-20)	10/21/96	10.34	5.08	5.26
	11/4/96		3.02	7.32
	3/4/97		2.28	8.06
	6/12/97		4.80	5.54
	7/14/97		2.66	7.68
	9/9/97		2.45	7.89
	9/19/97		2.60	7.74
	2/13/98		2.76	7.58
	7/7/98		2.15	8.19
	10/1/98		3.63	6.71
	12/30/98		4.40	5.94
	3/21/00		2.62	7.72
	8/30/00		3.21	7.13
	11/6/00		3.10	7.24
	2/22/01		3.50	6.84
	5/7/01		2.94	7.40
	8/22/01		3.70	6.64
	11/4/01		3.89	6.45
	2/15/02		2.95	7.39
	5/20/02		3.29	7.05
8/1/02	3.51	6.83		
11/11/02	4.00	6.34		
2/12/03	3.40	6.94		
MW-3 (12-17)	10/21/96	10.52	7.66	2.86
	11/4/96		5.70	4.82
	3/4/97		11.38	-0.86
	6/12/97		5.18	5.34
	7/14/97		7.96	2.56
	9/9/97		10.16	0.36
	9/19/97		12.80	-2.28
	2/13/98		11.42	-0.90
	7/7/98		11.76	-1.24
	10/1/98		11.34	-0.82
	12/30/98		4.56	5.96
	3/21/00		10.92	-0.40
	8/30/00		5.12	5.40
	11/6/00		4.10	6.42
	2/22/01		6.60	3.92
	5/7/01		6.30	4.22
	8/22/01		5.21	5.31
11/4/01	5.47	5.05		
Well Abandoned	2/15/02	4.65	5.87	
MW-3N (5-12)	5/20/02	11.67	3.91	7.76
	8/1/02		4.22	7.45
	11/11/02		4.42	7.25
	2/12/03		3.71	7.96

TABLE 1
GROUNDWATER LEVELS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-4 (5-20)	8/30/00	10.46	3.74	6.72
	11/6/00		3.85	6.61
	2/22/01		4.66	5.80
	5/7/01		2.66	7.80
	8/22/01		4.13	6.33
	11/4/01		4.53	5.93
	2/15/02		3.62	6.84
	5/20/02		3.65	6.81
	8/1/02		4.25	6.21
	11/11/02		4.85	5.61
	2/12/03		4.24	6.22
MW-5 (5-20)	8/30/00	10.24	3.01	7.23
	11/6/00		3.35	6.89
	2/22/01		3.00	7.24
	5/7/01		2.73	7.51
	8/22/01		3.88	6.36
	11/4/01		3.95	6.29
	2/15/02		2.84	7.40
	5/20/02		2.86	7.38
	8/1/02		3.21	7.03
	11/11/02		4.04	6.20
	2/12/03		3.12	7.12
MW-6 (5-20)	8/30/00	10.62	3.40	7.22
	11/6/00		3.72	6.90
	2/22/01		3.34	7.28
	5/7/01		3.08	7.54
	8/22/01		3.77	6.85
	11/4/01		4.33	6.29
	2/15/02		3.22	7.40
	5/20/02		3.24	7.38
	8/1/02		3.60	7.02
	11/11/02		4.41	6.21
	2/12/03		3.52	7.10
MW-7 (5-20)	8/30/00	11.69	6.72	4.97
	11/6/00		6.85	4.84
	2/22/01		6.00	5.69
	5/7/01		6.35	5.34
	8/22/01		6.86	4.83
	11/4/01		6.66	5.03
	2/15/02		6.45	5.24
	5/20/02		6.59	5.10
	8/1/02		6.72	4.97
	11/11/02		6.61	5.08
	2/12/03		5.64	6.05

TABLE 1
GROUNDWATER LEVELS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-8 (5-20)	8/30/00	10.06	3.06	7.00
	11/6/00		2.98	7.08
	2/22/01		2.46	7.60
	5/7/01		2.76	7.30
	8/22/01		3.56	6.50
	11/4/01		3.76	6.30
	2/15/02		2.72	7.34
	5/20/02		2.82	7.24
	8/1/02		3.06	7.00
	11/11/02		3.54	6.52
	2/12/03		3.07	6.99
MW-9 (5-20)	8/30/00	10.03	2.81	7.22
	11/6/00		2.68	7.35
	2/22/01		2.20	7.83
	5/7/01		2.75	7.28
	8/22/01		3.80	6.23
	11/4/01		3.61	6.42
	2/15/02		2.92	7.11
	5/20/02		2.38	7.65
	8/1/02		2.72	7.31
	11/11/02		2.87	7.16
	2/12/03		2.43	7.60
MW-10 (5-12)	5/20/02	11.07	4.54	6.53
	6/18/02		4.25	6.82
	8/1/02		1.80	9.27
	11/11/02		1.50	9.57
	2/12/03		1.07	10.00
MW-11 (5-12)	5/20/02	9.64	0.84	8.80
	6/18/02		1.71	7.93
	8/1/02		4.88	4.76
	11/11/02		5.18	4.46
	2/12/03		3.85	5.79

Notes:

All measurements are in feet. Depth to water measurements are from top of casing.

Casing and groundwater elevations are based on USGS "Port 1" benchmark
(elevation 9.39 ft NGVD88).

Well MW-2 was destroyed after the December 1998 monitoring event.

TABLE 2
DISSOLVED OXYGEN CONCENTRATIONS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID	Date	DO (mg/L)	Temperature (C)	DO % Saturation
MW-1	08/30/00	0.27	24.2	3.2%
	11/06/00	0.24	21.8	2.7%
	02/22/01	0.76	15.7	7.6%
	05/07/01	0.79	20.3	8.6%
	08/27/01	0.20	23.9	2.4%
	11/04/01	0.60	22.5	6.9%
	02/15/02	0.32	17.8	3.3%
	05/20/02	0.42	18.9	4.5%
	08/01/02	0.44	20.4	4.8%
	11/11/02	0.51	21.8	5.8%
	02/12/03	1.03	20.2	11.2%
MW-3	08/30/00	0.35	26.4	4.4%
	11/06/00	0.23	22.7	2.6%
	02/22/01	0.97	15.3	9.6%
	08/27/01	0.40	23.9	4.7%
	02/15/02	0.37	18.7	3.9%
Well Abandoned				
MW-3N	05/20/02	0.51	20.6	5.6%
	08/01/02	0.36	22.7	4.1%
	11/11/02	0.27	22.6	3.1%
	02/12/03	0.34	18.2	3.6%
MW-4	08/30/00	0.16	27.4	2.0%
	11/06/00	0.30	23.9	3.5%
	02/22/01	0.85	16.3	8.6%
	05/07/01	0.95	20.5	10.4%
	08/27/01	0.20	26.1	2.5%
	11/04/01	0.30	23.7	3.5%
	02/15/02	0.18	17.0	1.8%
	05/20/02	0.21	20.0	2.3%
	08/01/02	0.26	23.6	3.1%
	11/11/02	0.27	22.4	3.1%
	02/12/03	0.18	18.5	1.9%
MW-5	8/30/00	0.28	27.0	3.6%
	11/6/00	0.24	22.6	2.8%
	2/22/01	0.77	14.7	7.5%
	5/7/01	0.99	19.8	10.7%
	8/27/01	0.20	26.4	2.5%
	11/4/01	0.60	23.1	7.0%
	2/15/02	0.27	16.9	2.8%
	5/20/02	0.22	18.7	2.3%
	08/01/02	0.30	20.8	3.3%
	11/11/02	0.27	21.4	3.0%
	02/12/03	0.18	19.1	1.9%

TABLE 2
DISSOLVED OXYGEN CONCENTRATIONS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID	Date	DO (mg/L)	Temperature (C)	DO % Saturation
MW-6	8/30/00	0.42	27.7	5.4%
	11/6/00	0.23	23.0	2.7%
	2/22/01	1.01	15.3	10.0%
	5/7/01	0.89	21.0	9.9%
	8/27/01	0.15	26.5	1.9%
	11/4/01	0.50	23.0	5.8%
	2/15/02	0.23	18.3	2.4%
	5/20/02	0.25	22.5	2.9%
	8/1/02	0.29	21.1	3.2%
	11/11/02	0.26	21.3	2.9%
	02/12/03	0.23	20.3	2.5%
MW-7	8/30/00	0.17	26.8	2.1%
	11/6/00	0.25	23.5	2.9%
	2/22/01	0.66	17.1	6.8%
	5/7/01	0.56	21.0	6.2%
	8/27/01	0.40	25.4	4.9%
	11/4/01	0.42	24.0	5.0%
	2/15/02	0.18	18.3	1.9%
	5/20/02	0.42	20.2	4.6%
	08/01/02	0.24	22.4	2.7%
	11/11/02	0.25	21.7	2.8%
	02/12/03	0.17	16.2	1.7%
MW-8	8/30/00	0.18	26.4	2.3%
	11/6/00	0.25	23.7	2.9%
	2/22/01	0.69	17.1	7.1%
	5/7/01	0.96	21.1	10.7%
	8/27/01	0.15	26.1	1.9%
	11/4/01	0.30	24.2	3.6%
	2/15/02	0.25	17.0	2.6%
	5/20/02	0.24	20.0	2.6%
	08/01/02	0.21	22.7	2.4%
	11/11/02	0.28	22.8	3.2%
	02/12/03	0.45	20.1	4.9%
MW-9	8/30/00	0.30	22.8	3.5%
	11/6/00	0.31	21.7	3.5%
	2/22/01	0.71	16.2	7.2%
	5/7/01	0.97	18.8	10.3%
	8/27/01	0.20	23.0	2.3%
	11/4/01	0.30	22.1	3.4%
	2/15/02	0.22	17.6	2.3%
	5/20/02	0.25	18.7	2.6%
	08/01/02	0.30	21.2	3.3%
	11/11/02	0.34	22.1	3.9%
	02/12/03	0.54	18.8	5.7%

TABLE 2
DISSOLVED OXYGEN CONCENTRATIONS IN MONITORING WELLS
1107 5th Street, Oakland, California

Well ID	Date	DO (mg/L)	Temperature (C)	DO % Saturation
MW-10	5/20/02	0.21	16.7	2.1%
	08/01/02	0.35	20.0	3.8%
	11/11/02	0.29	18.7	3.1%
	02/12/03	0.17	16.0	1.7%
MW-11	5/20/02	0.22	19.6	2.4%
	8/1/02	0.13	22.4	1.5%
	11/11/02	0.26	22.3	3.0%
	2/12/03	0.59	18.3	6.2%
Statistics for This Quarter				
	Maximum:	1.03	20.3	11.2%
	Minimum:	0.17	16.0	1.7%
	Average:	0.39	18.6	4.1%

Notes:

All measurements were made in the field.

DO, dissolved oxygen concentration in milligrams per liter.

% Saturation = $C/(-0.1883*T+12.9667)$, where C is the concentration and T is temperature.

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
1107 5th Street, Oakland, California

Well ID	Date	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
MW-1	11/4/96	220	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/5/97	230	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/97	290	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/97	180	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/13/98	590	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/7/98	1,400	ND	ND	ND	ND	ND	NA	2.7	NA	NA	NA	NA	NA	NA	NA	NA
	10/1/98	1,100	ND	ND	ND	ND	ND	NA	1.8	NA	NA	NA	NA	NA	NA	NA	NA
	12/30/98	1,700	ND	ND	ND	ND	ND	NA	2.3	NA	NA	NA	NA	NA	NA	NA	NA
	3/21/00	3,100	220	11	ND	ND	ND	NA	4,800	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/00	1,600	140	5.3	<0.5	<0.5	<0.5	2,900	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	1,500	51	1.0	<0.5	<0.5	<0.5	1,700	2,100	<50	<50	<50	<250	NA	NA	<50	<50
	2/22/01	3,000	140	<0.5	<0.5	<0.5	<0.5	1,000	1,100	<20	<20	<20	<100	<4,000	<1,000	<20	<20
	5/7/01	3,800	<50	<0.5	<0.5	<0.5	<0.5	780	1,100	<20	<20	<20	<100	<10,000	<1,000	<20	<20
	8/22/01	1,800	<110	<0.5	<0.5	<0.5	<0.5	1,900	1,600	<25	<25	<25	<130	NA	NA	<25	<25
	11/4/01	1,300	<50	<0.5	<0.5	<0.5	<0.5	1600	1,500	<50	<50	<50	<250	NA	NA	<50	<50
	2/15/02	2,000	<50	<0.5	<0.5	<0.5	<0.5	610	770	<20	<20	<20	<100	<10,000	<1,000	<20	<20
	5/20/02	160	<50	<0.5	<0.5	<0.5	<0.5	570	730	<10	<10	<10	<100	<10,000	<1,000	<10	<10
8/1/02	600	<50	<0.5	<0.5	<0.5	<0.5	480	610	<10	<10	<10	<100	<10,000	<1,000	<10	<10	
11/11/02	2,200	<50	<0.5	<0.5	<0.5	<0.5	510	600	<10	<10	<10	<100	<10,000	<1,000	<10	<10	
2/12/03	1,200	<50	<0.5	<0.5	<0.5	<0.5	540	640	<10	<10	<10	<100	<10,000	<1,000	<10	<10	
MW-2	11/4/96	2,700	910	120	23	3.5	51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/5/97	2,300	4,400	1,500	51	24	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/97	2,400	3,600	1,200	14	12	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/97	970	3,700	570	31	19	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/13/98	2,200	6,500	2,400	31	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/7/98	2,700	5,200	2,800	ND	ND	ND	NA	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA
	10/1/98	1,200	1,200	330	12	8.8	11	NA	360,000	NA	NA	NA	NA	NA	NA	NA	NA
Well Destroyed	12/30/98	1,900	1,000	96	ND	ND	ND	NA	360,000	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	11/4/96	310	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/5/97	210	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/97	94	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/97	2,300	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/13/98	570	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/7/98	1,100	ND	ND	ND	ND	ND	NA	6.6	NA	NA	NA	NA	NA	NA	NA	NA
	10/1/98	390	ND	ND	ND	ND	ND	NA	4.8	NA	NA	NA	NA	NA	NA	NA	NA
	12/30/98	64	ND	ND	ND	ND	ND	NA	4.5	NA	NA	NA	NA	NA	NA	NA	NA
	3/21/00	2,800	ND	ND	ND	ND	ND	NA	4.8	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/00	260	<50	1.3	<0.5	<0.5	<0.5	12	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	940	<50	<0.5	<0.5	<0.5	<0.5	25	12	<1	<1	<1	<5	NA	NA	<1	<1
2/22/01	340	<50	1.2	1.5	<0.5	0.74	18	26	<1	<1	<1	<5	<200	<50	<1	<1	

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
1107 5th Street, Oakland, California

Well ID	Date	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
MW-3 cont'd.	5/7/01	460	140	0.76	4.7	2.2	14	25	33	<1	<1	<1	<5	<200	<50	<1	<1
	8/22/01	130	<50	<0.5	<0.5	<0.5	<0.5	41	44	<1	<1	<1	<5	NA	NA	<1	<1
	11/4/01	190	<50	<0.5	<0.5	<0.5	<0.5	36	43	<1	<1	<1	<5	NA	NA	<1	<1
Abandoned	2/15/02	780	<50	<0.5	<0.5	<0.5	<0.5	38	45	<1	<1	<1	<5	<500	<50	<1	<1
MW-3N	5/20/02	1,800	<50	<0.5	<0.5	<0.5	<0.5	1,100	1,500	<25	<25	<25	<250	<25,000	<2,500	<25	<25
	8/1/02	2,900	<50	<0.5	<0.5	<0.5	<0.5	350	540	<10	<10	14	<100	<10,000	<1,000	<10	<10
	11/11/02	1,100	<50	<0.5	<0.5	<0.5	<0.5	280	270	<5	<5	7.1	<50	<5,000	<500	<5	<5
	2/12/03	1,300	<50	<0.5	<0.5	<0.5	<0.5	380	410	<5	<5	<5	<50	<5,000	<500	<5	<5
MW-4	8/30/00	390	1,300	64	63	9.7	110	210,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	170	<3,300	80	<4	<5	<3	130,000	120,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	11/6/00*	NA	<3,300	86	<4	<7	<6	130,000	120,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	2/22/01	120	<3,300	30	<3	<3	<3	120,000	150,000	<2,500	<2,500	<2,500	<13,000	<500,000	<130,000	<2,500	<2,500
	5/7/01	240	<4,200	<20	<10	<5	<5	150,000	200,000	<5,000	<5,000	<5,000	<25,000	<2,500,000	<250,000	<5,000	<5,000
	8/22/01	300	<5,400	<5	<5	<5	<5	160,000	190,000	<5,000	<5,000	<5,000	<25,000	NA	NA	<5,000	<5,000
	11/4/01	210	<5,000	<5	<5	<5	<5	130,000	170,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	2/15/02	340	<5,000	<5	<5	<5	<10	160,000	160,000	<2,500	<2,500	<2,500	<12,500	<1,250,000	<125,000	<2,500	<2,500
	5/20/02	200	<2,500	<25	<25	<25	<25	98,000	130,000	<1,700	<1,700	<1,700	<17,000	<2,500,000	<170,000	<1,700	<1,700
	8/1/02	200	<2,500	<25	<25	<25	<25	89,000	100,000	<1,700	<1,700	<1,700	<17,000	<1,700,000	<170,000	<1,700	<1,700
	11/11/02	200	<3,000	<25	<25	<25	<25	99,000	84,000	<1,700	<1,700	<1,700	<17,000	<1,700,000	<170,000	<1,700	<1,700
	2/12/03	88	<2500	<25	<25	<25	<25	78,000	70,000	<1,700	<1,700	<1,700	<17,000	<1,700,000	<170,000	<1,700	<1,700
MW-5	8/30/00	450	1,000	<5	<5	<5	<5	52,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	520	<1,000	<1	<1	<1	<1	44,000	42,000	<1,000	<1,000	<1,000	<5,000	NA	NA	<1,000	<1,000
	2/22/01	270	<1,000	<1	<1	<1	<1	30,000	39,000	<500	<500	<500	<2,500	<100,000	<25,000	<500	<500
	5/7/01	470	<1,800	<5	<2	<2	<2	48,000	59,000	<1,000	<1,000	<1,000	<5,000	<500,000	<50,000	<1,000	<1,000
	8/22/01	780	<2,200	<3	<3	<3	<3	63,000	70,000	<1,000	<1,000	<1,000	<5,000	NA	NA	<1,000	<1,000
	11/4/01	670	<1,700	<2	<2	<2	<2	44,000	37,000	<1,000	<1,000	<1,000	<5,000	NA	NA	<1,000	<1,000
	2/15/02	480	<1,100	<1	<1	<1	<1	33,000	33,000	<1,250	<1,250	<1,250	<6,250	<625,000	<62,500	<1,250	<1,250
	5/20/02	1,600	<500	<5	<5	<5	<5	21,000	28,000	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500
	8/1/02	810	<500	<5	<5	<5	<5	21,000	24,000	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500
	11/11/02	2,100	<500	<5	<5	<5	<5	10,000	8,800	<200	<200	<200	10,000	<200,000	<20,000	<200	<200
2/12/03	2,900	<170	30	<1.7	<1.7	<1.7	3,700	3,200	<100	<100	<100	4,100	<100,000	<10,000	<100	<100	
MW-6	8/30/00	1,300	1,300	55	<0.5	16	27	23,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	1,100	<630	7	8.1	<3	5.2	26,000	27,000	<630	<630	<630	<3,200	NA	NA	<630	<630
	2/22/01	420	<200	<5	<5	<5	<5	6,500	8,000	<100	<100	<100	<500	<20,000	<5,000	<100	<100
	5/7/01	900	<1,000	<2	<2	<1	<1	37,000	40,000	<500	<500	<500	<2,500	<250,000	<25,000	<500	<500
	8/22/01	520	<350	<2	<1	<0.5	<0.5	8,600	8,800	<200	<200	<200	<1,000	NA	NA	<200	<200
	11/4/01	420	<500	<2	<2	<0.5	<0.5	12,000	17,000	<250	<250	<250	<1,300	NA	NA	<250	<250
	2/15/02	910	<960	2.6	4.5	<1	4.2	23,000	26,000	<1,000	<1,000	<1,000	<5,000	<500,000	<50,000	<1,000	<1,000
5/20/02	690	<620	<6.2	<6.2	<6.2	<6.2	25,000	37,000	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500	

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
1107 5th Street, Oakland, California

Well ID	Date	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
MW-6 cont'd.	8/1/02	1,100	<250	8.0	<2.5	<2.5	<2.5	8,100	9,100	<170	<170	<170	3,800	<170,000	<17,000	<170	<170
	11/11/02	1,000	<500	<5	<5	<5	<5	11,000	11,000	<250	<250	<250	8,600	<250,000	<25,000	<250	<250
	2/12/03	970	<250	<2.5	<2.5	<2.5	<2.5	7,400	8,300	<120	<120	<120	4,600	<120,000	<12,000	<120	<120
MW-7	8/30/00	2,600	160,000	28,000	15,000	1,200	5,900	800,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	1,700	80,000	23,000	12,000	1,200	5,000	540,000	920,000	<13,000	<13,000	<13,000	<63,000	NA	NA	<13,000	<13,000
	2/22/01	2,000	80,000	19,000	12,000	1,100	3,200	440,000	460,000	<5,000	<5,000	<5,000	<2,500	<1,000,000	<250,000	<5,000	<5,000
	2/22/01*	2,400	84,000	20,000	13,000	1,200	3,400	400,000	500,000	<5,000	<5,000	<5,000	<25,000	<1,000,000	<250,000	<5,000	<5,000
	5/7/01	7,600	100,000	25,000	16,000	1,700	6,600	460,000	520,000	<5,000	<5,000	<5,000	<2,500	<2,500,000	<250,000	<5,000	<5,000
	5/7/01*	8,200	100,000	25,000	17,000	1,700	6,700	530,000	500,000	<5,000	<5,000	<5,000	<25,000	<2,500,000	<5,000	<5,000	<5,000
	8/22/01	22,000	110,000	18,000	12,000	2,000	9,400	240,000	250,000	<5,000	<5,000	<5,000	<25,000	NA	NA	<5,000	<5,000
	11/4/01	6,500	85,000	17,000	2,700	2,100	9,700	150,000	180,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	2/15/02	21,000	96,000	21,000	7,300	2,600	13,000	180,000	200,000	<5,000	<5,000	<5,000	<25,000	<2,500,000	<250,000	<5,000	<5,000
	2/15/02*	29,000	160,000	30,000	27,000	3,700	19,000	170,000	200,000	<5,000	<5,000	<5,000	<25,000	<2,500,000	<250,000	<5,000	<5,000
	5/20/02	310,000	140,000	24,000	21,000	3,800	20,000	180,000	220,000	<5,000	<5,000	<5,000	<50,000	<5,000,000	<500,000	<5,000	<5,000
	8/1/02	160,000	110,000	15,000	16,000	4,000	21,000	120,000	150,000	<2,500	<2,500	<2,500	<25,000	<2,500,000	<250,000	<2,500	<2,500
	11/11/02	240,000	110,000	14,000	11,000	4,100	19,000	74,000	77,000	<1,200	<1,200	<1,200	<12,000	<1,200,000	<120,000	<1,200	<1,200
2/12/03	75,000	130,000	25,000	8,900	3,400	17,000	87,000	110,000	<1,700	<1,700	<1,700	<17,000	<1,700,000	<170,000	<1,700	<1,700	
MW-8	8/30/00	690	<1,000	18	<1	<1	<1	28,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	810	<3,300	<8	<5	<3	<7	120,000	76,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	2/22/01	1,100	<2,500	53	<3	<3	<3	99,000	130,000	<2,000	<2,000	<2,000	<10,000	<400,000	<100,000	<2,000	<2,000
	5/7/01	1,300	<5,000	32	<10	<5	<5	110,000	120,000	<2,500	<2,500	<2,500	<13,000	<1,300,000	<13,000	<2,500	<2,500
	8/22/01	1,200	<4,000	<5	<5	<5	16	76,000	86,000	<1,700	<1,700	<1,700	<8,500	NA	NA	<1,700	<1,700
	11/4/01	1,100	590	6.9	<0.5	<0.5	<0.5	60,000	49,000	<2,500	<2,500	<2,500	<13,000	NA	NA	<2,500	<2,500
	2/15/02	1,500	<3,400	<5	<5	<5	<5	110,000	91,000	<2,500	<2,500	<2,500	<12,500	<1,250,000	<125,000	<2,500	<2,500
	5/20/02	2,200	<1,700	<17	<17	<17	<17	66,000	86,000	<1,000	<1,000	<1,000	<10,000	<1,000,000	<100,000	<1,000	<1,000
	8/1/02	2,800	<1,200	<12	<12	<12	<12	53,000	67,000	<1,000	<1,000	<1,000	<10,000	<1,000,000	<100,000	<1,000	<1,000
	11/11/02	11,000	<2,000	<10	18	<10	<10	48,000	51,000	<1,000	<1,000	<1,000	<10,000	<1,000,000	<100,000	<1,000	<1,000
	2/12/03	5,800	<1,700	<17	<17	<17	<17	49,000	51,000	<1,000	<1,000	<1,000	<10,000	<1,000,000	<100,000	<1,000	<1,000
MW-9	8/30/00	770	<50	<0.5	<0.5	<0.5	<0.5	97	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/6/00	390	<50	<0.5	<0.5	<0.5	<0.5	190	220	<25	<25	<25	<125	NA	NA	<5	<5
	2/22/01	240	<50	<0.5	<0.5	<0.5	<0.5	120	160	<2	<2	<2	<1	<400	<100	<2	<2
	5/7/01	190	<50	<0.5	<0.5	<0.5	<0.5	120	150	<2.5	<2.5	<2.5	<13	<1,300	<130	<2.5	<2.5
	8/22/01	120	<50	<0.5	<0.5	<0.5	<0.5	120	120	<5	<5	<5	<25	NA	NA	<5	<5
	11/4/01	160	<50	<0.5	<0.5	<0.5	<0.5	130	120	<5	<5	<5	<25	NA	NA	<5	<5
	2/15/02	150	<50	<0.5	<0.5	<0.5	<0.5	92	98	<2.5	<2.5	<2.5	<12.5	<1,250	<125	<2.5	<2.5
	5/20/02	380	<50	<0.5	<0.5	<0.5	<0.5	79	85	<2.5	<2.5	<2.5	<25	<2,500	<250	<2.5	<2.5
	8/1/02	320	<50	<0.5	<0.5	<0.5	<0.5	74	84	<1.0	<1.0	<1.0	<10	<1,000	<100	<1.0	<1.0
	11/11/02	150	<50	<0.5	<0.5	<0.5	<0.5	76	61	<2.5	<2.5	<2.5	<25	<2,500	<250	<2.5	<2.5
2/12/03	350	<50	<0.5	<0.5	<0.5	<0.5	55	50	<1	<1	<1	<10	<1,000	<100	<1	<1	

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
1107 5th Street, Oakland, California

Well ID	Date	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
MW-10	5/20/02	63	<50	1.0	<0.5	<0.5	<0.5	<5.0	1.2	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
	8/1/02	720	<50	1.0	<0.5	<0.5	<0.5	<5.0	1.1	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
	11/11/02	100	<50	0.7	<0.5	<0.5	<0.5	<5.0	0.7	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
	2/12/03	71	<50	0.6	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
MW-11	5/20/02	95	<50	1.5	3.0	<0.5	1.4	260	310	<5	<5	<5	<50	<5,000	<500	<5	<5
	8/1/02	190	<50	<0.5	1.9	0.6	<0.5	52	65	<1.0	<1.0	<1.0	<10	<1,000	<100	<1.0	<1.0
	11/11/02	140	<50	<0.5	2.1	1.1	<0.5	23	15	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
	2/12/03	86	<50	<0.5	1.7	<0.5	<0.5	<5	2.6	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
MCL		NE	NE	1	150	700	1,750	13	13	NE	NE	NE	12**	NE	NE	0.05	0.5

Notes: Units are micrograms per liter (ug/L). ND, Not detected. NA, Not analyzed. * Duplicate Sample.

MCL, Primary Maximum Contaminant Level for Drinking Water in California. ** Denotes a Drinking Water Action Level, not an MCL.

NE, An MCL or Action Level has not been established.

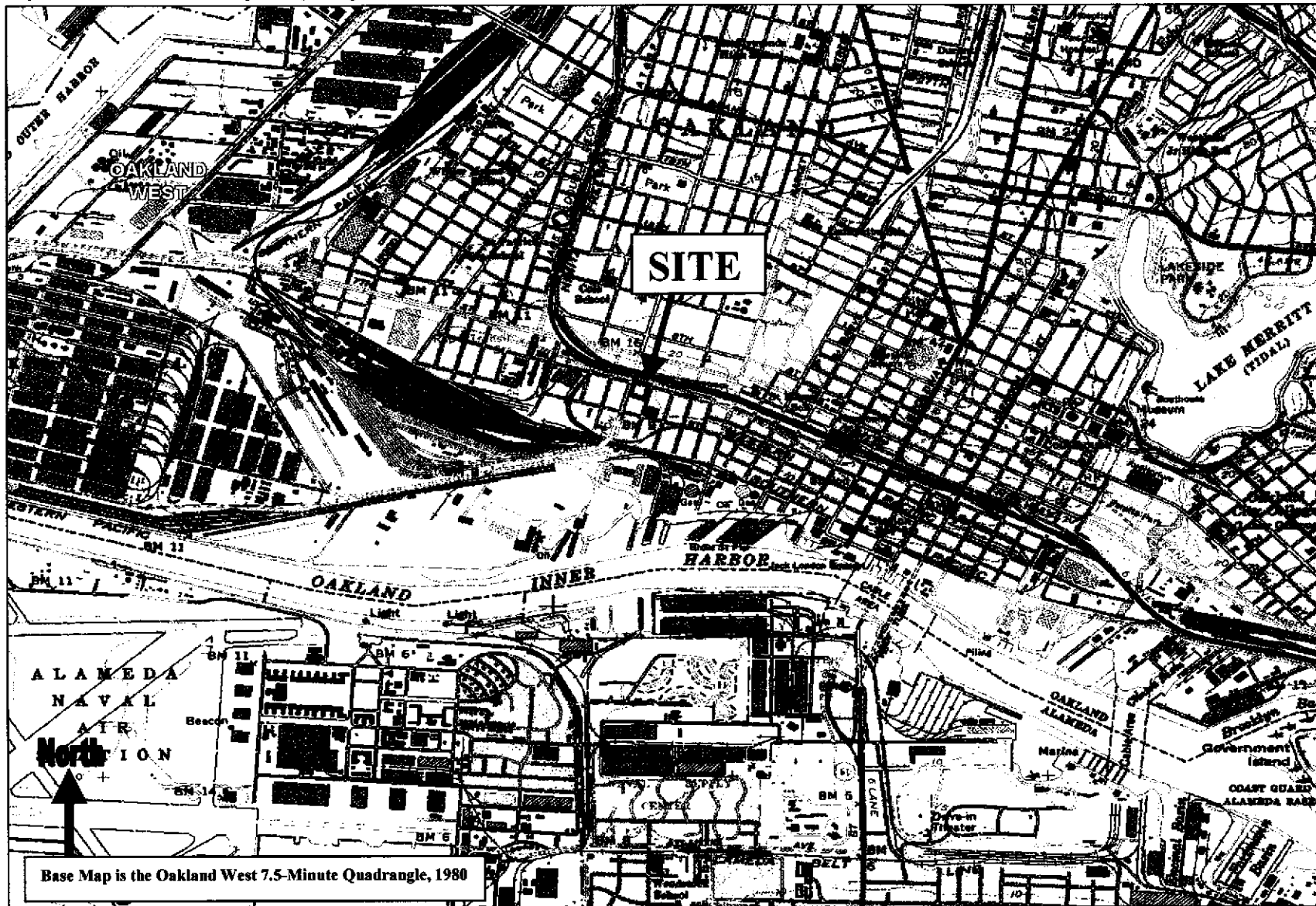
TPH-d, Total Petroleum Hydrocarbons as diesel. TPH-g, Total Petroleum Hydrocarbons as gasoline.


MtBE, Methyl tert-Butyl Ether; (8021, analyzed by Method 8021B; 8260, analyzed by Method 8260B).

DIPE, Di-isopropyl Ether. EtBE, Ethyl tert-Butyl Ether. tAME, tert-Amyl Methyl Ether. tBA, tert-Butyl Alcohol.

EDB, Ethylene Dibromide (1,2-Dibromoethane). DCA, 1,2-Dichloroethane.

FIGURES

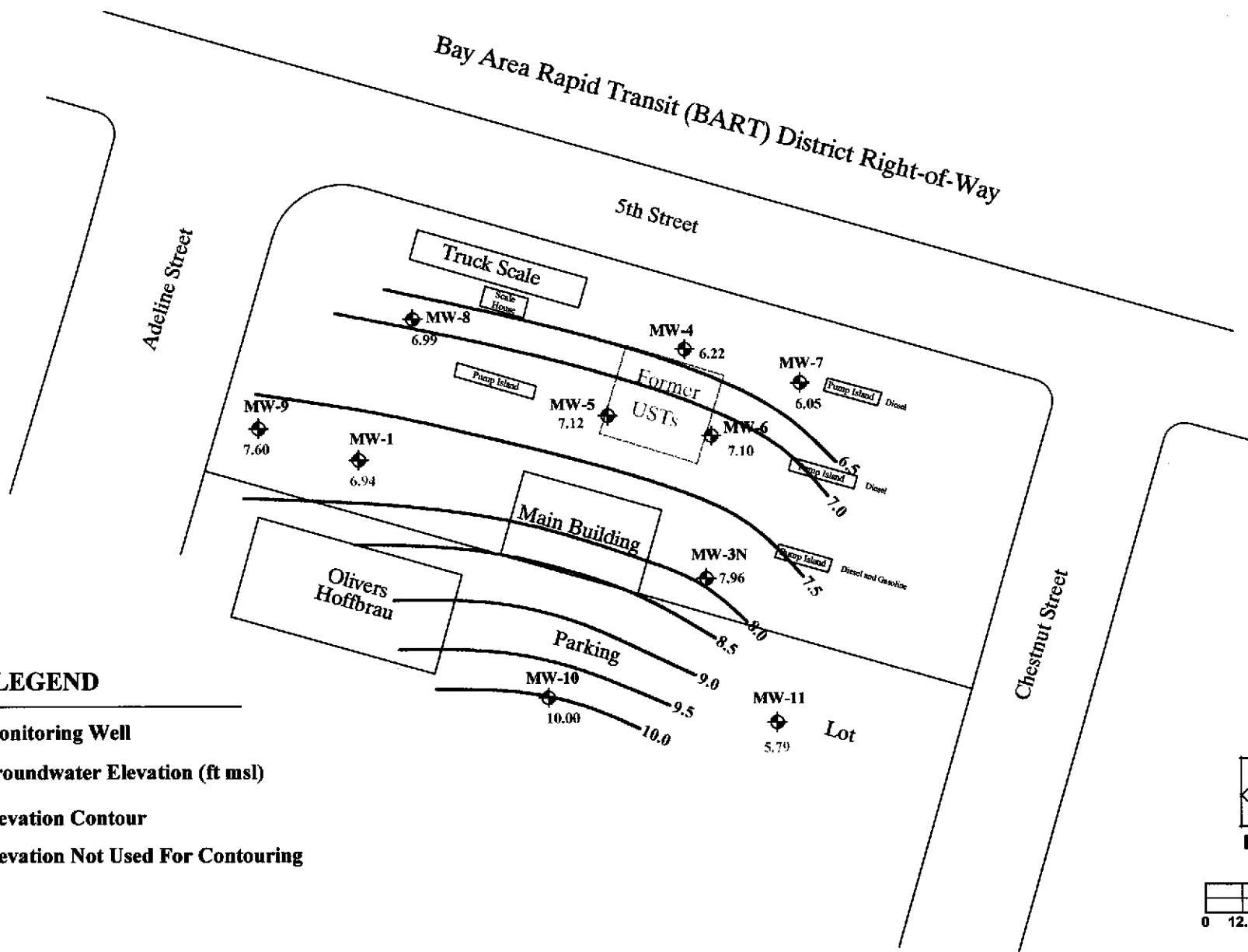


**W. A. CRAIG, INC.**
Environmental Contracting and Consulting
6940 Tremont Road
Dixon, California 95620

LOCATION MAP
Oakland Truck Stop
1107 5th Street, Oakland, California

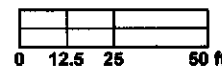
FIGURE
1
Job No. 3628

Bay Area Rapid Transit (BART) District Right-of-Way



LEGEND

- ◆ Monitoring Well
- 10.00 Groundwater Elevation (ft msl)
- ~ Elevation Contour
- 6.94 Elevation Not Used For Contouring



Central Project Files/Rinehart/Qmrs/2-03/fig2.dwg



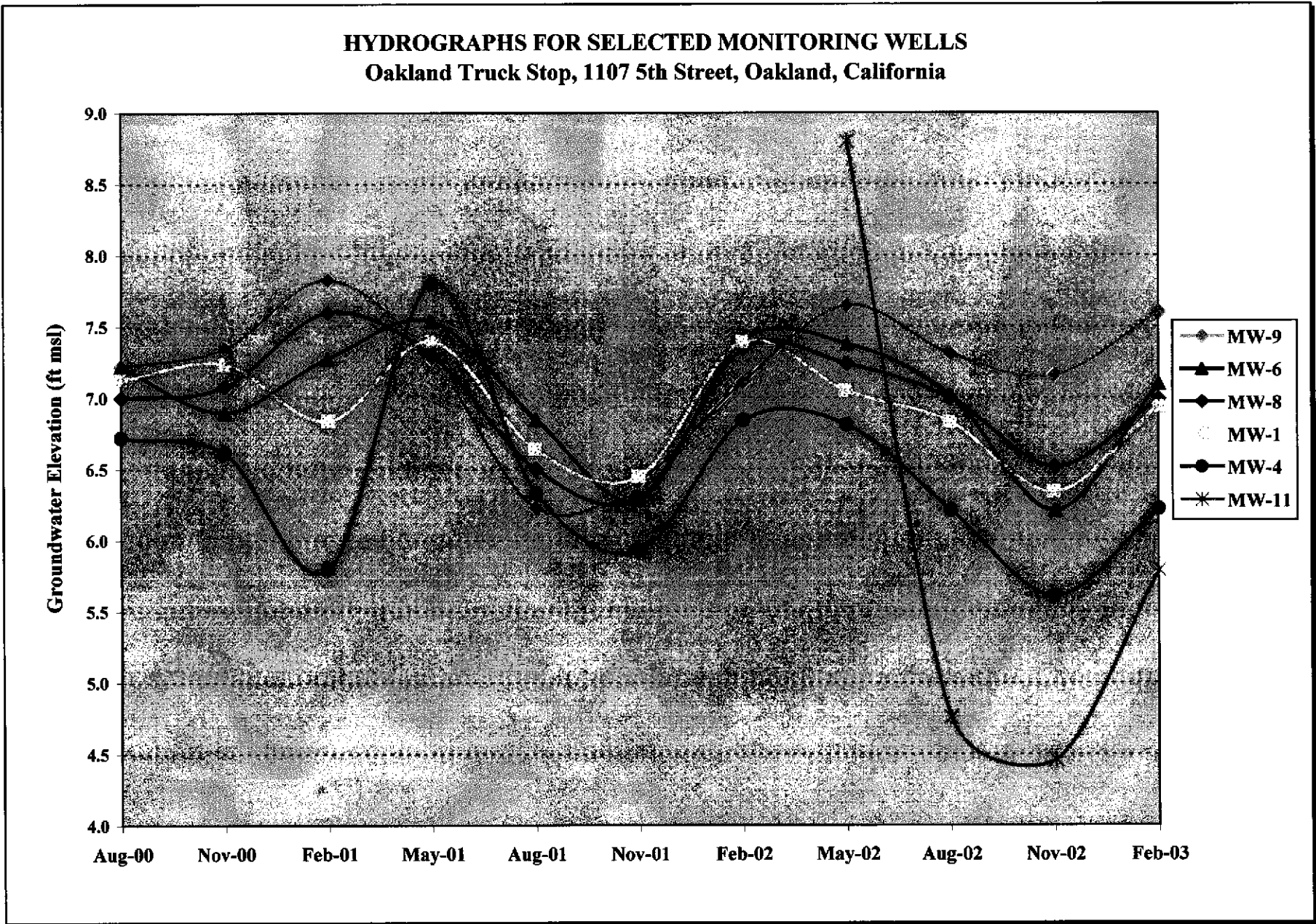
W.A. Craig, Inc.
 6940 Tremont Road Lic no. 455752
 Dixon, California 95620-9603
 (707) 693-2929 Fax (707) 693-2922

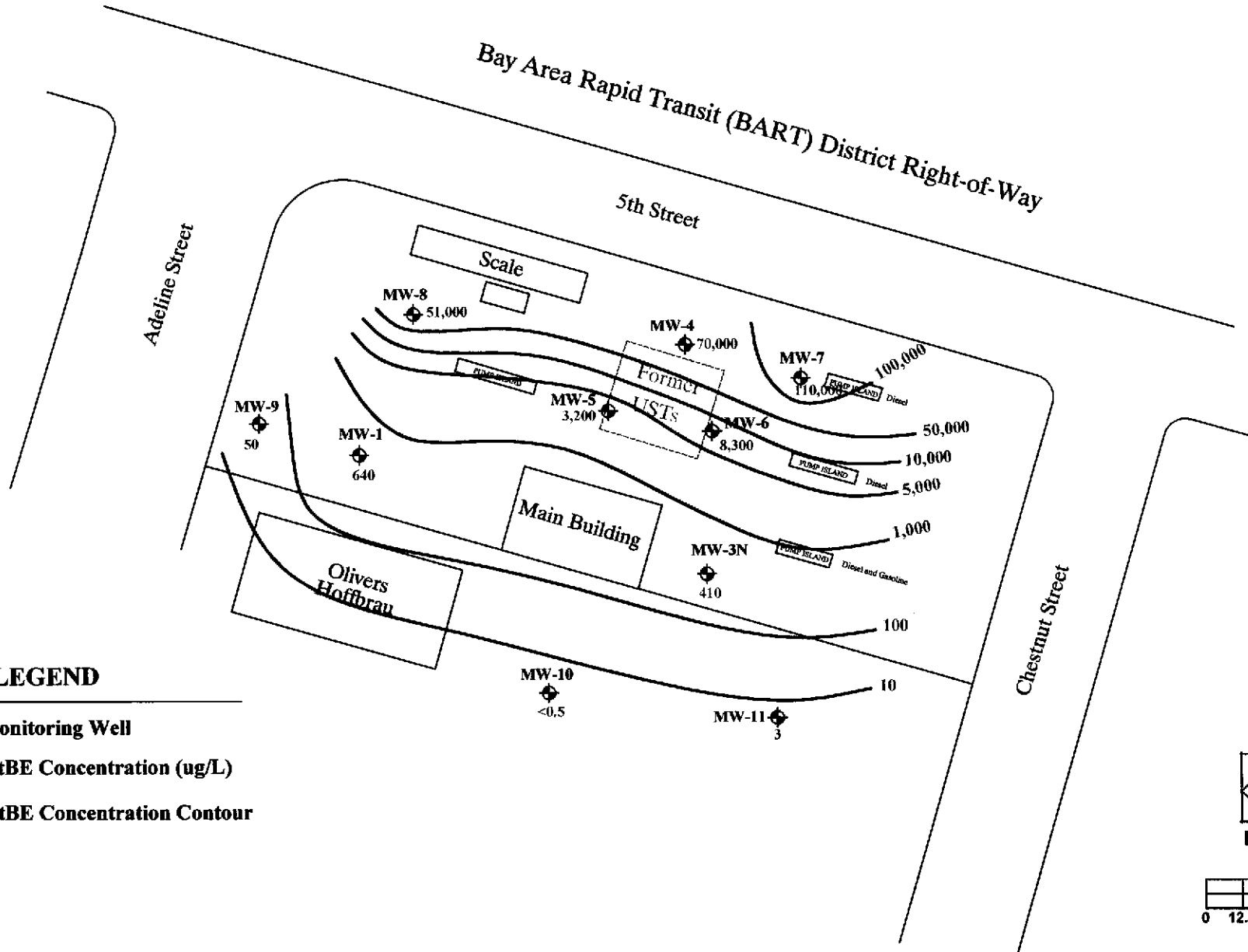
**SITE PLAN AND
 GROUNDWATER ELEVATIONS
 Oakland Truck Stop
 1107 5th Street
 Oakland, California**

Project #: 3628	Figure:
Date: 2/12/03	2
Scale: 1"=50'	

FIGURE 3

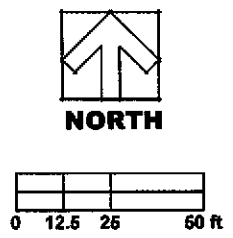
HYDROGRAPHS FOR SELECTED MONITORING WELLS
Oakland Truck Stop, 1107 5th Street, Oakland, California





LEGEND

- ◆ Monitoring Well
- 350 MtBE Concentration (ug/L)
- ~ MtBE Concentration Contour



Central Project Files/Rinehart/Qmrs/2-03/fig4.dwg



W.A. Craig, Inc.

6940 Tremont Road Lic no. 455752
 Dixon, California 95620-9603
 (707) 693-2929 Fax (707) 693-2922

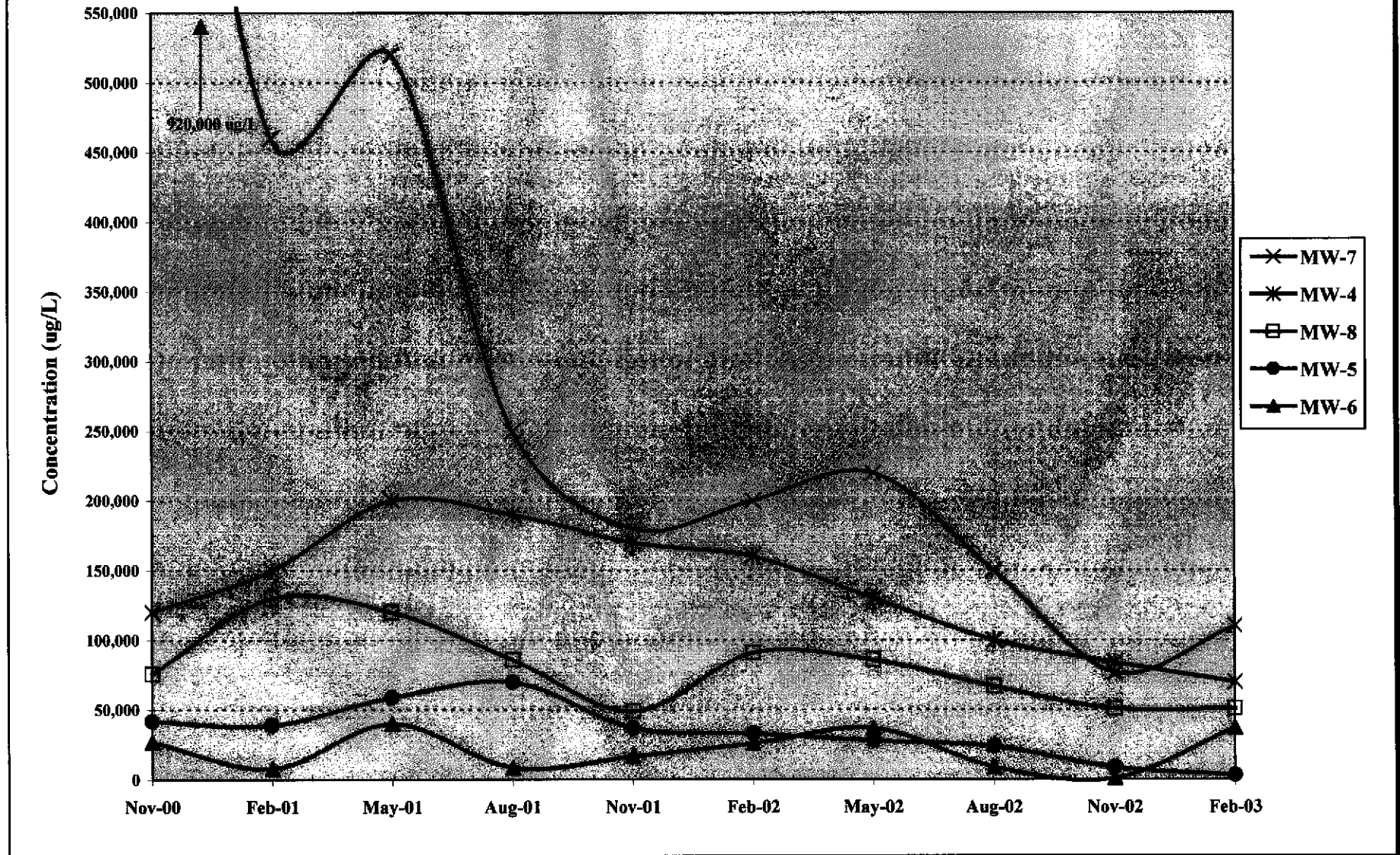
MtBE CONCENTRATIONS IN MONITORING WELLS

**Oakland Truck Stop
 1107 5th Street
 Oakland, California**

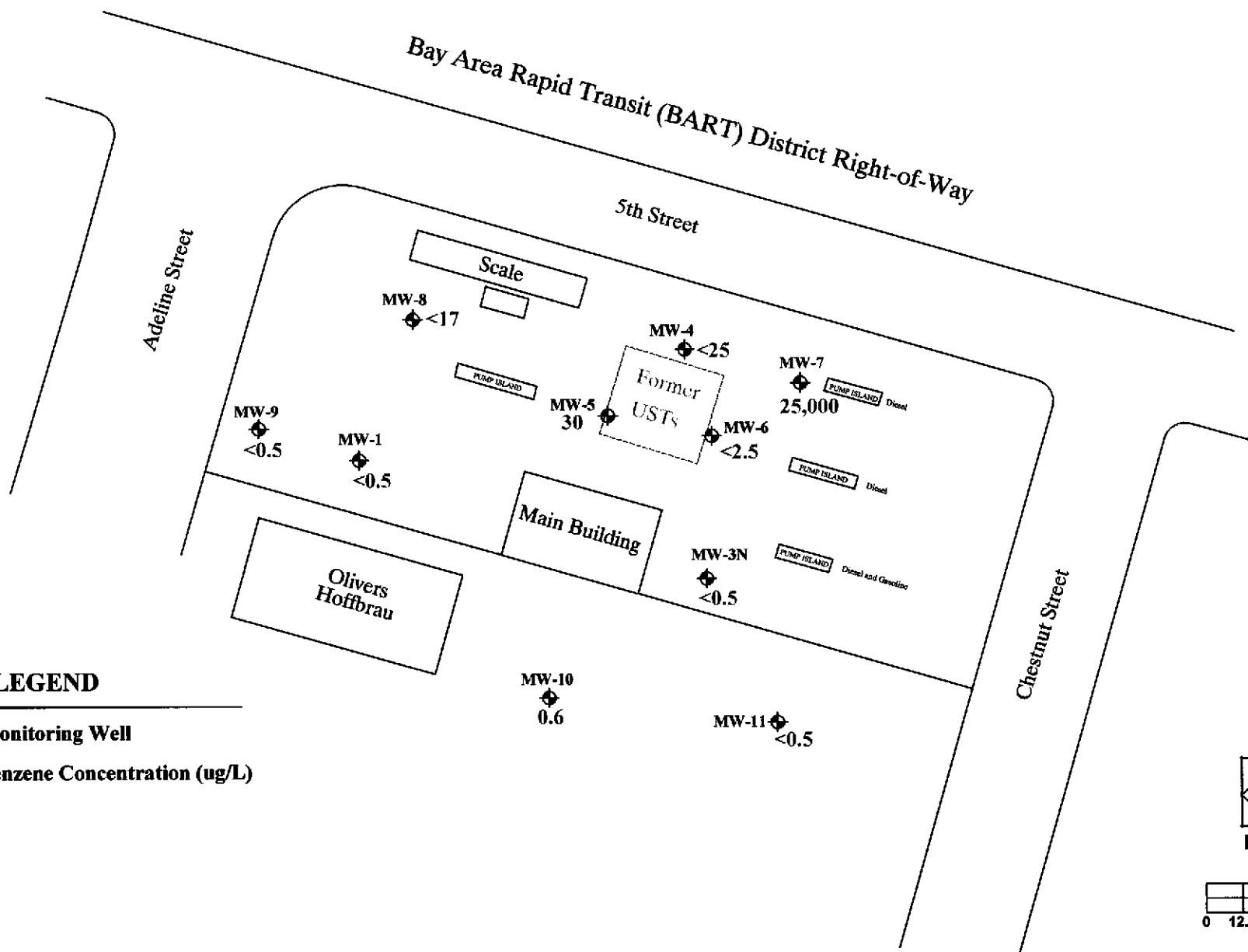
Project #: 3628	Figure:
Date: 2/12/03	4
Scale: 1"=50'	

FIGURE 5

GRAPHS OF MIBE CONCENTRATION IN SELECTED MONITORING WELLS
Oakland Truck Stop, 1107 5th Street, Oakland, California

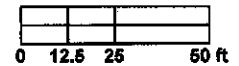


Bay Area Rapid Transit (BART) District Right-of-Way



LEGEND

- ◆ Monitoring Well
- 30 Benzene Concentration (ug/L)



Central Project Files/Rinehart/Qmrs/2-03/fig6.dwg



W.A. Craig, Inc.

6940 Tremont Road Lic no. 455752
 Dixon, California 95620-9603
 (707) 693-2929 Fax (707) 693-2922

BENZENE CONCENTRATIONS IN MONITORING WELLS

**Oakland Truck Stop
 1107 5th Street
 Oakland, California**

Project #: 3628	Figure:
Date: 2/12/03	6
Scale: 1"=50'	

APPENDIX A
MONITORING WELL SAMPLING LOGS

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Kinehart

PROJECT #: 3628

DATE: 2/12/03

SAMPLER'S INITIALS: CM

WELL ID: MW-1

WELL DIAMETER (in): 2

WELL DEPTH (ft): 20.5

DEPTH TO WATER (ft): 3.4

WATER COLUMN Ht (ft): 17.1

STANDING WATER VOLUME (gal): 2.9

3 VOLUMES (gal): 8.5

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

DISSOLVED OXYGEN (mg/L): 1.03

TEMPERATURE (Celsius): 20.2

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (µS)	Turbidity (NTU)	DO (mg/L)	Comments
10:30	3	18.9	6.91	347	261.5		
	6	19.7	6.81	5.32	397.4		slow Raining
	8	20.1	6.84	5.39	417.9		
= Time that Samples were collected.							Depth to Water at Sampling =

WELL ID: MW-9

WELL DIAMETER (in): 2

Well box destroyed

WELL DEPTH (ft): 20

DEPTH TO WATER (ft): 2.43

WATER COLUMN Ht (ft): 17.6

STANDING WATER VOLUME (gal): 3

3 VOLUMES (gal): 8.9

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

DISSOLVED OXYGEN (mg/L): 0.54

TEMPERATURE (Celsius): 18.8

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (µS)	Turbidity (NTU)	DO (mg/L)	Comments
10:53	3	18.3	6.58	3.37	147.2		blightier
	6	19.3	6.55	3.91	258.3		
	9	19.7	6.55	4.39	322.2		
= Time that Samples were collected.							Depth to Water at Sampling =

GROUNDWATER SAMPLING INFORMATION SHEET

OWNER/SITE: Ruehart
 WELL ID: MW-3N
 DATE: 2/12/03
 DEPTH TO WATER (ft): 3.71
 DEPTH TO WELL BOTTOM (ft): 12
 WATER COLUMN HEIGHT (ft): 8.3
 STANDING WATER VOLUME (gal): 1.4
 3 STANDING WATER VOLUMES (gal): 4.2

PROJECT NUMBER: 3028
 COLLECTOR(S): CM
 WEATHER: Rain
 DEPTH TO PRODUCT (ft): N/A
 PRODUCT THICKNESS (ft): N/A
 WELL DIAMETER (in): 2
[multiply height of water column by 0.17 (2" well) or 0.66 (4" well)]

DO = 0.34 @ 18.2° PURGE INFORMATION

PURGE METHOD: bailer
 PURGE START TIME: _____ APPEARANCE OF WATER AT START: _____
 PURGE END TIME: _____ APPEARANCE OF WATER AT END: _____
 GALLONS PURGED: _____ STANDING WATER VOLUMES PURGED: _____
 DISPOSITION OF PURGE WATER: _____

PURGE WATER MEASUREMENTS

Time	Purge Rate (gpm)	Gallons Purged	pH	DO ₂ (mg/L)	SC (µmhos)	Temp (°C)	Depth to Water	Remarks (turbidity, color, odor)
12:37		2	6.67	261.5	1260	18.1		slight odor
		4	6.67	354	1265	18.2		

SAMPLING INFORMATION

SAMPLING METHOD (Circle Selection): Teflon, PE, PVC; Dedicated or Disposable

Sample ID	Time	Container	Preservative	Analysis	Remarks
		Depth to water at the start of sampling =			
		40-ml vials (3)	HCl	VOC (8260)	

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Rinehart

PROJECT #: 3628

DATE: 2/12/03

SAMPLER'S INITIALS: CM

WELL ID: MW-4

WELL DIAMETER (in): 2

well box destroyed

WELL DEPTH (ft): 20

DEPTH TO WATER (ft): 4.24

WATER COLUMN Ht (ft): 15.8

STANDING WATER VOLUME (gal): 2.7

3 VOLUMES (gal): 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: bailer

SAMPLING METHOD: bailer

DISSOLVED OXYGEN (mg/L): 0.18

TEMPERATURE (Celsius): 18.5

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
11:58	3	18.3	6.68	1475	127.4		Slight odor
	6	19.5	6.61	3,25	281.5		"
	8	19.7	6.58	3,30	374.2		Black color
							Depth to Water at Sampling =

= Time that Samples were collected.

WELL ID: MW-6

WELL DIAMETER (in): 2

well box destroyed

WELL DEPTH (ft): 20

DEPTH TO WATER (ft): 3.52

WATER COLUMN Ht (ft): 16.5

STANDING WATER VOLUME (gal): 2.8

3 VOLUMES (gal): 8.5

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

DISSOLVED OXYGEN (mg/L): 0.23

TEMPERATURE (Celsius): 20.3

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
12:18	3	16.9	6.94	1235	261.5		
	6	16.7	6.95	1140	398.7		
	9	16.7	6.96	1113	481.7		
							Depth to Water at Sampling =

= Time that Samples were collected.

MONITORING WELL SAMPLING LOG

SITE NAME/LOCATION: Rinehart

PROJECT #: 3628

DATE: 2/12/03

SAMPLER'S INITIALS: CM

WELL ID: MW-8 WELL DIAMETER (in): 2 destroyed

WELL DEPTH (ft): 20.5 DEPTH TO WATER (ft): 3.07 WATER COLUMN Ht (ft): 17.4

STANDING WATER VOLUME (gal): 3 3 VOLUMES (gal): 8.7

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

DISSOLVED OXYGEN (mg/L): 0.45 TEMPERATURE (Celsius): 20.1°

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments	
11:15	3	19.4	6.92	1761	473.8		stray odor / possible FP	
	6	20.0	6.91	1861	423.9			
	9	20.2	6.91	1883	455.3			
= Time that Samples were collected.								Depth to Water at Sampling =

WELL ID: MW-5 WELL DIAMETER (in): 2

WELL DEPTH (ft): 20.5 DEPTH TO WATER (ft): 3.12 WATER COLUMN Ht (ft): 17.4

STANDING WATER VOLUME (gal): 2.9 3 VOLUMES (gal): 8.7

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

DISSOLVED OXYGEN (mg/L): 8550.18 TEMPERATURE (Celsius): 19.1°

PURGE MEASUREMENTS

Time	Gallons Purged	Temp (C)	pH	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments	
11:38	3	16.5	6.85	1708	229.8		strong odor	
	6	16.5	6.82	1445	316.2			
	9	16.5	6.82	1427	371.4			
= Time that Samples were collected.								Depth to Water at Sampling =

GROUNDWATER SAMPLING INFORMATION SHEET

OWNER/SITE: Rincher
 WELL ID: AW-7
 DATE: 2/12/03
 DEPTH TO WATER (ft): 5.64
 DEPTH TO WELL BOTTOM (ft): 20.5
 WATER COLUMN HEIGHT (ft): 14.9
 STANDING WATER VOLUME (gal): 2.5
 3 STANDING WATER VOLUMES (gal): 7.4

PROJECT NUMBER: 3628
 COLLECTOR(S): CM
 WEATHER: Rain
 DEPTH TO PRODUCT (ft): N/A
 PRODUCT THICKNESS (ft): N/A
 WELL DIAMETER (in): 2
[multiply height of water column by 0.17 (2" well) or 0.66 (4" well)]

D.O. = 0.17 @ 16.2°

PURGE INFORMATION

PURGE METHOD: Bailer
 PURGE START TIME: _____ APPEARANCE OF WATER AT START: _____
 PURGE END TIME: _____ APPEARANCE OF WATER AT END: _____
 GALLONS PURGED: _____ STANDING WATER VOLUMES PURGED: _____
 DISPOSITION OF PURGE WATER: _____

PURGE WATER MEASUREMENTS

Time	Purge Rate (gpm)	Gallons Purged	pH	NTU DO ₂ (mg/L)	SC (µmhos)	Temp (°C)	Depth to Water	Remarks (turbidity, color, odor)
2:51		3	6.75	591.3	1232	19.3		Strong odor
		5	6.75	664.5	1220	19.6		
		7.5	6.76	681.3	1236	20.1		

SAMPLING INFORMATION

SAMPLING METHOD (Circle Selection): Bailer; Teflon; PE, PVC; Dedicated or Disposable

Sample ID	Time	Container	Preservative	Analysis	Remarks
		Depth to water at the start of sampling =			
		40-ml vials (3)	HCl	VOC (8260)	

GROUNDWATER SAMPLING INFORMATION SHEET

OWNER/SITE: Rinehart
 WELL ID: MD-11 MW-10
 DATE: 2/12
 DEPTH TO WATER (ft): 1.07
 DEPTH TO WELL BOTTOM (ft): 12
 WATER COLUMN HEIGHT (ft): 11
 STANDING WATER VOLUME (gal): 1.9
 3 STANDING WATER VOLUMES (gal): 5.4

PROJECT NUMBER: 3648
 COLLECTOR(S): JM
 WEATHER: Rain
 DEPTH TO PRODUCT (ft): N/A
 PRODUCT THICKNESS (ft): N/A
 WELL DIAMETER (in): 2
[multiply height of water column by 0.17 (2" well) or 0.66 (4" well)]

. D.O. = 0.17 @ 16.0° PURGE INFORMATION

PURGE METHOD: _____
 PURGE START TIME: _____ APPEARANCE OF WATER AT START: _____
 PURGE END TIME: _____ APPEARANCE OF WATER AT END: _____
 GALLONS PURGED: _____ STANDING WATER VOLUMES PURGED: _____
 DISPOSITION OF PURGE WATER: _____

PURGE WATER MEASUREMENTS

Time	Purge Rate (gpm)	Gallons Purged	pH	Atcl DO ₂ (mg/L)	SC (umhos)	Temp (°C)	Depth to Water	Remarks (turbidity, color, odor)
		2.5	7.16	164.5	523	14.17		
1:35		5.5	7.19	262	517	14.8		good exchange black water

SAMPLING INFORMATION

SAMPLING METHOD (Circle Selection): Bailer; Teflon, PE, PVC; Dedicated or Disposable

Sample ID	Time	Container	Preservative	Analysis	Remarks
		Depth to water at the start of sampling =			
		40-ml vials (3)	HCl	VOC (8260)	

GROUNDWATER SAMPLING INFORMATION SHEET

OWNER/SITE: Rinehart
 WELL ID: MW-11
 DATE: 2/12/03
 DEPTH TO WATER (ft): ~~3.8~~ 3.85
 DEPTH TO WELL BOTTOM (ft): 12
 WATER COLUMN HEIGHT (ft): 8.15
 STANDING WATER VOLUME (gal): 1.4
 3 STANDING WATER VOLUMES (gal): 4

PROJECT NUMBER: 3623
 COLLECTOR(S): CM
 WEATHER: Rain
 DEPTH TO PRODUCT (ft): N/A
 PRODUCT THICKNESS (ft): N/A
 WELL DIAMETER (in): 2
[multiply height of water column by 0.17 (2" well) or 0.66 (4" well)]

$D, Q = 0.59 @ 18.3^{\circ}$

PURGE INFORMATION

PURGE METHOD: bailer
 PURGE START TIME: _____ APPEARANCE OF WATER AT START: _____
 PURGE END TIME: _____ APPEARANCE OF WATER AT END: _____
 GALLONS PURGED: _____ STANDING WATER VOLUMES PURGED: _____
 DISPOSITION OF PURGE WATER: _____

PURGE WATER MEASUREMENTS

Time	Purge Rate (gpm)	Gallons Purged	pH	NTU DO ₂ (mg/L)	SC (µmhos)	Temp (°C)	Depth to Water	Remarks (turbidity, color, odor)
1:15		2	6.9	281.5	1435	18.0		
		4	6.94	337.2	1449	18.0		

SAMPLING INFORMATION

SAMPLING METHOD (Circle Selection): Bailer: Teflon, PE, PVC; Dedicated or Disposable

Sample ID	Time	Container	Preservative	Analysis	Remarks
		Depth to water at the start of sampling =			
		40-ml vials (3)	HCl	VOC (8260)	

APPENDIX B
PRODUCT SKIMMER SERVICE LOG FOR MW-7

APPENDIX C
LABORATORY ANALYTICAL REPORTS



McC Campbell Analytical Inc.

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

W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 02/12/03
		Date Received: 02/12/03
	Client Contact: Tim Cook	Date Reported: 02/20/03
	Client P.O.:	Date Completed: 02/20/03

WorkOrder: 0302162

February 20, 2003

Dear Tim:

Enclosed are:

- 1). the results of 10 analyzed samples from your #3628; Rinehart project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (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**

Report To: *Tim Cook* Bill To: **W. A. Craig, Inc.**
Company: **W. A. Craig, Inc.**
6940 Tremont Rd.
Dixon, CA 95620 E-Mail: *tech@wacraig.com*
Tele: (707) 693-2929 Fax: (707) 693-2922
Project #: 3628 Project Name: **Rinehart**
Project Location: **Oakland**
Sampler Signature: *[Signature]*

Analysis Request

Other

Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED									
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other						
MW-1		2/12		5	*	x					x	x								
MW-3N		2/12		5	*	x					x	x								
MW-4		2/12		5	*	x					x	x								
MW-5		2/12		5	*	x					x	x								
MW-6		2/12		5	*	x					x	x								
MW-7		2/12		5	*	x					x	x								
MW-8		2/12		5	*	x					x	x								
MW-9		2/12		5	*	x					x	x								
MW-10		2/12		5	*	x					x	x								
MW-11		2/12		5	*	x					x	x								

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8510	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
--	----------------------	---	--------------------------------------	----------------	----------------------------	----------------	---------------------------	-----------------------	----------------	--	---------------	---------------	-----------------------------	-----

Relinquished By: *[Signature]* Date: 2/12 Time: 3:50 Received By: *[Signature]*
Relinquished By: *[Signature]* Date: 2/12 Time: 7:30p Received By: *[Signature]*
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

* = 3 vials + 2 ampoules
o = 3 vials + 1 ampoule
ICE/✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____
PRESERVATION VOAS ✓ O&G METALS OTHER
APPROPRIATE CONTAINERS ✓
PERSERVED IN LAB _____

WACRA

0302162



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

Client Project ID: #3628; Rinehart

Date Sampled: 02/12/03

Date Received: 02/12/03

Client Contact: Tim Cook

Date Extracted: 02/13/03-02/19/03

Client P.O.:

Date Analyzed: 02/13/03-02/19/03

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0302162


Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	540	ND	ND	ND	ND	1	93.3
002A	MW-3N	W	ND	380	ND	ND	ND	ND	1	94.3
003A	MW-4	W	ND<2500,j	78,000	ND<25	ND<25	ND<25	ND<25	50	95.3
004A	MW-5	W	ND<170,j	3700	30	ND<1.7	ND<1.7	ND<1.7	3.3	91.7
005A	MW-6	W	ND<250,j	7400	ND<2.5	ND<2.5	ND<2.5	ND<2.5	5	96.1
006A	MW-7	W	130,000,a,h	87,000	25,000	8900	3400	17,000	200	107
007A	MW-8	W	ND<1700,j	49,000	ND<17	ND<17	ND<17	ND<17	33	102
008A	MW-9	W	ND	55	ND	ND	ND	ND	1	95.1
009A	MW-10	W	ND	ND	0.63	ND	ND	ND	1	93.7
010A	MW-11	W	ND,i	ND	ND	1.7	ND	ND	1	97.2

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	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	mg/Kg

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell 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.

 Angela Rydelius, Lab Manager



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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 02/12/03
		Date Received: 02/12/03
	Client Contact: Tim Cook	Date Extracted: 02/12/03
	Client P.O.:	Date Analyzed: 02/12/03-02/20/03

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C

Analytical methods: SW8015C

Work Order: 0302162


Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0302162-001C	MW-1	W	1200,a	1	86.2
0302162-002C	MW-3N	W	1300,a	1	83.6
0302162-003C	MW-4	W	88,b	1	83.3
0302162-004C	MW-5	W	2900,a	1	87.5
0302162-005C	MW-6	W	970,a	1	93.8
0302162-006C	MW-7	W	75,000,a,d,h	10	104
0302162-007C	MW-8	W	5800,a	1	88.6
0302162-008C	MW-9	W	350,a	1	104
0302162-009C	MW-10	W	71,b	1	97.8
0302162-010C	MW-11	W	86,b,i	1	98.5

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.

 Angela Rydelius, Lab Manager



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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 02/12/03
		Date Received: 02/12/03
	Client Contact: Tim Cook	Date Extracted: 02/14/03-02/20/03
	Client P.O.:	Date Analyzed: 02/14/03-02/20/03

Oxygenated Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0302162

Lab ID	0302162-001B	0302162-002B	0302162-003B	0302162-004B	Reporting Limit for DF =1	
Client ID	MW-1	MW-3N	MW-4	MW-5		
Matrix	W	W	W	W		
DF	20	10	3300	200		

Compound	Concentration				ug/kg	µg/L
	Diisopropyl ether (DIPE)	ND<10	ND<5.0	ND<1700	ND<100	NA
Ethyl tert-butyl ether (ETBE)	ND<10	ND<5.0	ND<1700	ND<100	NA	0.5
Methyl-t-butyl ether (MTBE)	640	410	70,000	3200	NA	0.5
tert-Amyl methyl ether (TAME)	ND<10	ND<5.0	ND<1700	ND<100	NA	0.5
t-Butyl alcohol (TBA)	ND<100	ND<50	ND<17,000	4100	NA	5.0
Methanol	ND<10,000	ND<5000	ND<1,700,000	ND<100,000	NA	500
Ethanol	ND<1000	ND<500	ND<170,000	ND<10,000	NA	50
1,2-Dibromoethane (EDB)	ND<10	ND<5.0	ND<1700	ND<100	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<10	ND<5.0	ND<1700	ND<100	NA	0.5

Surrogate Recoveries (%)

%SS:	114	119	94.1	96.5	
------	-----	-----	------	------	--

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.

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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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 02/12/03
		Date Received: 02/12/03
	Client Contact: Tim Cook	Date Extracted: 02/14/03-02/20/03
	Client P.O.:	Date Analyzed: 02/14/03-02/20/03

Oxygenated Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0302162

Lab ID	0302162-005B	0302162-006B	0302162-007B	0302162-008B	Reporting Limit for DF=1	
Client ID	MW-6	MW-7	MW-8	MW-9	S	W
Matrix	W	W	W	W		
DF	250	3300	2000	2		

Compound	Concentration				ug/kg	µg/L
	Diisopropyl ether (DIPE)	ND<120	ND<1700	ND<1000	ND<1.0	NA
Ethyl tert-butyl ether (ETBE)	ND<120	ND<1700	ND<1000	ND<1.0	NA	0.5
Methyl-t-butyl ether (MTBE)	8300	110,000	51,000	50	NA	0.5
tert-Amyl methyl ether (TAME)	ND<120	ND<1700	ND<1000	ND<1.0	NA	0.5
t-Butyl alcohol (TBA)	4600	ND<17,000	ND<10,000	ND<10	NA	5.0
Methanol	ND<120,000	ND<1,700,000	ND<1,000,000	ND<1000	NA	500
Ethanol	ND<12,000	ND<170,000	ND<100,000	ND<100	NA	50
1,2-Dibromoethane (EDB)	ND<120	ND<1700	ND<1000	ND<1.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<120	ND<1700	ND<1000	ND<1.0	NA	0.5

Surrogate Recoveries (%)

%SS:	98.2	97.1	96.2	98.7	
Comments		h			

* 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.

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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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 02/12/03
		Date Received: 02/12/03
	Client Contact: Tim Cook	Date Extracted: 02/14/03-02/20/03
	Client P.O.:	Date Analyzed: 02/14/03-02/20/03

Oxygenated Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0302162

Lab ID	0302162-009B	0302162-010B	Reporting Limit for DF=1	
Client ID	MW-10	MW-11		
Matrix	W	W		
DF	1	1		
			S	W

Compound	Concentration		ug/kg	ug/L
	Diisopropyl ether (DIPE)	ND	ND	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	ND	2.6	NA	0.5
tert-Amyl methyl ether (TAME)	ND	ND	NA	0.5
t-Butyl alcohol (TBA)	ND	ND	NA	5.0
Methanol	ND	ND	NA	500
Ethanol	ND	ND	NA	50
1,2-Dibromoethane (EDB)	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	NA	0.5

Surrogate Recoveries (%)

%SS:	97.5	100		
Comments		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.

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.



QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0302162

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 5892			Spiked Sample ID: N/A			
Compound	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(gas)	N/A	60	N/A	N/A	N/A	108	117	7.26	70	130
MTBE	N/A	10	N/A	N/A	N/A	91.3	117	24.7	70	130
Benzene	N/A	10	N/A	N/A	N/A	103	103	0.696	70	130
Toluene	N/A	10	N/A	N/A	N/A	96.5	95.9	0.687	70	130
Ethylbenzene	N/A	10	N/A	N/A	N/A	104	103	0.269	70	130
Xylenes	N/A	30	N/A	N/A	N/A	100	100	0	70	130
%SS:	N/A	100	N/A	N/A	N/A	98.5	94.8	3.87	80	120

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.

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.

% 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.



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QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0302162

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 5885		Spiked Sample ID: N/A			
Compound	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(d)	N/A	7500	N/A	N/A	N/A	102	104	1.35	70	130
%SS:	N/A	100	N/A	N/A	N/A	106	104	1.93	80	120
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.

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.

% 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.



QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0302162

EPA Method: SW8260B		Extraction: SW5030B			BatchID: 5875			Spiked Sample ID: N/A		
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Diisopropyl ether (DIPE)	N/A	10	N/A	N/A	N/A	93.5	92.9	0.642	70	130
Ethyl tert-butyl ether (ETBE)	N/A	10	N/A	N/A	N/A	77.5	78.1	0.703	70	130
Methyl-t-butyl ether (MTBE)	N/A	10	N/A	N/A	N/A	77.8	78.7	1.16	70	130
tert-Amyl methyl ether (TAME)	N/A	10	N/A	N/A	N/A	74.4	75.9	1.99	70	130
Methanol	N/A	2500	N/A	N/A	N/A	102	101	1.40	70	130
Ethanol	N/A	500	N/A	N/A	N/A	114	112	1.37	70	130
1,2-Dibromoethane (EDB)	N/A	10	N/A	N/A	N/A	86.7	87.6	1.03	70	130
1,2-Dichloroethane (1,2-DCA)	N/A	10	N/A	N/A	N/A	92.2	95	3.01	70	130
%SS:	N/A	100	N/A	N/A	N/A	96.3	94.2	2.16	70	130

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

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

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.

% 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.

McC Campbell Analytical Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0302162

Client:

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

TEL: (707) 693-2929
 FAX: (707) 693-2922
 ProjectNo: #3628; Rinehart
 PO:

Date Received: 2/12/03

Date Printed: 2/12/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests			
					<>	SW8015C	8021B/8015	SW8260B
0302162-001	MW-1	Water	2/12/03	<input type="checkbox"/>	A	C	A	B
0302162-002	MW-3N	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-003	MW-4	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-004	MW-5	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-005	MW-6	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-006	MW-7	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-007	MW-8	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-008	MW-9	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-009	MW-10	Water	2/12/03	<input type="checkbox"/>		C	A	B
0302162-010	MW-11	Water	2/12/03	<input type="checkbox"/>		C	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.