

W. A. CRAIG, INC.

Alameda County

Environmental Contracting and Consulting

JUN 2 5 2003

6940 Tremont Road
Dixon, California 95620
Contractor and Hazardous Substances License #455752
e-mail: tech@wacraig.com
(800) 522-7244

Environmental Health

(707) 693-2929

Fax: (707) 693-2922

QUARTERLY GROUNDWATER MONITORING REPORT Second Quarter 2003

PROJECT SITE:
Oakland Truck Stop
1107 5th Street
Oakland, California

PREPARED FOR:
Mr. Reed Rinehart
Rinehart Distribution, Inc.
P.O. Box 725
Ukiah, California 94582

SUBMITTED TO:
Mr. Barney Chan
Alameda County Environmental Health Services
Division of Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

PREPARED BY:
W.A. Craig, Inc.
6940 Tremont Road
Dixon, California 95620

Project No. 3628

June 20, 2003

TABLE OF CONTENTS

PROFESSIO	ONAL CERTIFICATIONiii
INTRODUC	TION1
Site Locati	on and Description1
	round1
	ptual Model3
Beneficial	Uses of Groundwater4
	oals4
SCOPE OF	WORK5
FIELD MET	THODS5
Groundwa	iter Level Measurements5
Groundwa	ter Purging and Sampling5
	roduct Removal6
DATA EVA	LUATION6
Groundwa	iter Levels6
	ter Sampling Results7
CONCLUSI	ONS8
RECOMME	NDATIONS9
LIST OF TA	ABLES
Table 1	Groundwater Levels in Monitoring Wells
Table 2	Dissolved Oxygen Concentrations in Monitoring Wells
Table 3	Analytical Results for Groundwater Samples
LIST OF FI	GURES
Figure 1	Location Map
Figure 2	Site Plan and Groundwater Elevations
Figure 3	Hydrographs for Selected Monitoring Wells
Figure 4	MtBE Concentration Contours
Figure 5	MtBE Concentrations vs. Time in Selected Monitoring Wells
Figure 6	Benzene Concentrations in Monitoring Wells

LIST OF APPENDICES

Appendix A Monitoring Well Sampling Logs

Appendix B Product Skimmer Service Log for MW-7

Appendix C Laboratory Analytical Reports

PROFESSIONAL CERTIFICATION

QUARTERLY GROUNDWATER MONITORING REPORT Second Quarter 2003

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

by W.A. Craig, Inc.

Project No. 3628 June 20, 2003

This document has been prepared by the staff of W.A. Craig, Inc. under the professional supervision of the person whose seal and signature appears hereon. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this document are based upon site conditions as they existed at the time of the investigation and they are subject to change.

The conclusions presented in this document are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this document. W.A. Craig, Inc. recognizes that the limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs or requirements of other users, or public agencies not directly involved. Any use or reuse of this document or the findings, conclusions or recommendations presented herein is at the sole risk of said user.

No. C054036

Tim Cook, P.E.

Principal Engineer

iii

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 May 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 Health Care Services (ACHCS). 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 6 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 ACHCS 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 ACHCS. The ensuing investigation included the installation of two monitoring wells on the adjacent property to the south (Oliver's Hofbrau), and the replacement of monitoring well MW-3 with MW-3N. These tasks were completed on May 8, 2002.

On May 23, 2002 ACHCS requested an investigation to determine whether hydrocarbons were migrating offsite along preferential pathways such as utility trenches. WAC submitted a Work Plan to ACHCS, 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

June 20, 2003 Project No. 3628 Page 3

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 ACHCS 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 conclusions:

- 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 constituents of concern in the groundwater;
- The highest contaminant concentrations occur north of the UST pit;
- The downgradient extent of the contaminant plume is not yet defined;
- Free-phase petroleum product has been observed in 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, which suggests limited natural attenuation of dissolved MtBE;
- The sanitary sewer trench running along 5th Street may be a pathway for the lateral migration of contaminated groundwater;
- 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 aquitard has limited the vertical migration of petroleum hydrocarbons.
- There are no recorded 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. 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 potential 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.

To this end, WAC installed a skimmer bailer in well MW-7 in January 2003. Approximately 1.5 liters of free product have been removed to date with this bailer. As soon as detectable free product has been removed and the downgradient extent of contamination has been delineated, the Oakland Risk-Based Corrective Action process will be used to help select a final remedial strategy.

SCOPE OF WORK

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

- Performed regular visits to the Site to empty product from the skimmer bailer in well MW-7;
- Measured dissolved oxygen concentrations and static water levels in eight onsite and two
 offsite monitoring wells after purging of 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 after the monitoring wells were purged. 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 various times to service the skimmer. Approximately 1.57 liters of product were removed from MW-7 from January through May, 2003. 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 is summarized in **Table 1**. The depth to water measurements this quarter ranged from 1.01 feet below top of casing at MW-10 to 5.68 feet at MW-7. Static water levels at the Site were on average 0.05 feet higher than the last monitoring event in February 2003. Groundwater elevations were highest (10.06 feet above msl) 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 to northeastely. 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 N8°E with a slope of 0.030 ft/ft.

Hydrographs for select monitoring wells are presented on Figure 3. The hydrographs illustrate a seasonal cycle in water levels. In general, water levels rise in winter and decline in summer. The magnitude of the rise and fall ranges from ½ to 1 foot. The hydrographs also show that the trend in upgradient monitoring well MW-11 is distinctly different than the other wells, suggesting that it is screened though a different water-bearing unit.

Groundwater Sampling Results

The wells were purged and sampled on May 12, 2003. The dissolved oxygen (DO) concentration was measured in each well after purging. 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 after the wells are purged are higher in all wells. The average among all monitoring wells was 1.75 milligrams per liter (mg/L), or about 19% of the potential oxygen saturation concentration. This average value is heavily biased by DO concentrations in MW-1 (4.61 mg/L) and MW-11 (3.46 mg/L). Wells exhibiting high MtBE concentrations (MW-5, MW-6, MW-7 and MW-8) yield much lower DO values (0.54 to 0.72 mg/L) suggesting that the DO may have been depleted by indigenous microbes during the metabolization of dissolved hydrocarbons.

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 is summarized on **Table 3** and the laboratory reports are included in **Appendix C**.

MtBE was detected in all ten monitoring wells. Eight of these wells exceeded the primary maximum contaminant level (MCL) for drinking water (13 μ g/L). This result is similar to last quarter. MtBE concentrations this quarter ranged from a low of 0.59 μ g/L in upgradient well

-MW-10 to a high of 220,000 μg/L in MW-7. As in the past, MtBE concentrations were above 50,000 μg/L in wells MW-4, 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 illustrates 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 is tBA, which was first detected in MW-6 during the August 2002 monitoring event. Since then, tBA has been detected in MW-5. These two wells are located adjacent to the former USTs. The tBA concentrations in MW-5 and MW-6 this quarter were $5{,}200~\mu g/L$ and $8{,}700~\mu g/L$, respectively, which is higher than last quarter. This constituent can form as a result of the incomplete breakdown of MtBE. The presence of tBA in these wells may indicate that indigenous aerobic microbes are partially metabolizing dissolved MtBE. The California DHS has established a drinking water Action Level for tBA at $12~\mu g/L$.

TPH-d was detected only in MW 5 and MW 6 this quarter. 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 four monitoring wells had detectable benzene; MW-5 (13 micrograms per liter or μ g/L), MW-8 (94 μ g/L), MW 7 (25,000 μ g/L), and MW10 (0.56 μ g/L).

CONCLUSIONS

The groundwater gradient is north-northeasterly, which is consistent with previous monitoring events. Dissolved oxygen concentrations are higher since readings are taken after purging of the monitoring wells. Natural attenuation of MtBE is suggested by the presence of tBA, a breakdown product of MtBE, in wells MW-5 and MW-6.

There is little significant change in contaminant concentrations since last quarter. The principal axis of the contaminant plume is located along the northern side of the Site and is centered around wells MW-4 and MW-7. MtBE is the primary constituent of concern impacting shallow 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 wells. Well MW-11 in particular has experienced a steady decline in MtBE from 310 μ g/L in May 2002 to only 2.3 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. MW-7 is the only well exhibiting elevated BTEX concentrations.

RECOMMENDATIONS

The ACHCS conditionally approved the IRAP in a letter to owner dated March 4, 2003. The IRAP has been modified to incorporate the changes requested by ACHCS. We estimate the IRAP will be implemented by the end of 2003. We will continue with quarterly groundwater monitoring and servicing the product skimmer in well MW-7 as needed. The next quarterly monitoring event will occur in August 2003.

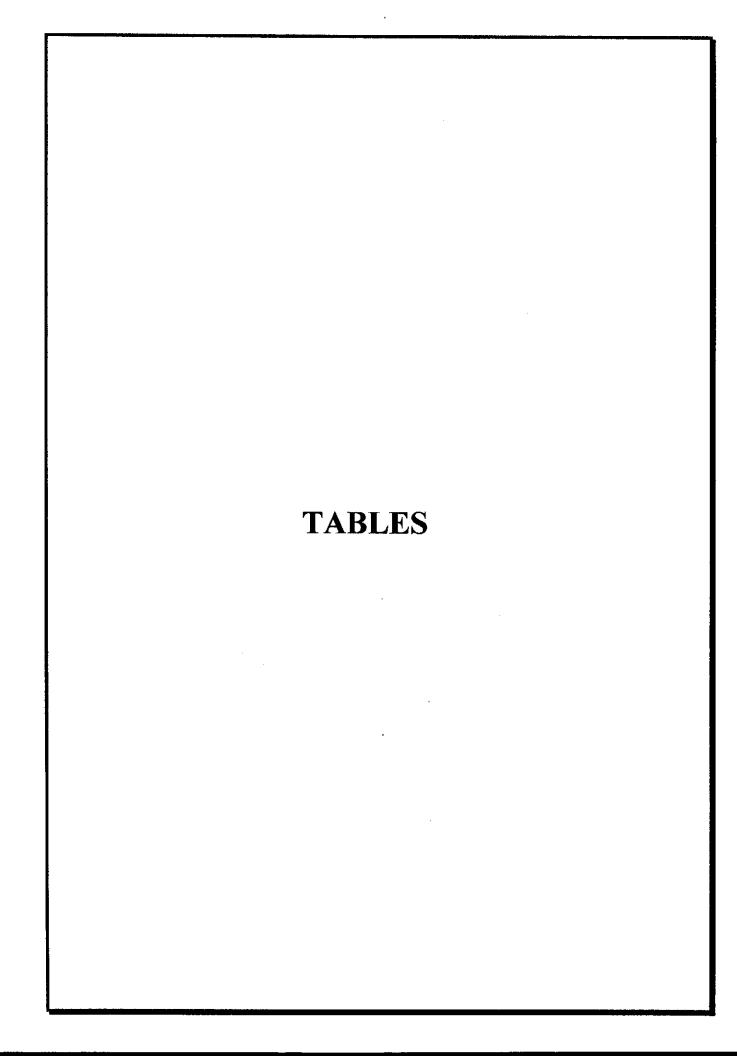


TABLE 1
GROUNDWATER LEVELS IN MONITORING WELLS

Well ID	Date	Casing	Depth to	Groundwater
(screen depth)	Date	Elevation	Water	Elevation
MW-1	10/21/1996	10.34	5.08	5.26
(10-20)	11/4/1996	1	3.02	7.32
	3/4/1997	1	2.28	8.06
	6/12/1997		4.80	5.54
	7/14/1997		2.66	7.68
	9/9/1997		2.45	7.89
	9/19/1997]	2.60	7.74
	2/13/1998		2.76	7.58
	7/7/1998		2.15	8.19
	10/1/1998		3.63	6.71
	12/30/1998]	4.40	5.94
	3/21/2000		2.62	7.72
	8/30/2000]	3.21	7.13
	11/6/2000		3.10	7.24
	2/22/2001]	3.50	6.84
ı	5/7/2001]	2.94	7,40
	8/22/2001		3.70	6.64
	11/4/2001		3.89	6,45
	2/15/2002		2.95	7.39
	5/20/2002		3.29	7.05
	8/1/2002		3.51	6.83
	11/11/2002]	4.00	6.34
	2/12/2003	1	3.40	6.94
	5/12/2003		3.65	6.69
MW-3	10/21/1996	10.52	7.66	2.86
(12-17)	11/4/1996]	5.70	4.82
	3/4/1997	1	11.38	-0.86
	6/12/1997	1	5.18	5.34
	7/14/1997		7.96	2.56
	9/9/1997		10.16	0.36
	9/19/1997		12.80	-2.28
	2/13/1998	-	11.42	-0.90
	7/7/1998	4	11.76	-1.24
	10/1/1998	-	11.34	-0.82
	12/30/1998	-	4.56	5.96
	3/21/2000	1	10.92 5.12	5.40
	8/30/2000 11/6/2000	-	4.10	6.42
	2/22/2001	1	6.60	3.92
	5/7/2001	†	6.30	4.22
	8/22/2001	-	5.21	5.31
Well	11/4/2001	-	5.47	5.05
Abandoned	2/15/2002	1	4.65	5.87
MW-3N	5/20/2002	11.67	3.91	7.76
(5-12)	8/1/2002	11.37	4,22	7.45
(3-12)	11/11/2002	1	4.42	7.45
	2/12/2003	- -	3.71	7.96
	5/12/2003	1	3.49	8.18
L	1 3/12/2003	<u> </u>	L 3,73	0.10

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

Well ID		Casing	Depth to	Groundwater
(screen depth)	Date	Elevation	Water	Elevation
MW-4	8/30/2000			
(5-20)		10.46	3.74	6.72
(3-20)	11/6/2000		3.85	6.61
	2/22/2001		4.66	5.80
-	5/7/2001		2.66	7.80
ļ	8/22/2001 11/4/2001		4.13	6.33
	2/15/2002		4.53	5.93
	5/20/2002		3.62	6.84
<u> </u>	8/1/2002		3.65	6.81
}	11/11/2002		4.25	6.21
	2/12/2003		4.85	5.61
ļ	5/12/2003		4.24	6.22
MW-5			4.20	6.26
L	8/30/2000	10.24	3.01	7.23
(5-20)	11/6/2000		3.35	6.89
	2/22/2001		3.00	7.24
-	5/7/2001		2.73	7.51
	8/22/2001		3.88	6.36
	11/4/2001		3.95	6.29
	2/15/2002		2.84	7.40
	5/20/2002		2.86	7.38
-	8/1/2002		3.21	7.03
-	11/11/2002		4.04	6.20
}	2/12/2003		3.12	7.12
3.6932.2	5/12/2003		3.18	7.06
MW-6	8/30/2000	10.62	3.40	7.22
(5-20)	11/6/2000	-	3.72	6.90
<u> </u>	2/22/2001		3.34	7.28
	5/7/2001		3.08	7.54
-	8/22/2001		3.77	6.85
-	11/4/2001	1	4.33	6.29
-	2/15/2002		3.22	7.40
-	5/20/2002		3.24	7.38
-	8/1/2002		3.60	7.02
-	11/11/2002	<u> </u>	4.41	6.21
-	2/12/2003		3.52	7.10
	5/12/2003		3.34	7.28
MW-7	8/30/2000	11.69	6.72	4.97
(5-20)	11/6/2000		6.85	4.84
L	2/22/2001	<u> </u>	6.00	5.69
<u> </u>	5/7/2001	<u> </u>	6.35	5.34
Ļ	8/22/2001].	6.86	4.83
ļ.	11/4/2001	Ļ	6.66	5.03
<u> </u>	2/15/2002	<u> </u>	6.45	5.24
_	5/20/2002	Ļ	6.59	5.10
L	8/1/2002	<u>ļ</u>	6.72	4.97
<u> </u>	11/11/2002	1	6.61	5.08
<u> </u>	2/12/2003	1	5.64	6.05
	5/12/2003		5.68	6.01

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

Well ID	Date	Casing	Depth to	Groundwater
(screen depth)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Elevation	Water	Elevation
MW-8	8/30/00	10.06	3.06	7,00
(5-20)	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	j	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
	5/12/03		2.69	7.37
MW-9	8/30/00	10,03	2.81	7.22
(5-20)	11/6/00	1	2.68	7.35
	2/22/01] .	2.20	7.83
	5/7/01	1	2.75	7.28
	8/22/01]	3.80	6.23
	11/4/01		3.61	6.42
	2/15/02	1	2.92	7.11
	5/20/02	1	2.38	7.65
•	8/1/02	1	2.72	7.31
	11/11/02	1	2.87	7.16
	2/12/03	1	2.43	7.60
	5/12/03	· .	2.41	7.62
MW-10	5/20/02	11.07	4.54	6.53
(5-12)	6/18/02	1	4.25	6.82
/	8/1/02	1	1.80	9.27
	11/11/02	1	1.50	9.57
	2/12/03	1	1.07	10.00
	5/12/03	1	1.01	10.06
MW-11	5/20/02	9.64	0.84	8.80
(5-12)	6/18/02	1	1.71	7.93
(- 1-/	8/1/02	7	4.88	4.76
	11/11/02	1	5.18	4.46
	2/12/03	1	3.85	5.79
	5/12/03	1	4.00	5.64

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

337-16 TT		DO	Temperature	DO
Well ID	Date	(mg/L)	(C)	% 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%
***	05/12/03	4.61	19.5	49.6%
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%
Well	08/27/01	0.40	23.9	4.7%
Abandoned	02/15/02	0.37	18.7	3.9%
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%
***	05/12/03	2.18	20.2	23.8%
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%
***	05/12/03	2.91	19.3	31.2%
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%
	02/11/03	0.18	19.1	1.9%
***	05/12/03	0.72	19.7	7.8%

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

537_11 Trv		DO	Temperature	DO
Well ID	Date	(mg/L)	(C)	% 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%
	002/12/03	0.23	21.3	2.6%
***	05/12/03	0.64	19.8	6.9%
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%
***	05/12/03	0.54	20.0	5.9%
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%
***	05/12/03	0.54	20.6	5.9%
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%
***	05/12/03	1.25	19.6	13.5%

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%
***	05/12/03	0.63	16,4	6.4%
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%
***	5/12/03	3.46	20.0	37.6%
		Statistics for Th	is Quarter	
	Maximum:	4.61	20.6	49.6%
	Minimum:	0.54	16.4	5.9%
	Average:	1.75	19.5	18.9%

Notes:

All measurements were made in the field.

DO, dissolved oxygen readings taken after well was opened for length of time 5/12/03 (***)

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

· · · · · · · · · · · · · · · · · · ·	1		,			2.11	77 3th 5th	eet, Oakia	ind, Calife)FR12							
Well ID	Date	TPH-d	ТРН-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	1
	3/5/97	230	ND	ND	ND	ND	ND	NA	NA	NA	NA NA	NA NA	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 NA	NA NA	NA NA
	9/9/97	180	ND	ND	ND	ND	ND	NA	NA	NA	NA	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	NA NA	
	7/7/98	1,400	ND	ND	ND	ND	ND	NA	2.7	NA	NA	NA	NA	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	NA	NA NA
	12/30/98	1,700	ND	ND	ND	ND	ND	NA	2.3	NA	NA	NA	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	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 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	NA NA	<50	NA <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	
	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 <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	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
	5/12/03	520	<50	<0.5	<0.5	<0.5	<0.5	610	580	<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	NA
	3/5/97	2,300	4,400	1,500	51	24	100	NA	NA	ŇA	NA	NA	NA	NA	NA NA	NA	NA
ĺ	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 NA
	2/13/98	2,200	6,500	2,400	31	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
777 44	7/7/98	2,700	5,200	2,800	ND	ND	ND	NA	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA
Well	10/1/98	1,200	1,200	330	12	8.8	11	NA	360,000	NA	NA	NA	NA	NA	NA	NA	NA
Destroyed	12/30/98	1,900	1,000	96	ND	ND	ND	NA	360,000	NA	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 64	ND	ND	ND	ND	ND	NA	4.8	NA	NA	NA	NA	NA	NA	NA	NA
ł	12/30/98 3/21/00		ND ND	ND	ND	ND	ND	NA	4.5	NA	NA	NA	NA	NA	NA	NA	NA
ŀ	8/30/00	2,800	ND (ND	ND	ND	ND	NA	4.8	NA	NA	NA	NA	NA	NA	NA	NA
}	11/6/00	940 940	<50	1.3	<0.5	<0.5	<0.5	12	NA	NA	NA	NA	NA	NA	NA	NA	NA
}	2/22/01	340	<50	<0.5	<0.5	<0.5	<0.5	25	12	<1	<1	<1	<5	NA	NA	<1	<1
	4/44/01	340	<50	1.2	1.5	<0.5	0.74	18	26	<1	<1	<1	<5	<200	<50	<1	< <u>1</u>

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Well ID	Date	трн-а	ТРН-д	Benzene	Toluene	Ethyl- benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
MW-3	5/7/01	460	140	0.76	4.7	2.2	14	25	33	<1	<1	<1	<5	<200	<50	<1	<1
cont'd.	8/22/01	130	<50	<0.5	<0.5	<0.5	<0.5	41	44	<1	<1	<l< td=""><td><5</td><td>NA</td><td>NA</td><td><l< td=""><td><1</td></l<></td></l<>	<5	NA	NA	<l< td=""><td><1</td></l<>	<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
ľ	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
ľ	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
l	5/12/03	1,500	<50	<0.5	<0.5	<0.5	< 0.5	330	360	<6.2	<6.2	<6.2	<62	<6,200	<620	<6.2	<6.2
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
ł	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
ı	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
Ī	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
Ī	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
ľ	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
Ī	11/1/1/02	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
	5/12/03	88	<2500	<25	<25	<25	<25	88,000	86,000	<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
ſ	11/6/00	520	<1,000	<1	<1	<1	<1	44,000	42,000	<1,000	<1,000	<1,000	<5,000	ÑΑ	NA	<1,000	<1,000
Ĭ	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
Ī	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
Ī	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
ľ	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
Ī	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
Ī	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
	5/12/03	1,500	<500	13	<5	<5	<5	19,000	21,000	<500	<500	<500	5,200	<500,000	<50,000	<500	<500
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
Ī	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
ſ	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
Ī	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
Γ	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
	5/12/03	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

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	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
cont'd.	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
	5/12/03	2,100	<1,000	<10	<10	<10	<10	32,000	29,000	<500	<500	<500	8,700	<500,000	<50,000	<500	<500
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
	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
	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
	5/12/03	7,100	98,000	25,000	520	2,600	12,000	140,000	220,000	<5,000	<5,000	<5,000	<50,000	<5,000,000	<500,000	<5,000	<5,000
MW-8	8/30/00	690	<1,000	18	ا>	<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
	5/12/03	4,500	<2,500	94.0	<25	<25	<25	52,000	60,000	<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
İ	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
j	2/12/03	350	<50	<0.5	<0.5	<0.5	<0.5	55	50	<1	<1	</td <td><10</td> <td><1,000</td> <td><100</td> <td><1</td> <td><1</td>	<10	<1,000	<100	<1	<1
	5/12/03	380	<50	<0.5	<0.5	<0.5	<0.5	45	45	<1	<1	<1	<10	<1,000	<00	<1	<1

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Well ID	Date	ТРН-ф	ТРН-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
J	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	0.72	<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	0.63	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<5	<500	<50	<0.5_	<0.5
ŀ	5/12/03	96	<50	0.56	< 0.5	<0.5	<5	<5	0.59	<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
	5/12/03	62	<50	<0.5	1,1	<0.5	<0.5	<5	2.3	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
M	CL	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.

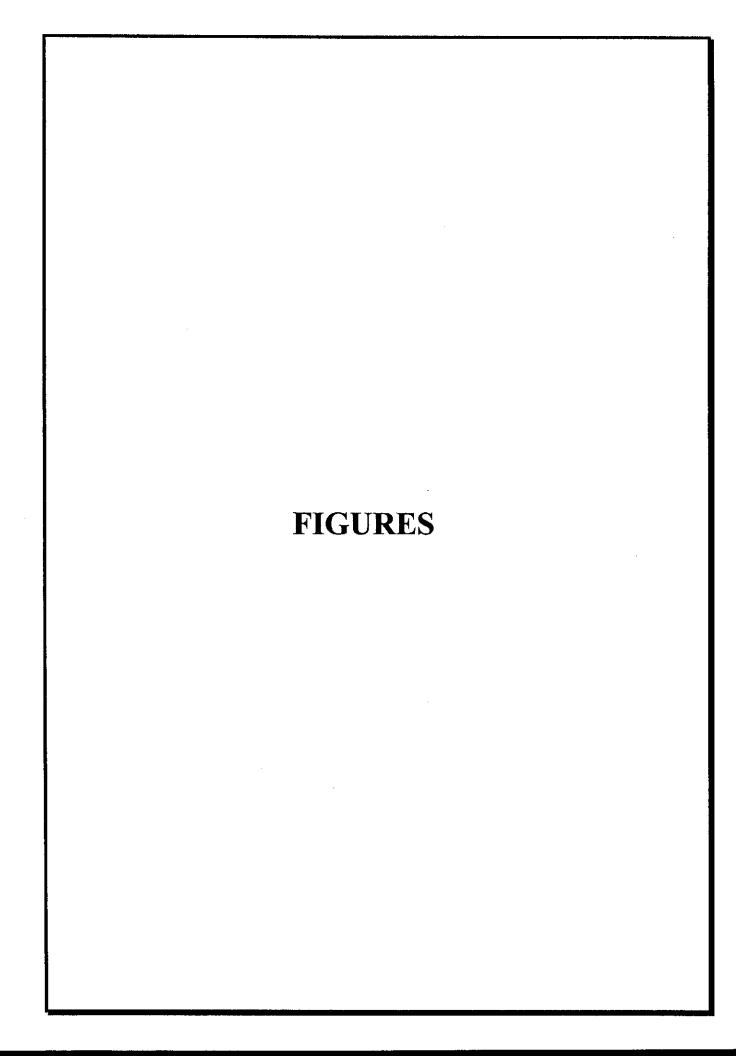
NE, An MCL or Action Level has not been established.

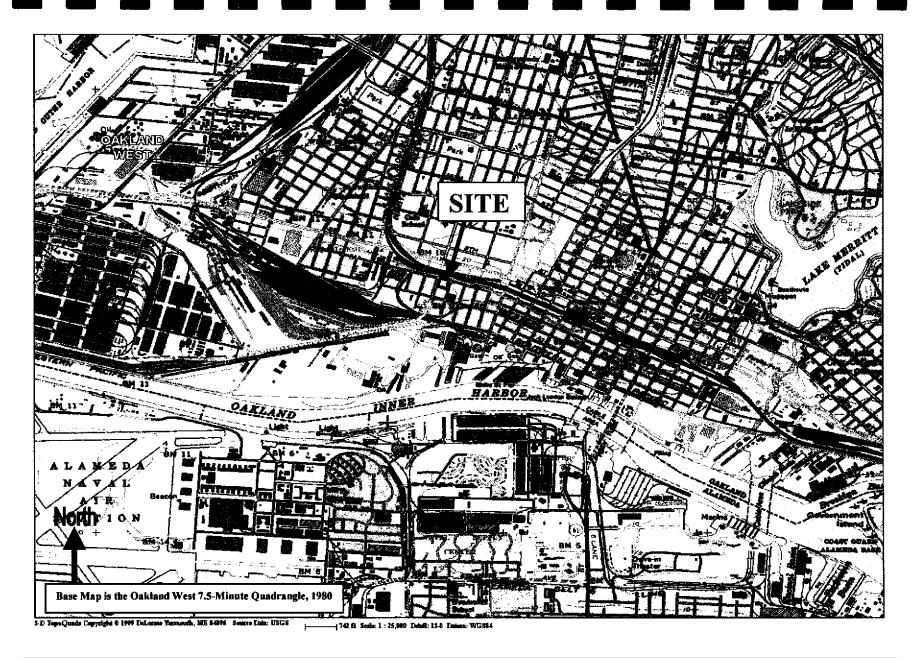
TPH-d, Total Petroleum Hydrocarbons as diesel. TPH-g, Total Petroleum Hydrocarbons as gasoline.

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.





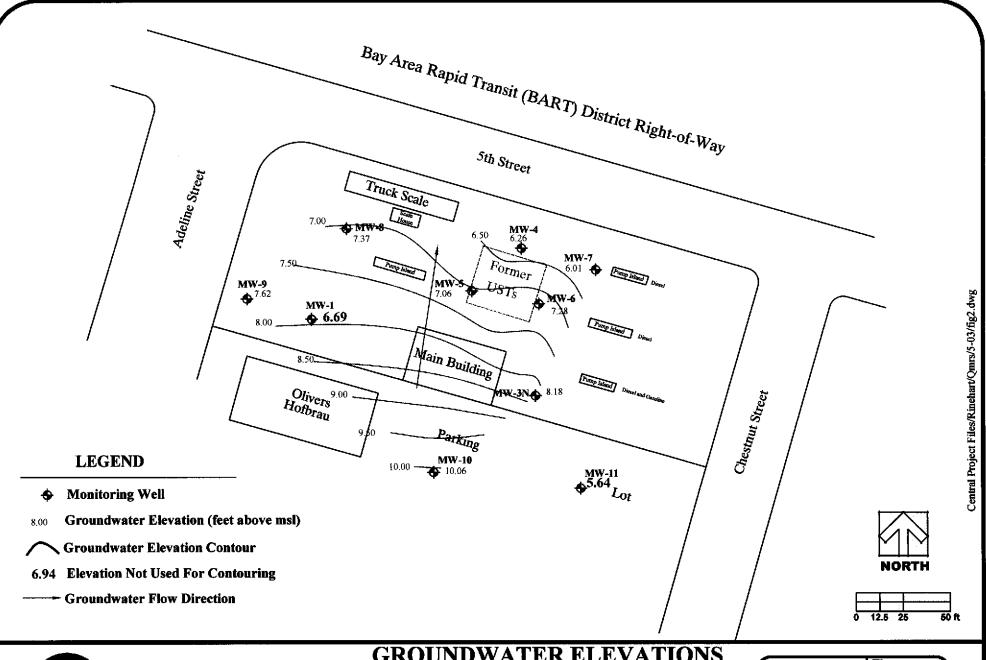


6940 Tremont Road Dixon, California 95620

LOCATION MAP

Oakland Truck Stop 1107 5th Street, Oakland, California FIGURE 1

Job No. 3628





W.A. Craig, Inc.

6940 Tremont Road Lic no. 455752 Dixon, California 95620-9603

(707) 693-2929 Fax (707) 693-2922

GROUNDWATER ELEVATIONS

MAY 12, 2003

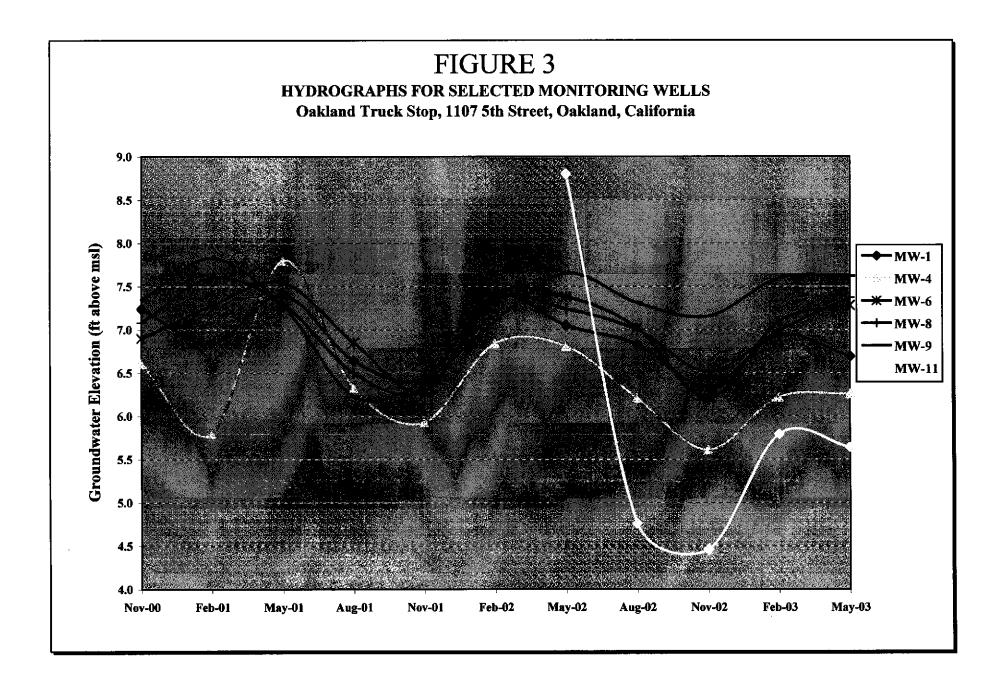
Oakland Truck Stop 1107 5th Street Oakland, California

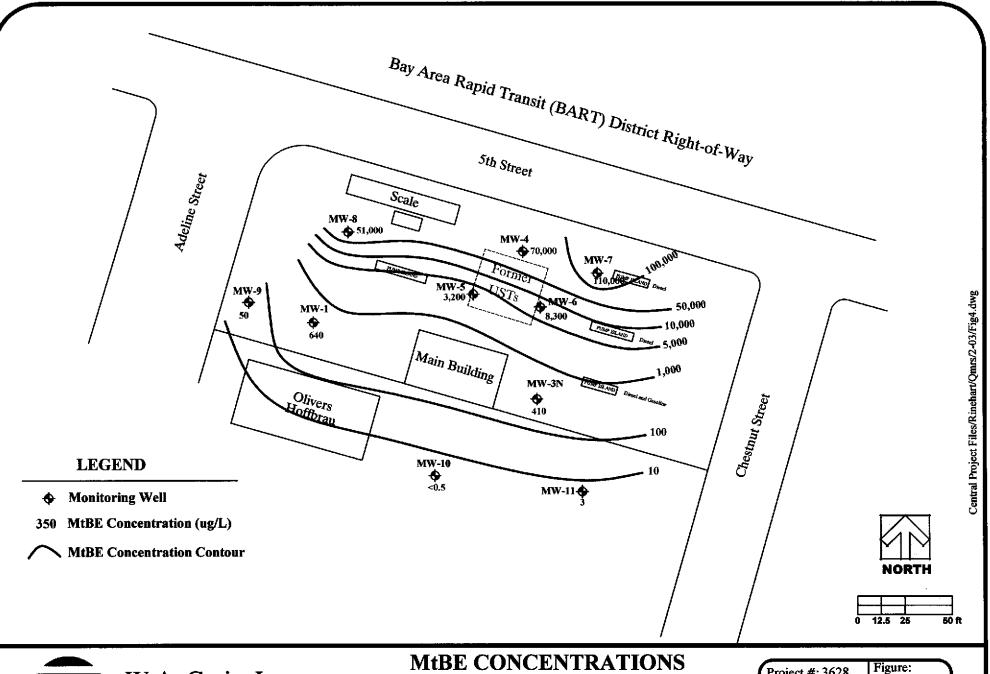
4	Decises	#.	2629
	Project	#.	3040

Date: 6/10/03

Scale: 1"=50"

Figure:







W.A. Craig, Inc.

6940 Tremont Road

Lic no. 455752

Dixon, California 95620-9603

(707) 693-2929

Fax (707) 693-2922

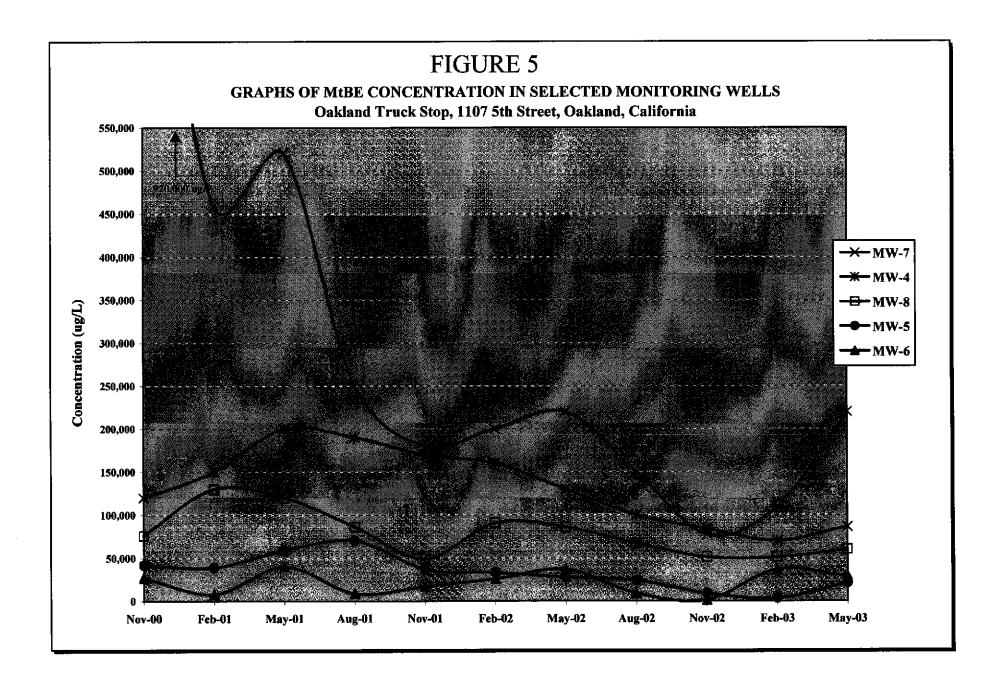
MtBE CONCENTRATIONS IN GOUNDWATER

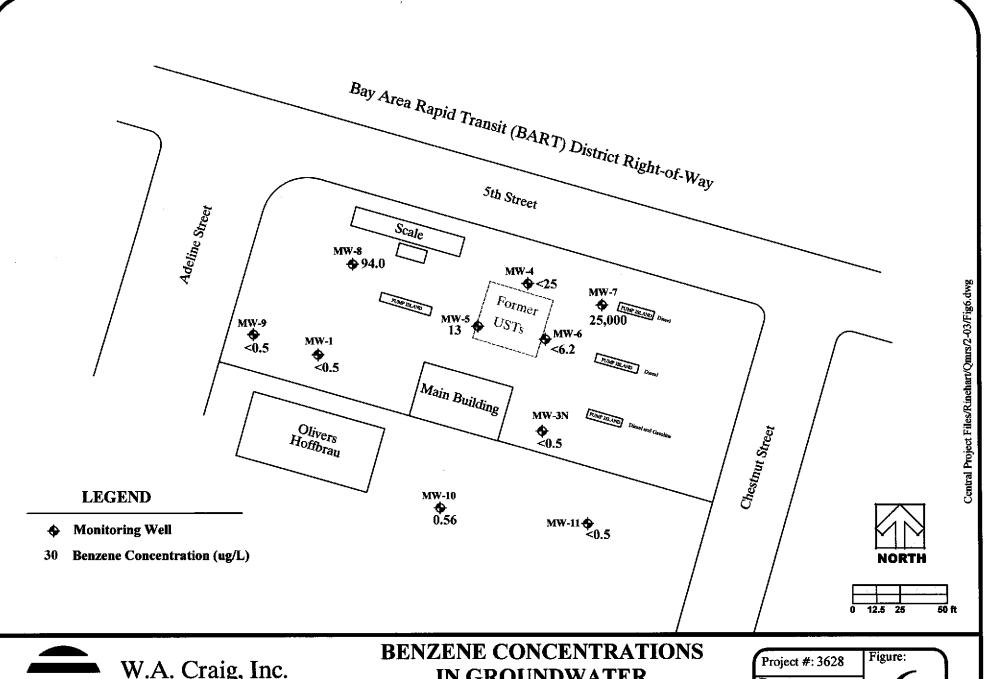
Oakland Truck Stop 1107 5th Street Oakland, California

Project #: 3628

Date: 2/12/03

Scale: 1"=50'







W.A. Craig, Inc.

6940 Tremont Road

Dixon, California 95620-9603

(707) 693-2929

Fax (707) 693-2922

Lic no. 455752

IN GROUNDWATER

Oakland Truck Stop 1107 5th Street Oakland, California

Date: 6/12/03

Scale: 1"=50'

APPENDIX A MONITORING WELL SAMPLING LOGS

SITE HAW	E/LOCATI	CH:	Ľ.).	<u>.</u>			Jos #: 3629
PATE:	5/13/0	23	-				SAMPLER'S INITIALS: QUI
WELL ID:	MW-11	e Pal for Philosophia (Contract Long Labor)	e zamunické kolonych (WELL DIV	METER (In):		完全,我们就是这个人的,我们就是一个人,我们就是不是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就会们就是一个人 "我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人
WELL DEP	TH (ft):	13	<u>.</u>	DEPTH TO	WATER (ft):	٨١,	WATER COLUMN Ht (ft):
		DLUME (gal) me in gallons		y the water	column height		5 (g2!): C inch well or 0.66 for a 4-inch well.
PURGE ME	THOD:	Josep.	lar-		_	SAMPLING I	METHOD: big/kc
		··		Pι	IRGE MEASUR	EMENTS	
Time	Gallons Purged	Temp (C)	рН	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
135	72.	77, 0)39		277.2		Nes /slow Rech
		75.8	7,44	1479	586,7		1
	l= Time tha	ZO, D	were col	losted			Depth to Water at Sampling =
							pepul co water at sampling -
WELL ID:	<u> </u>		•	WELL DIA	METER (in):		
WELL DEP	TH (ft):	12-	_	DEPTH TO	WATER (ft):	1:00	WATER COLUMN Ht (ft):
		DLUME (gal)	•		_		5 (gal); SS
To obtain s	tanding volui	me in gallons	s, multipi	y the water	column height	by 0.17 for 2-	inch well or 0.66 for a 4-inch well.
PURGE ME	THOD:	haller	e-		<u>.</u>	SAMPLING.	METHOD: buller
				Pt	JRGE MEASUR	EMENTS	
Time	Gallons Purged	Temp (C)	рН	SC (u5)	Turbidity (NTU)	DO (mg/L)	Comments
150	2	~ \$ t	怪ない		318.5		Nes
	5.5	70,7	7,76.	970	135 7		
			190 min 2 may 2 ma			and the particular particular and successful and su	
	1 (bet	The second section of the second seco				1,3.	
	The state of the s	u Sangtes	utere co	Berted.			Depth to Weter at Sampling =

SITE HAM	EALOCATH	OH: Zie	JOB #:				
WIE:	5/10/03				SAMPLER'S INITIALS: CVA		
WELL ID:	MW-S	Gertini selektetan dipanyan 1992a		WELL DIAK	KETER (in):	reaction as the second of the	是创新的经过的时间,他就可能不够的 是 他们,从中的过程也是不是有效的特殊的意思,也不是不是一个,但是一个,他们就是一个,他们们就是一个,他们们们们们们们们们们们们
WELL DEPTH (ft): 76 .4			DEPTH TO WATER (ft):			2.49	WATER COLUMN HE (fL):
		DLUME (gal) me in gallons		y the water (column height	3 VOLUMES by 0.17 for 2-i	(gal): S C inch well.
PURGE ME		bail				SAMPLING A	
····				PU	RGE MEASUR	EMENTS	•
Time	Gallons Purged	Temp (&)°(=	рН	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
10,50	3	71.8	(00	1800	453.7		Strong of or / much sheen possion
	6	71.7	1	1930	723.5		1 1 C
	ξ. (72.8	1, 79	1940	817.1		and the form
TO PART STATEMENT							
~		20,60				2515	Depth to Water at Sampling =
	= Time tha	at Samples \	were cal	lected.		154	Depth to Water at Sampling =
WELL ID:	MW-C)			WELL DIA	VETER (in):	AMERICAN PROPERTY.	
WELL DEP	TH (ft):	20,5	-			4,20	WATER COLUMN HE (ft):
TANDING	WATER VO	JLUME (gal)):		•	3 VOLUMES	(gai): G
o obtain st	anding volu	me in gallon	s, multipl	y the water	- column height		inch well or 0.66 for a 4-inch well.
URGE <i>K</i> E	THOD:	bailar				SAMPLING I	METHOD- I I
		241711	·····		-	esiti entise t	WETHOD: Backler
				PL	IRGE MEASUR	EMENTS	
Time	Gallons Purged	Temp (C)	pН	SC (uS)	Turbidity (NTU)	D0 (mg/L)	Comments
215	c/	75.3	6.71	2760	3815	(1115/2-)	Mang coor I washin
The second second	<u> </u>	746	6,70	2746	416. 2	For the min styricalists, we are engaging garage	play ofor fuestin
+	5	12300		300	613,1		1 - Complete Con
	5				61311		
and Mr Title official a Health's of Highligh of	<u> </u>	<u> </u>	- 1	C .			
			- F			12 11	
	The second section of the second seco	at Tampiec			riga arting gapagar na antonina na komina na kamana aya in 	. naga yaya sa sanan saya sa sa sa sa sa sa saga sa	Depth to Visier at Demoing =

	ME/LOCATH	······································	Lyrc				JOB #: 3678
ATE:	5/10/	<u> </u>	Name .				SAMPLER'S INITIALS: C.
VELL ID	MW- 7	COMPAGNATOR STREET, ST	ing a construction with the con-	WELL DIA	ÆTER (in):	ic i podd iantyr dawnga a gold o'c a Lymenberg i siyyng	· 多元的表表的,1500年的新年,1500年的前代,1400年的特殊,1500年的1500年的1500年的1500年的1500年的1500年的1500年的1500年的1500年的1500年的1500年的1500年的150 19 18 19 19 19 19 19 19 19 19 19 19 19 19 19
WELL DE	TH (ft):	20,5	_	DEPTH TO	WATER (ft):	5:68	- WATER COLUMN Ht (ft):
	3 WATER VO			v the water	- column beiebi l	3 VOLUMES	(gal): $\frac{7.3Q}{1000}$ (nch well or 0.66 for a 4-inch well.
PURGE MI			der	y die Haggy	-		METHOD: hiller
				PU	RGE MEASURI	EMENTS	, , , , , , , , , , , , , , , , , , , ,
Time	Gallons Purged	Temp (C.)	рН	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
1.10	14	75.1	6.80	1350	3825		strong of 1/ price she se
	6	å		1320	597,3		2 . / w -
	1 3	713	4.51	1330	61403	ļ	(
						<u> </u>	From Chance The last Q
		<u> </u>	<u> </u>			·	
		200	1	İ		n- in 1	
		Z <i>D,O</i>	were col	lected.		,54	Denth to Water at Sampling -
		Z.P.O it Samples	were col	lected.		,54	Depth to Water at Sampling =
WELL ID:		t Samples	were col	S-115 - 13 - 14 - 14 - 14 - 14 - 14 - 14 - 14	WETER (in):	,54	Depth to Water at Sampling =
	= Time tha	it Samples Ĵ		WELL DIAM			Depth to Water at Sampling = WATER COLUMN Ht (ft):
WELL DEF	- Time the	it Samples		WELL DIAM		3.49	WATER COLUMN Ht (ft):
WELL DEF	= Time the MW-36 TH (ft): WATER VO) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	- -):	WELL DIAM	WATER (ft):	3 CA 9	
WELL DEF	H= Time the MW-{∧ TH (ft): WATER VC tanding volume) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \): is, multipl	WELL DIAM	WATER (ft):	3 C4 9 3 VOLUMES by 0.17 for 2-	WATER COLUMN Ht (ft): (gai): ([2]) inch well or 0.66 for a 4-inch well.
WELL DEF STANDING To obtain s	H= Time the MW-{∧ TH (ft): WATER VC tanding volume	It Samples I C VLUME (gallone in gallon): is, multipl	WELL DIAM DEPTH TO	WATER (ft): column height	3 VOLUMES by 0.17 for 2-	WATER COLUMN HE (ft):
WELL DEF TANDING To obtain s FURGE ME	= Time the MW-3A TH (ft): E WATER VOICE tanding volume THOD:) VZ DLUME (gal ne in gallon bacife)); is, multipl	WELL DIAM DEPTH TO y the water	WATER (ft): column height RGE MEASUR	3 VOLUMES by 0.17 for 2- SAMPLING A	WATER COLUMN Ht (ft): (gai): ([2]) inch well or 0.66 for a 4-inch well.
WELL DEF STANDING To obtain s	H= Time the MW-{∧ TH (ft): WATER VC tanding volume	It Samples I C VLUME (gallone in gallon): is, multipl	WELL DIAM DEPTH TO	WATER (ft): column height RGE MEASUR	3 VOLUMES by 0.17 for 2- SAMPLING I	WATER COLUMN Ht (ft): (gai): ([2]) inch well or 0.66 for a 4-inch well.
WELL DEF TANDING To obtain s FURGE ME	### Time the MW-3A TH (ft): WATER VO tanding volunt THOD: Gallens	L Samples 1 Z DLUME (gallon bacillo Temp (C)); is, multipl	WELL DIAM DEPTH TO y the water PU SC	WATER (ft): column height RGE MEASUR Turbidity (NTU)	3 VOLUMES by 0.17 for 2- SAMPLING A	WATER COLUMN Ht (ft): (gai): C(23) inch well or 0.66 for a 4-inch well. WETHOD: Indicate Comments
WELL DEF TANDING To obtain s FURGE ME	TH (ft): WATER VC tanding volum THOD: Gallons Purged	LUME (gal ne in gallon bacild)); is, multipl	WELL DIAM DEPTH TO y the water PU SC (uS) V32.C	WATER (ft): column height RGE MEASURI Turbidity (NTU)	3 VOLUMES by 0.17 for 2- SAMPLING I	WATER COLUMN Ht (ft): (gai): C(23) Inch well or 0.66 for a 4-inch well. WETHOD: Incher Comments
WELL DEF TANDING To obtain s FURGE ME	Time the	LUME (gallon ballon (C)	pH	WELL DIAM DEPTH TO y the water PU SC (uS)	WATER (ft): column height RGE MEASUR Turbidity (NTU)	3 VOLUMES by 0.17 for 2- SAMPLING I	WATER COLUMN Ht (ft): (gzi): (1/23) inch well or 0.66 for a 4-inch well. WETHOD: ////// Comments
WELL DEF TANDING To obtain s FURGE ME	Time the	Temp (C)	pH	WELL DIAM DEPTH TO y the water PU SC (uS)	WATER (ft): column height RGE MEASURI Turbidity (NTU)	3 VOLUMES by 0.17 for 2- SAMPLING I	WATER COLUMN Ht (ft): (gai): C(23) Inch well or 0.66 for a 4-inch well. WETHOD: Incher Comments
WELL DEF TANDING To obtain s FURGE ME	Time the	LUME (gallon ballon (C)	pH	WELL DIAM DEPTH TO y the water PU SC (uS)	WATER (ft): column height RGE MEASURI Turbidity (NTU)	3 VOLUMES by 0.17 for 2- SAMPLING I	WATER COLUMN Ht (ft): (gzi): [1/23] Inch well or 0.66 for a 4-inch well. WETHOD: [2011/41] Comments

SITE HAN	AE/LOCATI	OH: KI	JOB#: 3625				
ATE:	5/12/10	3	-				SAMPLER'S INITIALS: Can
WELL ID:	MM-C*		AL CONTRACTOR MATERIAL	WELL DIA	METER (in):	P: MARTIN AND YES ALCOHOL	773年30日本日(中国工作基础中间1007日本日)在1007日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日本日
MELT DE!	TH (ft):	205	-	DEPTH TO	WATER (ft):	3.34	— WATER COLUMN Ht (ft):
		DLUKE (gal)				3 VOLUMES	5 (gel): 5 < 4
To obtain s	tanding volu	me in gallon	s, multip	ly the water	column height	by 0.17 for 2-	inch well or 0.66 for a 4-inch well.
PURGE M	ETHOD:	<u>l</u> wate	} <i>'</i>			SAMPLING	METHOD: (Best /st
				Pŧ	JRGE MEASUR	EMENTS	
Time	Gallons Purged	Temp (£)+	рН	SC (u5)	Turbidity (NTU)	DO (mg/L)	Comments
12:35	3	710	6.94	1300	478.5		Very Alight War / No Shear
	9	73,5	4.97_	1130	583.7		Broga or 1 cm
	}	1725	4.90	1190	601.3		
					÷		
		1982	†			73	
	= Time tha	st Samples	vere col	lected.		a Covil	Depth to Water at Sampling =
Commence		Karangan sa				7/10 to 16/10 to 16/10	
WELL ID:	MW-5	· ·		WELL DIA	METER (in);		
WELL DEF	TH (ft):	20.5		DEPTH TO	WATER (ft):	3,18	WATER COLUMN Ht (ft):
		DLUME (gal)				3 VOLUMES	(ga!): 4.42
To obtain s	tanding volu	me in gailons	i, multipl	y the water	column height	by 0.17 for 2-	inch well or 0.66 for a 4-inch well.
PURGE ME	THOD:	wild	r		_	SAMPLING I	METHOD: Distance
				PE	JRGE MEASURI	FMENTS	
Time	Gallons Purged	Temp (e) r=	рН	5C (u5)	Turbidity (NTU)	DO (mg/L)	Comments
		76.4	721	1670	ZX, 3		Motherage shall I noster
	6	73,6	द्वप	1560	723,51		1 28 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	1	70,5	4.92	(5bc)	801.6		8 8 1 20 0
Anthoris was a new print purple , placers and		To the state of th					
	e d'un la resta essense di accomò capari, acces a accesso	19.7				· · · · · · · · · · · · · · · · · · ·	
ende periode and a simple delegation of the great		. Angele I demand a series and the		Le steri.	ang a material madel along transport made the party of th		Depois to Material Carryolage
and the second second second second	Commence of the second	The second secon	Constitution, Spinishers of the second	and the second s	and a second second second second second second second second second second second second second second second	are this plant depart of a contract of the same	

MONITORING WELL SAMPLING LOG

SITE HAS	AE/LOCAT	юн. <u>7</u> .	P/C	**************************************			JOB #: 36-25
DATE:	3/12/10	3	_				SAMPLER'S INITIALS: CIPI
WELL ID:	W//V- 1	等企业企业中国共和国企业	地 达的54°C (1863人)(2865年)	WELL DIA	WETER (in):	PI IMPRO RELIGIO E VERNESSION	
WELL DEF	TH (ft):	20.5	~	DEPTH TO	O WATER (ft):		WATER COLUMN Ht (ft.):
		OLUME (ga)):			3 VOLUMES	S (cai): 4: 24
		me in gallon	s, multipi	ly the water	r column height	by 0.17 for 2-	inch well or 0.66 for a 4-inch well.
PURGE ME	THOD:	Mai	₹\$		 -	SAMPLING	METHOD: <u>badar</u>
				Þ	URGE MEASUR	EMENTS	
Time	Gallons Purged	Temp (Ç)' F	рΗ	SC (uS)	Turbidity (NTU)	DO (mg/L)	Comments
10'00	3	(8)1	7.19	3430	317,2		Net
	6	6.5.7	7,4	3720	4864		Sizes Rech (NOS
	9	6512	7,15	4050	503,4	ļ	w _a long
		The state of the s					
		19,5%				1161	Allengerschee
	= Time the	at Samples	were col	lected.			Depth to Water at Sampling =
WELLIS			CATE OF SEA	i verty distribution per			
	MW-q		-		METER (in):		
WELL DEF	TH (ft):	20.5	_	DEPTH TO	O WATER (ft):	2.41	WATER COLUMN HE (ft.):
		DLUME (gal)			_	3 VOLUMES	5 (gal): 7
To obtain st	anding volu	me in gallon	s, multipi	y the water	column height	by 0.17 for 2-	finch well or 0.66 for a 4-inch well.
PURGE ME	THOD:	_ hill	61	· · · · · · · · · · · · · · · · · · ·		SAMPLING	METHOD: Buler
				PI	URGE MEASUR	EMENTS	
Time	Gallons	Temp	p∺	SC	Turbidity	DO	Comments
	Purged	(C)	**************************************	(u5)	(NTU)	(mg/L)	
10 30	3	63.		1500	[25.5]		Pottin 1878 smill fuelber
	ω ₁ 7	168.1	6.67 4.70	3330	216.6		1 1/1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
·	2/	16011	4, 16	3050	₹6€,3		4 " 4/1/2 "
The second secon	Land Company Control		7		<u> </u>		
	THE REAL PROPERTY AND ADDRESS OF THE PROPERTY		Ē			1,25	Alter play + smith.
and the second second	- Section of the common of the	a Egraphy		terred.		ganatikatinaka a	Doubling Water as Sampling a Vicini

APPENDIX B PRODUCT SKIMMER SERVICE LOG FOR MW-7

OAKLAND TRUCK STOP, WELL MW-7 PASSIVE SKIMMER RECORD OF FREE PRODUCT VOLUME REMOVED

DATE	TIME	PRODUCT REMOVED (Liters)	COMMENTS
1/9/2003	9:45	0.90	15 minutes after emptying skimmer, no new product had entered
1/14/2003	9:27	0.06	
1/21/2003	11:45	0.07	
1/28/2003	9:44	0.12	Depth to water = 5.8'
4/16/2003	10:00	0.08	Well has no cap; water in well box was at top of well casing
5/12/2003	11:00	0.15	
5/27/2003	10:00	0.15	
6/11/2003	10:30	0.04	
			
ļ			

1.57 = Cumulative volume (L) removed.

APPENDIX C LABORATORY ANALYTICAL REPORTS

A	McCampbell A	Analytical	Inc
4			

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Reported: 05/19/03
	Client P.O.:	Date Completed: 05/19/03

WorkOrder: 0305173

May 19, 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. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Angela Rydelius, Lab Manager

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: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 05/13/03-05/14/03
	Client P.O.:	Date Analyzed: 05/13/03-05/14/03

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

	method: SW5030B				methods: SW8021		HI DIEA ARG		Order: 0	305173
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% S:
001A	MW-1	w	ND	610	ND	ND	ND	ND	1	101
002A	MW-3N	w	ND	330	ND.	ND	ND	ND	1	101
003A	MW-4	w	ND<2500,j	88,000	ND<25	ND<25	ND<25	ND<25	50	101
004A	MW-5	w	ND<500,j,i	19,000	13	ND<5.0	ND<5.0	ND<5.0	10	100
005A	MW-6	w	ND<1000,j,i	32,000	ND<10	ND<10	ND<10	ND<10	20	103
006A	MW-7	w	98,000,a,h	140,000	25,000	520	2600	12,000	100	102
007A	MW-8	w	ND<2500,j,h	52,000	94.	ND<25	ND<25	ND<25	50	101
008A	MW-9	w	ND	45	ND	ND	ND	ND	1	102
009A	MW-10	w	ND	ND	0.56	ND	ND	ND	1	100
010A	MW-11	W	ND	ND	ND	1.1	ND	ND	1	99,5
	~~~~ <u>~</u>			-						
									-	
									+	
							-			
									<del> </del>	
	Limit for DF =1; not detected at or	W	50	5.0	0.5	0.5	0.5	0.5	1	μg/[
	e reporting limit	S	NA	NA	NA	NA	NA	NA	l I	mg/K

^{*}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.

⁺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.



[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

al Ind

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 05/12/03
2.10.1, 0.17.50.20 700.5	Client P.O.:	Date Analyzed: 05/13/03-05/15/03

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

Extraction method: SW3	3510C		Analytical methods: SW8015C	Work Order:	0305173
Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0305173-001C	MW-I	w	520,a/m	]	87.2
0305173-002C	MW-3N	w	1500,a/m	1	88.8
0305173-003C	MW-4	W	88,6	1	86.0
0305173-004C	MW-5	w	1500,a,i	1	87.5
0305173-005C	MW-6	w	2100,a,i	1	115
0305173-006C	MW-7	w	7100,d,b,h	1	115
0305173-007C	MW-8	w	4500,a,h	1	115
0305173-008C	MW-9	w	380,a	1	105
0305173-009C	MW-10	w	96,b	1	100
0305173-010C	MW-11	w	62,b	1	98.6
					!
Reporting Li	imit for DF =1;	W	50		g/L
ND means no	ot detected at or reporting limit	S	NA		g/L √Α

^{*} 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

Angela Rydelius, Lab Manager

[#] 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 McCampbell 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.

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 05/14/03-05/15/03
	Client P.O.:	Date Analyzed: 05/14/03-05/15/03

	ntile Organics by alytical Method: SW8260 0305173-002B		AS*			
305173-001B	0305173 0020			Work Ord	er: 0305173	
	0303173-00213	0305173-003B	0305173-004B		<del></del>	
MW-1	MW-3N	MW-4	MW-5	Reporting Limit for		
W	W	W	w	DF =1		
20	12	3300	1000	S	W	
	Conce	entration		ug/kg	μ <u>e</u> /L	
ND<10	ND<6.2	ND<1700	ND<500	NA	0.5	
ND<10	ND<6.2	ND<1700	ND<500	NA	0.5	
580	360	86,000	21,000	NA	0.5	
ND<10	ND<6.2	ND<1700	ND<500	NA	0.5	
ND<100	ND<62	ND<17,000	5200	NA	5.0	
ND<1000	ND<620	ND<170,000	ND<50,000	NA	50	
ND<10,000	ND<6200	ND<1,700,000	ND<500,000	NA	500	
ND<10	ND<6.2	ND<1700	ND<500	NA	0.5	
ND<10	ND<6.2	ND<1700	ND<500	NA	0.5	
Surro	gate Recoveries	(%)	<u> </u>		<del></del>	
96.8	98.5	91.2	89.6	And the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s		
			i		A. Landaup report to the Manager of	
	20  ND<10  ND<10  580  ND<10  ND<100  ND<1000  ND<10,000  ND<10  ND<10  Surro	ND<10	Concentration           ND<10         ND<6.2         ND<1700           ND<10	Concentration           Concentration           ND<10         ND<6.2         ND<1700         ND<500           ND<10	ND<10   ND<6.2   ND<1700   ND<500   NA	

^{*} 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.

110 2nd Avenuc 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: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 05/14/03-05/15/03
	Client P.O.:	Date Analyzed: 05/14/03-05/15/03

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

Extraction Method: SW5030B Analytical Method: SW8260B

Work Order: 0305173

Extraction Method: SW5030B	An	Work Order: 0305173					
Lab ID	0305173-005B	0305173-006B	0305173-007B	0305173-008B			
Client ID	MW-6	MW-7	MW-8	MW-9	Reporting Limit fo		
Matrix	W	W	w	W	DF	=1	
DF	1000	10000	2000	2	S	w	
Compound		ug/kg	μg/L				
Diisopropyl ether (DIPE)	ND<500	ND<5000	ND<1000	ND<1.0	NA	0.5	
Ethyl tert-butyl ether (ETBE)	ND<500	ND<5000	ND<1000	ND<1.0	NA	0.5	
Methyl-t-butyl ether (MTBE)	29,000	220,000	60,000	45	NA	0.5	
tert-Amyl methyl ether (TAME)	ND<500	ND<5000	ND<1000	ND<1.0	NA	0.5	
t-Butyl alcohol (TBA)	8700	ND<50,000	ND<10,000	ND<10	NΛ	5.0	
Ethanol	ND<50,000	ND<500,000	ND<100,000	ND<100	NA	50	
Methanol	ND<500,000	ND<5,000,000	ND<1,000,000	ND<1000	NA	500	
1,2-Dibromoethane (EDB)	ND<500	ND<5000	ND<1000	ND<1.0	NA	0.5	
1,2-Dichloroethane (1,2-DCA)	ND<500	ND<5000	ND<1000	ND<1.0	NA	0.5	
	Surre	ogate Recoveries	(%)		I	······································	
%SS:	84.9	89.2	87.7	102	- <b> </b>	1973 - 1884 - 18 January 1971.	
Comments	1	h	h			<del></del>	

^{*} 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.

d	McCampbell	Analytical	Inc
3	-	-	

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: #3628; Rinehart	Date Sampled: 05/12/03
6940 Tremont Road		Date Received: 05/12/03
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 05/14/03-05/15/03
	Client P.O.:	Date Analyzed: 05/14/03-05/15/03

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

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0305173 Lab ID 0305173-009B 0305173-010B Client ID MW-10 MW-11 Reporting Limit for DF = 1Matrix W W DF 1 1 S Compound Concentration ug/kg μg/L Diisopropyl ether (DIPE) ND ND NA 0.5 Ethyl tert-butyl ether (ETBE) ND ND NA 0.5 Methyl-t-butyl ether (MTBE) 0.592.3 NA 0.5 tert-Amyl methyl ether (TAME) ND NDNA 0.5 t-Butyl alcohol (TBA) ND ND NA 5.0 Ethanol ND ND NA 50 Methanol ND ND NA 500 1,2-Dibromoethane (EDB) ND ND NA 0.5

#### Surrogate Recoveries (%)

ND

		B		
%SS:	102	95.1		
Comments				
	2			

^{*} 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



1,2-Dichloroethane (1,2-DCA)

NA

0.5

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.

110 2nd Avenue South, #137, Paelsco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com/E-mail: main@mccampbell.com/

### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0305173

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6863 Spiked Sample ID: 030515											
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	µg/L	μg/L	μg/L % Rec.		% RPD	% Rec.	% Rec.	% RPD	Low	High	
TPH(biex) [£]	ND	60	97.5	103	5.54	97.7	96.7	1.10	70	130	
MTBE	63.71	10	NR	NR	NR	101	99.3	1.77	70	130	
Benzene	ND	10	90.3	94.8	4.84	89.5	90.4	1.04	70	130	
Toluene	0.6962	10	88.6	96.2	7.61	94.4	95.8	1.51	70	130	
Ethylbenzene	ND	10	97.3	101	3.86	96.7	96.8	0.0834	70	130	
Xylenes	ND	30	100	103	3.28	100	100	0	70	130	
%SS:	102	100	99.1	99	0.0636	97.4	99.5	2.14	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.

[%] 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.

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.

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0305173

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6886 Spiked Sample ID: 0305173-010A												
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	e Criteria (%)		
Сотроина	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High		
TPH(btex) [£]	ND	60	105	106	0.468	97.8	97.5	0.236	70	130		
мтве	ND	10	116	116	0	99.5	107	7.59	70	130		
Benzene	ND	10	93.4	93.3	0.0441	94.4	95	0.600	70	130		
Toluene	1.143	10	97.7	97.7	0	98.9	98.9	0	70	130		
Ethylbenzene	ND	10	106	107	0.930	99.5	98.9	0.646	70	130		
Xylenes	ND	30	103	107	3.17	103	103	0	70	130		
%SS:	99.5	100	103	102	0.386	98.7	100	1.74	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.

[%] 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 coefutes 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.

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/

## QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0305173

EPA Method: SW8015C	E	Extraction:	SW35100	0	BatchID:	6878	s	Spiked Sample ID: N/A									
Compound	Sample Spiked  µg/L µg/L		MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)							
Compound			% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High							
TPH(d)	N/A	7500	N/A	N/A	N/A	97.6	92.8	5.00	70	130							
%SS:	N/A	100	N/A	N/A	N/A	94.8	89.7	5.52	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.

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

# QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0305173

EPA Method: SW8260B	E	Extraction:	SW5030	3	BatchID:	6851	Spiked Sample ID: 0305142-001B							
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	: Criteria (%)				
Остроина	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High				
Diisopropyl ether (DIPE)	79.47	10	NR	NR	NR	107	114	6.70	70	130				
Ethyl tert-butyl ether (ETBE)	ND	10	105	111	6.11	101	108	6.10	70	130				
Methyl-t-butyl ether (MTBE)	ND	10	108	118	9.12	96.1	112	14.9	70	130				
tert-Amyl methyl ether (TAME)	ND	10	104	109	5.44	105	106	1.21	70	130				
Ethanol	ND	500	89.3	94.8	6.04	124	84.9	37.3	70	130				
Methanol	ND	2500	95.3	81.9	15.2	92.5	91.5	1.12	70	130				
1,2-Dibromoethane (EDB)	ND	10	115	120	3.83	122	120	2.02	70	130				
1,2-Dichloroethane (1,2-DCA)	ND	10	106	112	5.80	104	109	4.86	70	130				
%SS:	101	100	104	104	0	96.5	98.3	1.92	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.

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

# QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0305173

EPA Method: SW8260B	E	extraction:	SW5030E	3	BatchID:	6887	Spiked Sample ID: 0305173-010B								
Compound	Sample	Spiked	MS⁺	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)					
Сотронна	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High					
Diisopropyl ether (DIPE)	ND	10	104	108	4.17	109	105	3.88	70	130					
Ethyl teri-butyl ether (ETBE)	ND	10	92.3	96.2	4.17	100	96.2	4.38	70	130					
Methyl-t-butyl ether (MTBE)	2.349	10	72.5	81	8.46	103	93.5	9.43	70	130					
tert-Amyl methyl ether (TAME)	ND	10	95.4	95.9	0.484	102	98.6	3.07	70	130					
Ethanol	ND	500	109	88.8	20.4	90.1	98.1	8.52	70	130					
Methanol	ND	2500	98.1	85.3	14.0	91.5	90.9	0.644	70	130					
1,2-Dibromoethane (EDB)	ND	10	113	109	3.00	115	113	2.01	70	130					
1,2-Dichloroethane (1,2-DCA)	ND	10	101	102	0.957	104	101	2.65	70	130					
%SS:	95.1	100	98.7	100	1.60	95.5	93.1	2.58	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 language.

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

## McCampbell Analytical Inc.

# **CHAIN-OF-CUSTODY RECORD**

1 of 1

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

WorkOrder: 0305173

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:

5/12/03

Date Printed:

5/12/03

					•		Re	quested Test	s		
Sample ID	ClientSampID	Matrix	Collection Date	Hold	<>	SW8015C	N8021B/8015C	SW8260B		i	!
			·	·					·		
0305173-001	MW-1	Water	5/12/03 10:00:00 AM		Α	С	Α	8		<del>.</del>	
0305173-002	MW-3N	Water	5/12/03 11:15:00 PM		ł	C	Α	В			
0305173-003	MW-4	Water	5/12/03 12:15:00 PM			С	Α	В			
0305173-004	MW-5	Water	5/12/03 11:40:00 AM			C	Α	В	1		
0305173-005	MW-6	Water	5/12/03 12:35:00 PM			С	Α	В	j		
0305173-006	MW-7	Water	5/12/03 1:10:00 PM			С	Α	В	]	i	
0305173-007	MW-8	Water	5/12/03 10:50:00 AM			С	Α	В			
0305173-008	MW-9	Water	5/12/03 10:30:00 AM			С	A	В			
0305173-009	MW-10	Water	5/12/03 1:50:00 PM			С	Α	8			
0305173-010	MW-11	Water	5/12/03 1:35:00 PM			С	Α	В			

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.

ME

730 77 3

	McCAMPBELL ANALYTICAL INC.  110 2 nd AVENUE SOUTH, #D7														Cl	ΉA	JN	0	F (	CU	ST	O.	D١	Y F	<b>₹</b> E(	CO	CORD							
			PACHE	CO, CA 94	1553-58	1, #D7 560									ΓU	RN	[A]	RO	UN	D I	CHV	Œ					<u></u>	ŀ						Ø.
	Telepho	ne: (925) 798	8-1620			]	Fax:	(925	5) 79	8-16	22			١,	715	כו לנ			10				)		JSH	:	24 I	HR	4	(8 H)	R	72 HR	5	5 DAY
	Report To: Tim	· Con		1	Bill T	0: VV	A (	~rai	a In						SD.	<u>r 19</u>	ceq	uire		alys		Yes			No			<del></del> -	<b></b>	Oil		T ~		
	Company: W. A.		7		DAL I	<u> </u>	71. 1	-181	g, 10	· ·				-	<del></del>	<del>-</del>			An	aly	sis æ	equ	est							Oth	er	Con	nme	nis
	6940 Tremont Re															1 2	Ì			İ														
	Dixon, CA 95620	)		1	E-Ma	il: tec	h@v	vaer	aig.	com						1/1/2						7		의										
	Tele: (707) 693-2	929			ax:							•		SOLENATIBE			2					20	,	/ 83	ļ	ĺ			1	ļ				
	Project #: 3628			ĭ	roje	et Na	me: l	Rine	hart	t				501		(552	ਚ	. [	1		ĺ	3	٠	270		- 1			.	ĺ				
	Project Location:													± 02	Ì	Pie	Sons	1	802(		7	Cok		3/8			9							
	Sampler Signatur	e: Clet	Mi			· <del></del>				,				12/80		15	ocar		62 /	-	S.	1		A 62			2/60				į	İ		
			SAMI	PLING	ړ	ers	ľ	MA7	TRIX	ζ.		IETI ESEI	IOD RVEI	Gas (602/3020	(8015)	Total Petroleum Oil & Grease (5520 日本市)日本町	Total Petroleum Hydrocarbons (418.1)	1	BTEX ONLY (EPA 662 / 3020)		EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260		PAH's / PNA's by EPA 625 / 8270 / 8310		ļ	Lead (7240/7421/239.2/6010)							
	SAMPLE ID				ler	ta in			ľ					as G	S	L I	H	EPA 601 / 8010	(H)	080	080	240	270	A's	stals	ats	7423							
	(Field Point Name)	LOCATION	   rs-4-	Date Lime Soil # Containers Air HCl HCl HCl HCl HCl HCl HCl HCl HCl HCl									BTEX & 1PH as	TPH as Diesel	ĬŢ	April	1 / 8	Ž	EPA 608 / 8080	8/8	% / t	EPA 625 / 8270	M.	CAM-17 Metals	LUFT 5 Metals	740/			Ì					
			Date	Lime	[5]	ad	ate	, اے:	_   원	her	a) !	7	HNO.	* X	SS	<u> </u>	15. 15.	09 4	X	4 60	A 6.0	4 62	1 62	, 7.	Z	5	() ()		İ		ţ	İ		
					#	Ê	₹	S :	र डि	δ	lce.	$\mathbb{H}[$	É∣ċ	E	1 H	To.	Tot	EP/	81 1	EP,	EP.	EP	EP/	PA	≾ :	5	Lea Ea	RCI						
+	MW-I		5/14/03	10:00	4	1-	x				Х	х	<del>-   -</del>	X	X	<del></del>	<del>-i</del>	<del> </del>				x			1	Ť		_	-†		+			
4	MW-3N		1	41.15	5	×	X				х	х	+	x	x	-	1					x	_	$\neg \dagger$		_	+		+	-				
ł	MW-4			12:15	5	* *	х	-			x	X		X	x	-	<b>-</b>	<del> </del>				$\frac{1}{x}$			-	_		-	!-	+		1	<del></del>	
12	MW-5			11:40	1	X	X		<del></del> -		X :	X	+	X	x		+					$\frac{1}{x}$					+	$\dashv$	-+					
17	MW-6			1272	5	宋	X	+	_		x		-	$\frac{1}{x}$	<b></b> -	-	+-	<del> </del>				x									-			
1	MW-7	· — · · · · · · · · · · · · · · · · · ·		1:10	5		x		-	┼┤	X			X		<del>-</del>	-	-		-		x .						<u> </u>		- -		<b>}-</b>		
ļ	MW-8					*	X	$\dot{+}$				X	-	X		4	-	-					-		+	-				-	_	<u> </u>		
1	MW-9	·	}	10:50	_5_	*		-			-			-	<del>;                                     </del>		-	_				X	-									<u> </u>		
,	MW-10			10:30	5	<u> </u>	X				X				X	4		;				Х	_ .			_	_ .							
न	/MW-11			1:50	5	X	X				Х		_	<b></b>	X	<u> </u>	<u> </u>					X					_						·	
3	- JV( VV - )			1:35	4	+	X		ŀ		Х	Х	1.	Х	X		<u>.</u>					X												
																	İ			į	3													
												i		1					1		1	_	_		$\top$	+			<del>-</del>	-	1			
		~									Ť	+		1			-						+	$\dashv$							+	<del> </del>		
	Relinquished By:		Date:	Time:	Rece	ived B	سيسا				<del>-</del>		-	<del>      </del>						i		<u> </u>	L	170		7		_	<u></u>			<u> </u>		····
ĺ	Clayton Mot	· • • • • • • • • • • • • • • • • • • •	5/14w	3!20"	20/mat							1 1				lr t	3 V	DA	-/	*	>	BU	(tydgoc	స్త	y0	ν( 4 - VO	AS/	0&0	ber	>. METALS	O'	THER		
	Relinquished By-	2//	Date:	Time:	ie: Received Br:							<del>-</del>			/t°_\		III) FOR		/					ERV										
	1 will	V	5/12	6100	of the fall										EDIT CE A							OPF AIN												
	Relinquished By:		Date:	Time: / Received By:											NA I											_ AB_								
Ĺ													· · · · · · · · · · · · · · · · · · ·										!											