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by: Tim Cook, Principal Engineer

cc: Reed Rinehart; Chuck Hedley (RWQCB)

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QUARTERLY GROUNDWATER MONITORING AND UTILITY CORRIDOR INVESTIGATION REPORT THIRD QUARTER 2002

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

PREPARED FOR:
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SUBMITTED TO:
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Project No. 3628
October 28, 2002

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QUARTERLY GROUNDWATER MONITORING and UTILITY CORRIDOR INVESTIGATION REPORT

Third Quarter 2002

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

by W.A. Craig, Inc.

Project No. 3628
October 28, 2002

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Tim Cook

Tim D. Cook, P.E.
Principal Engineer

INTRODUCTION

This report has been prepared as part of an ongoing investigation of subsurface contamination at the Oakland Truck Stop in Oakland, California. The work is being performed by W.A. Craig, Inc. (WAC) on behalf of Rinehart Distributing, Inc. The lead agency overseeing this 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 (the "Site") 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 Oakland. The Site is currently occupied by a service station building, two underground storage tanks, four fuel dispenser islands, a truck scale, and a scale house.

The property is bounded on the north by 5th Street and the Nimitz Freeway, on the west by Adeline Street, on the east by Chestnut Street, and on the south by Oliver's Hoffbrau and parking lot. The surface elevation is approximately 10 feet above mean sea level. The topography is flat, with a gentle slope to the southwest. The groundwater table fluctuates seasonally between about 10 inches and 4 feet below grade. The nearest surface water body is the Oakland Estuary, located approximately 2,400 feet south of the Site.

Quarterly groundwater monitoring is being conducted at the Site by WAC. 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 uncertain.

Site Background

The Site was developed as a truck stop approximately 40 years ago and has been in operation throughout the period. Three 10,000-gallon underground storage tanks (USTs) and one 8,000-gallon UST were formerly maintained at the Site. All four USTs were of single-walled steel construction. Of the 10,000-gallon USTs, two contained diesel fuel and one contained mid-grade unleaded gasoline. The 8,000-gallon UST contained regular unleaded gasoline. Prior to a recent remodel of the Site, fuel product lines were single-walled fiberglass.

In 1995 an unauthorized release of fuel occurred as a result of a leak in a product line. Product lines associated with this release were replaced as soon as the leak was discovered. Interim cleanup of the spill was performed by installing two product recovery sumps with skimmers in

the vicinity of the release. Approximately six gallons of gasoline were recovered and the floating product thickness was reduced to a sheen in the recovery wells. The sumps were removed from the Site during leaseholder improvements in 1999.

The four single-walled USTs were replaced with two 15,000-gallon, double-wall fiberglass USTs in March 1999. An interim remedial action was performed during the UST replacements to remove 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 before sampling 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	Disposed contaminated water at Seaport Environmental.

In a July 27, 2001 letter to Rinehart, ACEHS requested that additional investigation be performed to delineate the extent of petroleum hydrocarbons contamination both onsite and offsite. A Site Investigation Work Plan was prepared by WAC on October 22, 2001 and was subsequently approved by the ACEHS. In accordance with the Work Plan, WAC installed two additional monitoring wells on the adjacent restaurant property and replaced one onsite monitoring well (MW-3) on May 8, 2002.

On May 23, 2002 ACEHS requested that Rinehart conduct an investigation to determine whether hydrocarbons were migrating offsite along preferential pathways such as utility trenches underlying 5th Street and Chestnut Street. A Conduit Investigation Work Plan was prepared for Rinehart by WAC. The Work Plan was approved by the ACEHS on July 17, 2002. WAC completed the utility conduit sampling on July 19, 2002. The results of this investigation are described herein.

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 (e.g., from volatilization into trenches and buildings).

SCOPE OF WORK

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

- 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: 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);
- Installed and sampled eight temporary borings within the sewer line trenches running along 5th Street and Chestnut Street in the immediate vicinity of the Site;
- Surveyed the temporary boring locations per the electronic reporting requirements of AB 2886;
- Collected soil and groundwater samples from each temporary boring and analyzed the samples for: TPH, BTEX, and fuel additives; and
- Prepared this Report.

FIELD METHODS

Groundwater Elevation Measurements

The quarterly monitoring was conducted on August 1, 2002. WAC staff first measured water levels in the 10 monitoring wells installed for this 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 subtracted from the top of casing elevations to obtain groundwater elevations (**Table 1**). The depth-to-water measurements were also used to calculate the volume of standing water in each well.

Groundwater Purging and Sampling

After taking the water level measurements, WAC staff purged and sampled groundwater from the 10 monitoring wells. **Free product was noted in both MW-7 and MW-8.** 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 at the end of purging. The resulting water quality measurements were recorded on 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 were stored in the field in ice chests cooled with ice until delivery to a California DHS-certified laboratory. The samples were submitted under chain-of-custody control to McCampbell Analytical, Inc. (MAI), of 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 a licensed disposal facility operated by Seaport Environmental, Inc. in Redwood City, California.

DATA EVALUATION

Groundwater Elevations

Groundwater level data are summarized on **Table 1**. Groundwater elevation contours for the Site are depicted on **Figure 3**. The gradient was calculated using water levels in MW-3N, MW-4, and MW-9. The resulting calculations indicate the flow direction is N15°E with a slope of 0.019 ft/ft. Last quarter's data also indicated that the groundwater flow direction was northerly, with a slope of 0.011 ft/ft.

Graphs of groundwater elevation versus time for selected monitoring wells are presented on **Figure 4**. These graphs indicate there may be a seasonal cycle in water levels. The water levels generally appear to rise in winter and fall in summer. The magnitude of the rise and fall is about ½ to 1 foot. Water levels in the two offsite monitoring wells (MW-10 and MW-11) have been higher or lower than expected when compared with the water table elevations in the onsite wells.

Groundwater Sampling Results

The wells were purged and sampled on August 1, 2002. 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 Sampling Logs in **Appendix A**. The DO measurements indicate that oxygen concentrations remain quite low in all wells, at less than 0.5 mg/L. A DO concentration less than 0.5 mg/L is within the environmental range of anaerobic bacteria. Shallow groundwater at the Site is generally at 4% or less 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 (uS). However, the SC in MW-10 is only about 570 uS, and the SC in MW-1 and MW-9 ranges from 4,000 to 5,000 uS.

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 the Method 8260B analyses. The test data are summarized on **Table 3** and the laboratory reports are included in **Appendix B**.

MtBE exceeded the 13 ug/L California Primary Maximum Contaminant Level (MCL) for drinking water in all onsite monitoring wells and in offsite well MW-11. Detected MtBE concentrations ranged from a low of 1.1 ug/L in offsite well MW-10 to a high of 150,000 ug/L in MW-7. MtBE concentrations remain above 50,000 ug/L in wells MW-4, MW-7, and MW-8.

TPH-d was detected in all wells at concentrations ranging from 190 ug/L in MW-11 to 160,000 ug/L in MW-7. BTEX and TPH-g were generally below the laboratory Reporting Limits in all wells except MW-7, which had high concentrations of these contaminants (**Table 3**). As noted above, floating product was encountered during sampling in wells MW-7 and MW-8.

Figure 5 depicts the current lateral extent of the MtBE plume in shallow groundwater. MtBE concentrations are highest along the northern side of the Site, where the steel-walled USTs used to be, and where fuel dispenser islands are located. Graphs of MtBE versus time for the highest concentration monitoring wells are depicted on **Figure 6**. These graphs show that MtBE concentrations have generally been decreasing in all five wells since around May 2001.

Other fuel additives commonly associated with gasoline have not been detected above the laboratory Reporting Limits (**Table 3**). The single exception to this observation is tert-Butyl Alcohol (tBA), which was detected for the first time this quarter, at a concentration of 3,800 ug/L in MW-6. This VOC is sometimes produced by the incomplete breakdown (oxidation) of MtBE. The California DHS has established a drinking water Action Level of 12 ug/L for tBA.

UTILITY CORRIDOR INVESTIGATION

Field Procedures

Eight soil borings were advanced to investigate the possible presence of petroleum hydrocarbon constituents in a utility trench running under 5th Street and Chestnut Steet in the immediate vicinity of the Oakland Truck Stop. The soil boring locations are shown on **Figures 2 and 7**. Surveyor's information for the borings is included in **Appendix C**. The purpose of the utility borings was to collect and test soil and groundwater samples to evaluate whether contaminants are migrating along preferential pathways. The sanitary sewer line trench was selected for the evaluation, because the sewers are buried deeper than pressurized pipelines and are considered more likely to provide a preferential pathway for shallow groundwater.

The temporary borings were first attempted using a hand auger in order to minimize the potential for damage to buried utilities. Borings B-7 and B-8 were advanced using this method. Hand augering was difficult and proved inefficient for penetrating to the required depth. A direct-push type drill rig was therefore used to advance the remaining six borings. Soil cuttings from the borings were stored onsite in 55-gallon DOT-approved drums. The boreholes were backfilled with Portland type I-II cement and finished at the surface with a cold patch asphalt mix to match existing grades.

Soil samples were collected at the water table in each boring. This generally occurred at about 8 feet below ground surface (bgs). However, in boring B-5, which was drilled adjacent to a sewer manhole at the intersection of 5th and Chestnuts Streets, the water table was not encountered until a depth of about 19 feet bgs. The soil sample depths are listed on **Table 4**. Borings were typically terminated about three feet below the water table. Temporary well screen was then placed into the borehole so that a grab groundwater sample could be collected. A disposable bailer was used to obtain the water sample. Each water sample was placed in a pre-preserved, laboratory-supplied container in accordance with EPA protocols. All soil and groundwater samples were stored in an ice chest with ice until delivery to the laboratory.

Laboratory Analytical Results

All samples were analyzed by MAI for TPH-g, BTEX, and for fuel additives such as MtBE. In addition, the groundwater samples were also analyzed for TPH-d. The laboratory reports are included in **Appendix D** and the analytical results are summarized on **Table 4**. **Figure 7** shows the detected MtBE and benzene concentrations in the boring water samples.

The sewer trench sampling results indicate that hydrocarbon contamination is heaviest along 5th Street, adjacent to the source area at the subject site (i.e., the pump island near well MW-7). Contaminants were detected in both soil and groundwater samples from the 5th Street borings. Groundwater samples from these borings had MtBE concentrations similar to or higher (up to 460,000 ug/L) than the most contaminated onsite monitoring wells. In addition to MtBE, water samples from borings B-1 and B-3 also had elevated concentrations of BTEX and TPH-g. Contaminant concentrations were relatively minor or were below the detection limits in the borings along Chestnut Street.

CONCLUSIONS

The quarterly groundwater monitoring data for August 2002 indicate that the gradient is northerly, similar to last quarter. Dissolved oxygen concentrations remain in the anaerobic range in all wells, probably due to the biodegradation of hydrocarbons and the resulting consumption of DO. The specific conductance (conductivity) of the groundwater indicates that TDS levels are too high for use as potable water, and particularly in MW-1 and MW-9. In contrast, however, the SC in MW-10 is much lower than the other wells (at around 570 uS), and falls within the potable water range. 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. However, there appears to be a trend of slowly decreasing concentrations over the past

year. MtBE levels exceed the MCL in all wells except for MW-10. The heaviest contamination is centered along the northern side of the Site. The distribution of MtBE concentrations among the wells indicates that the plume has probably spread offsite a short distance to the south, and an undetermined distance to the north. The sampling results from the sewer trench borings suggest high concentrations of contaminants directly north of the Site. The borings along Chestnut Street indicate little migration of contaminants east of the Site.

RECOMMENDATIONS

WAC recommends that two additional groundwater monitoring wells be installed north of the Site to evaluate the extent of the MtBE plume in that direction. Proposed locations for the two new wells would be on the north side of 5th Street along the BART easement. In addition, remedial action is recommended in the northern part of the Site to begin source removal and help mitigate contaminant concentrations in shallow groundwater. Remedial action should address potential free product in the vicinity of MW-7 + MW8 as well as residual TPH adsorbed to soil in the capillary fringe. We also recommend the continuation of quarterly groundwater monitoring.

TABLES

TABLE 1
Summary of Groundwater Elevations in Monitoring Wells
Oakland Truck Stop, 1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-1	10/21/96	10.34	5.08	5.26
(10-20)	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
MW-2	10/21/96	7.21	4.66	2.55
(8-13)	11/4/96		4.60	2.61
	3/4/97		3.68	3.53
	6/12/97		3.70	3.51
	7/14/97		4.16	3.05
	9/9/97		3.88	3.33
	9/19/97		4.50	2.71
	2/13/98		3.08	4.13
	7/7/98		3.74	3.47
Well	10/1/98		4.63	2.58
Destroyed	12/30/98		3.90	3.31
MW-3	10/21/96	10.52	7.66	2.86
(12-17)	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
Well	11/4/01		5.47	5.05
Abandoned	2/15/02		4.65	5.87

TABLE 1
Summary of Groundwater Elevations in Monitoring Wells
Oakland Truck Stop, 1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-3N	5/20/02	11.67	3.91	7.76
(5-12)	8/1/02		4.22	7.45
MW-4	8/30/00	10.46	3.74	6.72
(5-20)	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
MW-5	8/30/00	10.24	3.01	7.23
(5-20)	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
MW-6	8/30/00	10.62	3.40	7.22
(5-20)	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
MW-7	8/30/00	11.69	6.72	4.97
(5-20)	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
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		2.72	7.34
	5/20/02		2.82	7.24
	8/1/02		3.06	7.00

TABLE 1

Summary of Groundwater Elevations in Monitoring Wells
Oakland Truck Stop, 1107 5th Street, Oakland, California

Well ID (screen depth)	Date	Casing Elevation	Depth to Water	Groundwater Elevation
MW-9	8/30/00	10.03	2.81	7.22
(5-20)	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
MW-10	5/20/02	11.07	4.54	6.53
(5-12)	6/18/02		4.25	6.82
	8/1/02		1.80	9.27
MW-11	5/20/02	9.64	0.84	8.80
(5-12)	6/18/02		1.71	7.93
	8/1/02		4.88	4.76

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).

TABLE 2

Summary of Dissolved Oxygen Concentrations in Monitoring Wells
Oakland Truck Stop, 1107 5th Street, Oakland, California

Well ID	Date	Concentration (mg/L)	Temperature (C)	Dissolved Oxygen % 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%
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%
	05/07/01	NM	NM	NM
	08/27/01	0.40	23.9	4.7%
Well Abandoned	11/04/01	NM	NM	NM
	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%
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%
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%
	8/1/02	0.30	20.8	3.3%
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%

TABLE 2
Summary of Dissolved Oxygen Concentrations in Monitoring Wells
Oakland Truck Stop, 1107 5th Street, Oakland, California

Well ID	Date	Concentration (mg/L)	Temperature (C)	Dissolved Oxygen % Saturation
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%
	8/1/02	0.24	22.4	2.7%
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%
	8/1/02	0.21	22.7	2.4%
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%
	8/1/02	0.30	21.2	3.3%
MW-10	5/20/02	0.21	16.7	2.1%
	8/1/02	0.35	20.0	3.8%
MW-11	5/20/02	0.22	19.6	2.4%
	8/1/02	0.13	22.4	1.5%

Notes:

All measurements were made in the field. NM, not measured.

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

TABLE 3
Summary of Groundwater Analytical Results
Oakland Truck Stop, 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
	[illegible]	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	[illegible]	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
	3/24/00	[illegible]	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	[illegible]	51	1.05	<0.5	<0.5	[illegible]	1,700	[illegible]	<50	<50	<50	[illegible]	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	[illegible]	<50	<0.5	<0.5	<0.5	<0.5	[illegible]	[illegible]	<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	[illegible]	<50	[illegible]	<0.5	<0.5	<0.5	[illegible]	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	[illegible]	<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
MW-2	11/4/96	2,700	910	120	[illegible]	[illegible]	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
	[illegible]	[illegible]	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
Well	10/1/98	1,200	1,200	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	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

TABLE 3
Summary of Groundwater Analytical Results
Oakland Truck Stop, 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	11/4/96	2,100	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
	12/13/97	370	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	99	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
	3/2/00	2,500	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	200	<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
	5/7/01	1,000	110	0.76	4.7	2.2	9.8	25	34	<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
	11/7/01	190	<50	<0.5	<0.5	<0.5	<0.5	43	43	<1	<1	<1	<5	NA	NA	<1	<1
Well 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	1,200	<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
MW-4	8/30/00	390	3,500	64	63	9	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	<5	<3	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	3,600	<20	<20	<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
	11/7/01	210	3,900	<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

TABLE 3
Summary of Groundwater Analytical Results
Oakland Truck Stop, 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-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	[illegible]	<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	[illegible]	<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
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	[illegible]	<630	[illegible]	8.1	[illegible]	[illegible]	26,000	[illegible]	<630	<630	<630	[illegible]	NA	NA	[illegible]	<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	2,900	<1,000	<2	<2	<1	[illegible]	37,000	[illegible]	<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	[illegible]	<500	<500	<500	<5,000	<500,000	<50,000	<500	<500
	8/1/02	1,100	<250	8	<2.5	<2.5	<2.5	8,100	9,100	<170	<170	<170	3,800	<170,000	<17,000	<170	<170
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	[illegible]	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	[illegible]	100,000	24,000	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	[illegible]	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	[illegible]	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

TABLE 3
Summary of Groundwater Analytical Results
Oakland Truck Stop, 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-8	8/30/00	[illegible]	[illegible]	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	[illegible]	<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	[illegible]	<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	[illegible]	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	[illegible]	<12	<12	<12	[illegible]	52,000	67,000	<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	290	<50	<0.5	<0.5	<0.5	[illegible]	190	220	<25	<25	[illegible]	<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	[illegible]	120	150	<2.5	<2.5	[illegible]	<13	<1300	<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
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
MW-11	5/20/02	95	<50	1.5	3.0	<0.5	[illegible]	260	310	<5	<5	<5	<50	<5,000	<500	[illegible]	[illegible]
	8/1/02	190	<50	<0.5	1.9	1	<0.5	52	65	<1.0	<1.0	<1.0	<10	<1,000	<100	<1.0	<1.0
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, MCL or Action Level not 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.

TABLE 4

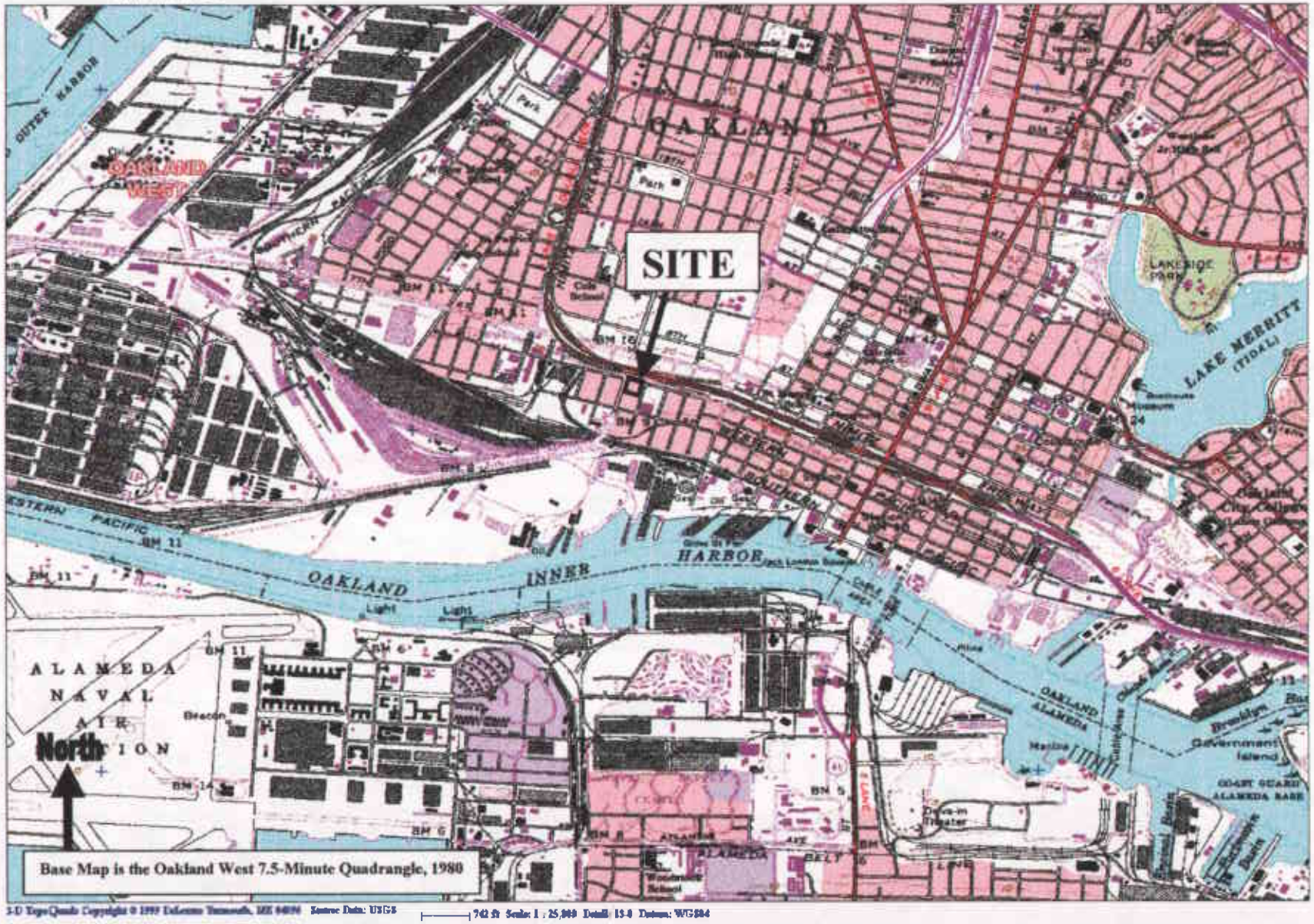
Summary of Analytical Results for Utility Corridor Borings
Oakland Truck Stop, 1107 5th Street, Oakland, California

Sample ID	Depth (ft)	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MtBE (8021)	MtBE (8260)	DIPE	EtBE	tAME	tBA	Methanol	Ethanol	EDB	DCA
B-1S	8	NA	6,000	71	16	130	440	14,000	15,000	<680	<680	<680	<6,800	<68,000	<6,800	<680	<680
B-1W		42,000	59,000	5,700	<100	2,300	7,500	210,000	250,000	<2,500	<2,500	<2,500	<25,000	<2,500,000	<250,000	<2,500	<2,500
B-2S	8	NA	1,700	27	12	28	85	58,000	72,000	<1,900	<1,900	<1,900	<19,000	<47,000	<4,700	<1,900	<1,900
B-2W		180	<7,500	<50	<50	<50	<50	220,000	210,000	<2,500	<2,500	<2,500	<25,000	<2,500,000	<250,000	<2,500	<2,500
B-3S	8	NA	13,000	24	22	120	480	51,000	50,000	<1,600	<1,600	<1,600	<16,000	<82,000	<8,200	<1,600	<1,600
B-3W		11,000	41,000	1,800	210	1,500	3,600	420,000	460,000	<10,000	<10,000	<10,000	<100,000	<10,000,000	<1,000,000	<10,000	<10,000
B-4S	8	NA	48,000	<40	<40	<40	82	53,000	51,000	<1,700	<1,700	<1,700	<17,000	<42,000	<4,200	<1,700	<1,700
B-4W		19,000	<8,000	<50	<50	<50	<50	160,000	170,000	<5,000	<5,000	<5,000	<50,000	<5,000,000	<500,000	<5,000	<5,000
B-5S	8	NA	<1,000	<5	<5	<5	<5	80	57	<5	<5	<5	<50	<2,500	<250	<5	<5
B-5W		NA	<50	<0.5	1	<0.5	<0.5	26	34	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-6S	8	NA	<1,000	<5	<5	<5	<5	<50	<5	<5	<5	<5	<50	<2,500	<250	<5	<5
B-6W		1,400	<50	<0.5	1	0.6	4	<5	3	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-7S	5	NA	<1,000	<5	<5	<5	<5	<50	<5	<5	<5	<5	<50	<2,500	<250	<5	<5
B-7W		400	<50	<0.5	0.9	<0.5	2	5	3	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5
B-8S	6	NA	<1,000	<5	<5	<5	<5	<50	<5	<5	<5	<5	<50	<2,500	<250	<5	<5
B-8W		NA	<50	<0.5	1.0	<0.5	2	<5	3	<0.5	<0.5	<0.5	<5	<500	<50	<0.5	<0.5

Notes: Units are micrograms per kilogram (ug/kg) for soil and micrograms per liter (ug/L) for water.
"S" in Sample ID indicates soil sample, "W" indicates groundwater sample. NA, Not analyzed.
TPH-d, Total Petroleum Hydrocarbons as diesel. TPH-g, Total Petroleum Hydrocarbons as gasoline.
MtBE, Methyl tert-Butyl Ether; (8021, sample analyzed by Method 8021B; 8260, sample 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

C:\My Documents\Rinehart Truck Stop\Figure-1.doc



W. A. CRAIG, INC.

Environmental Contracting and Consulting

6940 Tremont Road

Dixon, California 95620

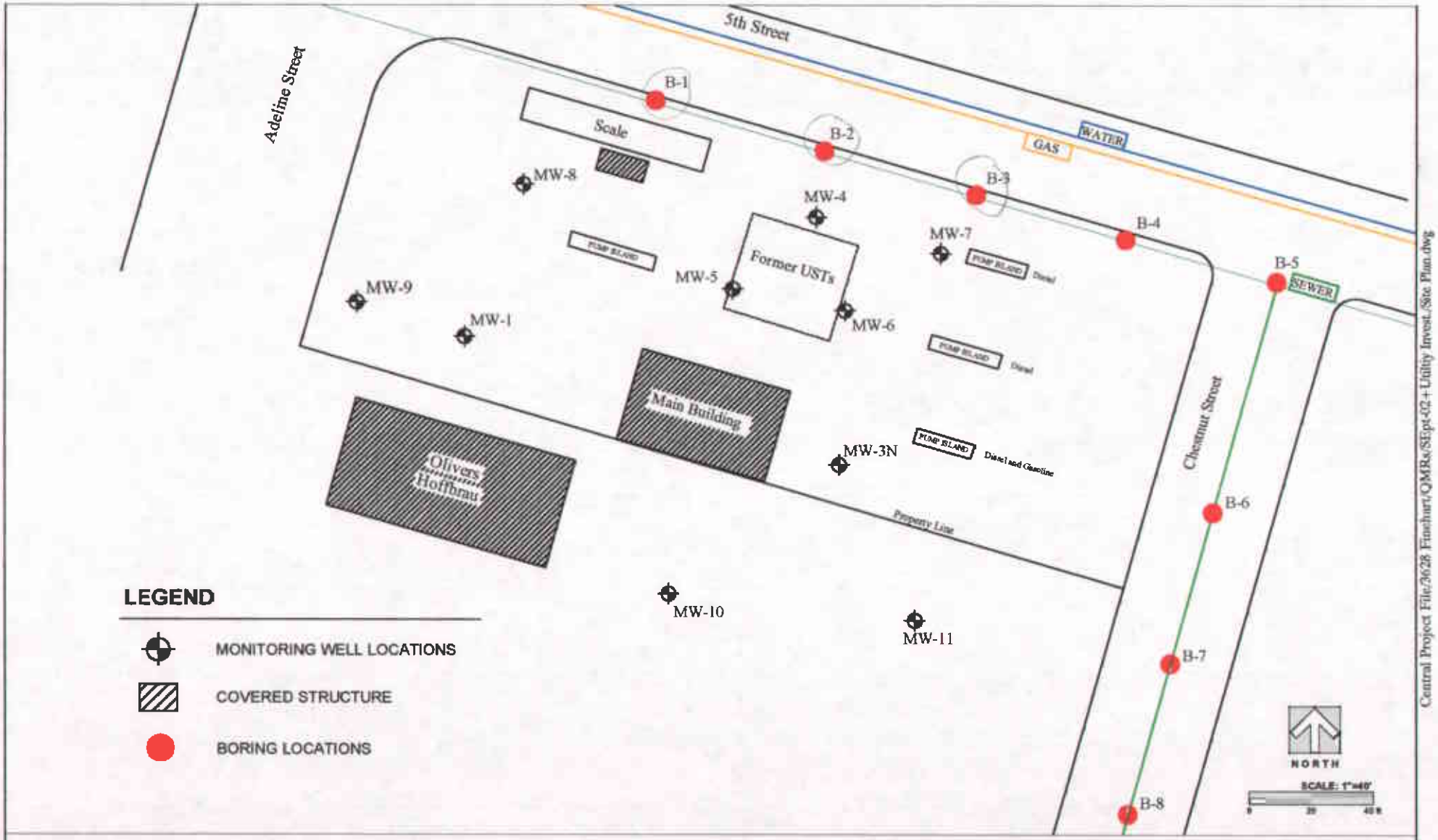
LOCATION MAP

Oakland Truck Stop

1107 5th Street, Oakland, California

FIGURE 1

Job No. 3628



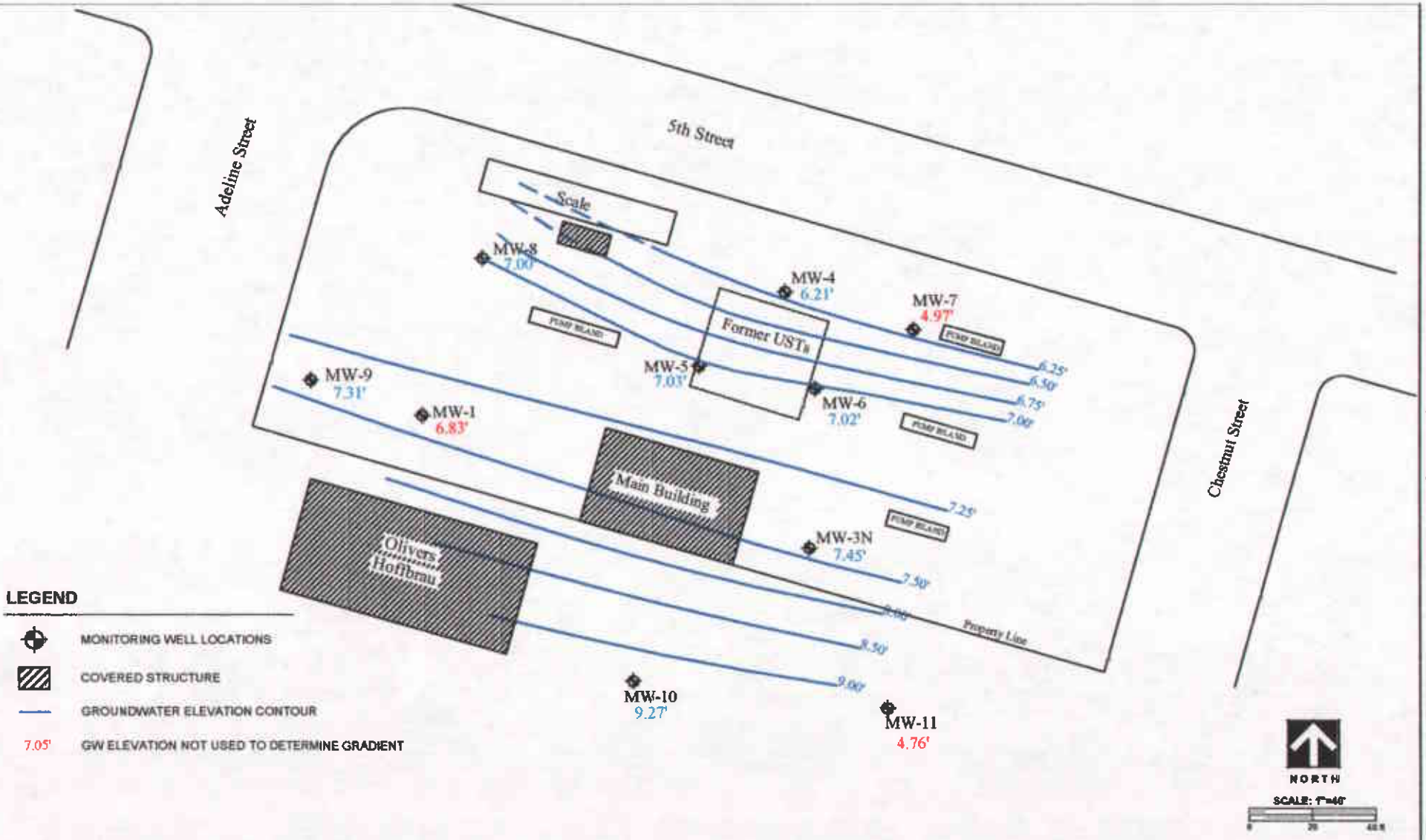
Central Project File/3628 Fischer/QMRs/SEpt-02+Utility Invest./Site Plan.dwg

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

SITE PLAN

Oakland Truck Stop
1107 5th Street
Oakland, California

Project #: 3628	Figure: 2
Date: 8/1/02	
Scale: 1" = 40'	



Central Project File/3628 Finehart/QMRs/SEpt-02+Utility Invest./Figure 3.dwg

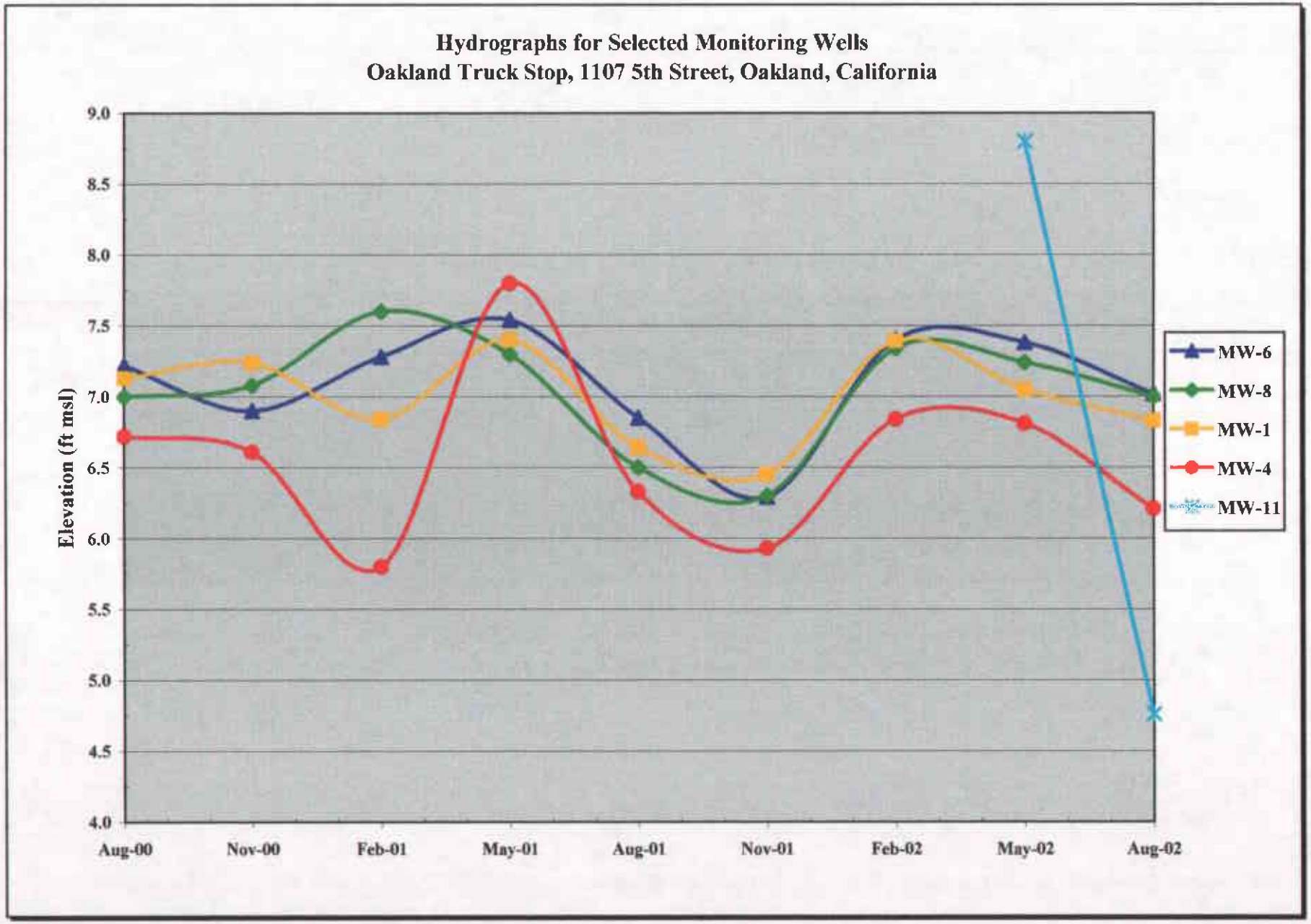
W.A. Craig, Inc.
LIC# 455752
6940 Tremont Road
Dixon, California 95620-9603
PH# (707) 693-2929 Fax# (707) 693-2922

GROUNDWATER ELEVATIONS

Oakland Truck Stop
1107 5th Street
Oakland, California

Project #: 3628	Figure: 3
Date: 8/1/02	
Scale: 1" = 40'	

FIGURE 4



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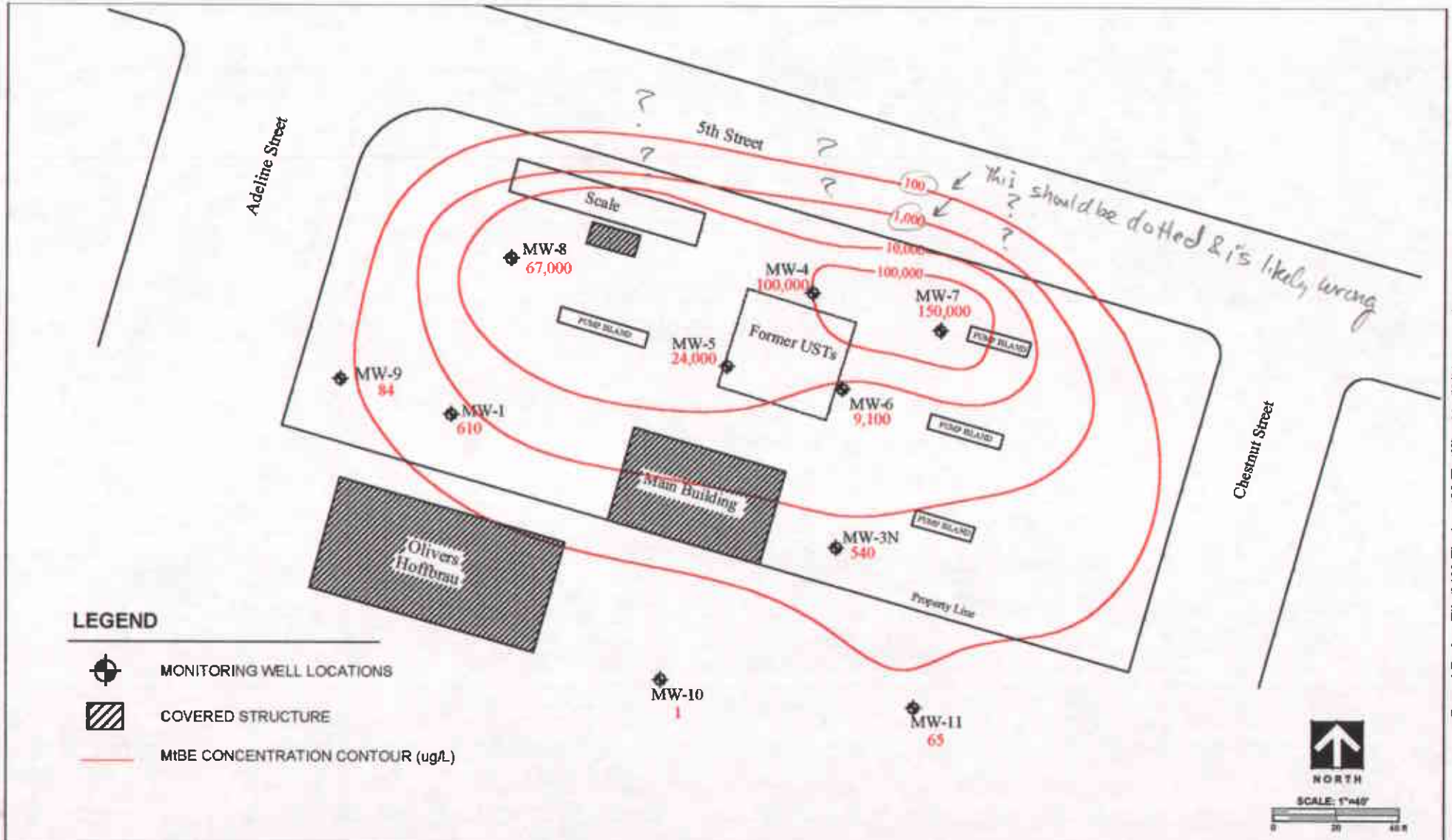


Central Project File/3628 Finehart/QMRs/SEpt-02+Utility Invest./Figure 5.dwg

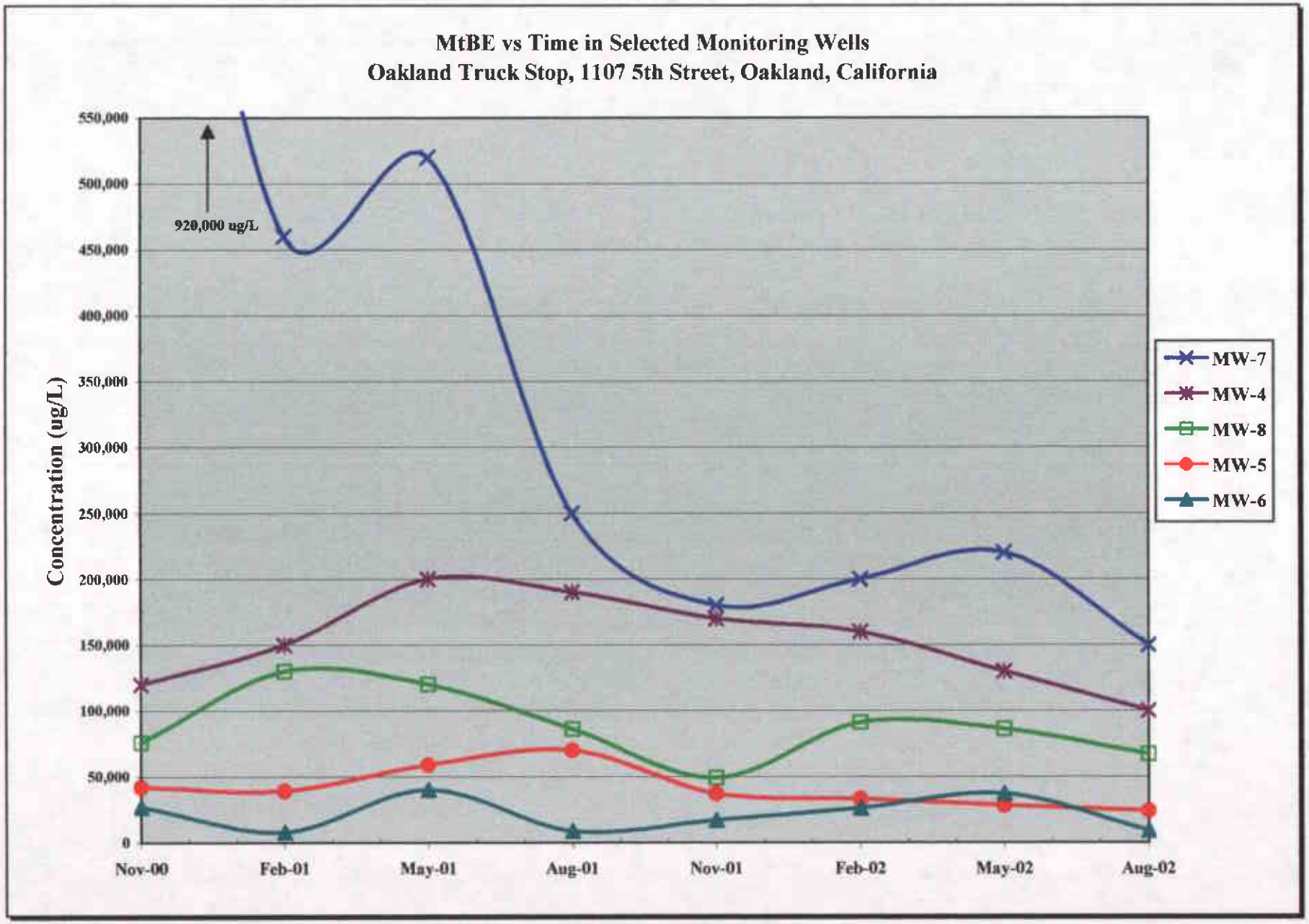
W.A. Craig, Inc.
6940 Tremont Road LIC# 455752
Dixon, California 95620-9603
PH# (707) 693-2929 Fax# (707) 693-2922

MtBE CONCENTRATIONS IN GROUNDWATER

Oakland Truck Stop
1107 5th Street
Oakland, California

Project #: 3628	Figure: 5
Date: 8/1/02	
Scale: 1" = 40'	

FIGURE 6



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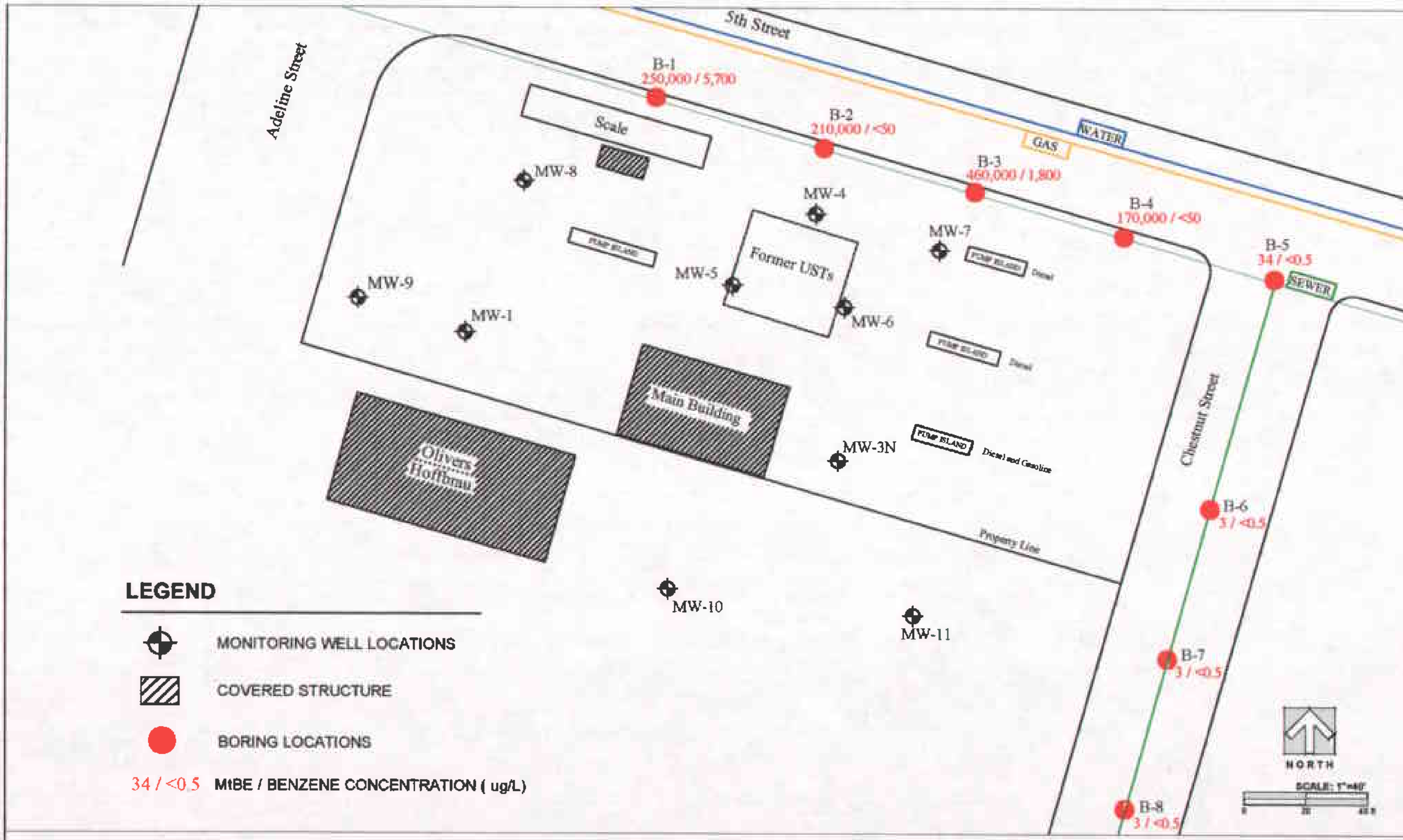

Central Project File/3628 Finehart/QMRs/SEpt-02+Utility Invest./Figure 7.dwg

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

MtBE AND BENZENE IN GROUNDWATER SAMPLES FROM UTILITY BORINGS

Oakland Truck Stop
1107 5th Street
Oakland, California

Project #:	3628	Figure: 7
Date:	8/1/02	
Scale:	1" = 40'	

APPENDIX A
FIELD SAMPLING LOGS

WELL DEVELOPMENT AND SAMPLING LOG

Project Name Rino Job No. 3628 Date 8/1/02 Weather Clear/Warm
ler Clay

Well Data

Well Number MW-1

Total Depth of Well 20.0 Casing Elevation _____ Depth to Water 3.51 Groundwater Elevation _____
Method of Purging Well bailer Method of Sampling Well bailer
Casing Volume 2.9 gal Volume Factors: (2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling Purge 8.2

Field Parameters

MS

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
10:00	3	22.4	4.01	7.00	2	light odor
	6	20.5	4.16	6.99	2	
	8	21.0	5.00	7.20	2	

Comments:

Slow recharge No bolts on lid D.O. 0.44 mg/L
Well under pressure Temp 20.4°C

Well Data

Well Number MW-9

Total Depth of Well 20 Casing Elevation _____ Depth to Water 2.72 Groundwater Elevation _____
Method of Purging Well bailer Method of Sampling Well bailer
Casing Volume 2.9 gal Volume Factors: (2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling Purge 8.6

Field Parameters

MS

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
	4	23.4	3.78	6.77	3	light odor
	6	21.2	4.36	6.79	3	
	8	21.0	4.50	6.79		

Comments:

Water in Well box D.O. 0.30 mg/L
Temp 21.2°C

WELL DEVELOPMENT AND SAMPLING LOG

oject Name Rino Job No. 3628 Date 8/1/02 Weather Clear/Warm
ler Clay

Well Data

Well Number MW-4

Total Depth of Well 20 Casing Elevation _____ Depth to Water 4.25 Groundwater Elevation _____
Method of Purging Well bailer Method of Sampling Well bailer
Casing Volume 2.7 gal Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling purge 7.84

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
	4	24.6	1946	6.94	3	some odor/no sheen
	6	21.7	2.81ms	6.88	3	
	8	21.3	295	6.87	3	

mments:

D.O. 0.26mg/L
Temp 23.6°C

Well Data

Well Number MW-7

tal Depth of Well 20 Casing Elevation _____ Depth to Water 6.72 Groundwater Elevation _____
ethod of Purging Well bailer Method of Sampling Well bailer
sing Volume 2½ Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
pth to Water Prior to Sampling purge 6.6

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
2:00	4	23.5	1060	6.95	7	strong odor/high sheen
	5	23.2	1058	6.96	7	2 " "
	6	21.9	1157	6.86	7	" " "

mments:

* product present

D.O. 0.24mg/L
Temp 22.4°C

WELL DEVELOPMENT AND SAMPLING LOG

Project Name Rino Job No. 3678 Date 8/1/02 Weather clear/warm
ler Clay

Well Data

Well Number MW-10

Total Depth of Well 12 Casing Elevation _____ Depth to Water 1.80 Groundwater Elevation _____
Method of Purging Well bailer Method of Sampling Well bailer
Casing Volume 1.7 gal Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling _____ purge 5.0

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
12:00	3	21.8	562	7.39	3	NOS
	4	21.6	570	7.30	3	NOS
	5	21.6	573	7.29	3	"

Comments:

D.O. 0.35 mg/L
Temp 20.0 °C

Wrong # written on ground

Well Data

Well Number MW-6

Total Depth of Well 20 Casing Elevation _____ Depth to Water 3.60 Groundwater Elevation _____
Method of Purging Well bailer Method of Sampling Well bailer
Casing Volume 2.8 gal Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling _____ purge 8.2

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
	4	26.3	1000	7.14	3	NOS
	6	26.7	921	7.14	3	"

Comments:

D.O. 0.29 mg/L
Temp 21.1 °C

WELL DEVELOPMENT AND SAMPLING LOG

Project Name Rino Job No. 3628 Date 8/1/02 Weather Clear/Warm
ler Clay

Well Data

Well Number MW-3N

Total Depth of Well 12 Casing Elevation _____ Depth to Water 4.22 Groundwater Elevation _____
Method of Purging Well Bailer Method of Sampling Well bailer
Casing Volume 1.3 gal Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling 3.87

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
11:15	2	24.2	1125	6.84	3	light odor

Comments:

D.O. 0.36mg/L
Temp 22.7 °C

Well Data

Well Number MW-11

Total Depth of Well 12 Casing Elevation _____ Depth to Water 4.88 Groundwater Elevation _____
Method of Purging Well Bailer Method of Sampling Well bailer
Casing Volume 1.2 gal Volume Factors: 2"=0.166g/ft; 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft
Depth to Water Prior to Sampling purge 3.5

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
11:30	1	24.1	1460	7.14	5	NOS
	2	24.1	1431	7.11	5	"
	3.5	23.8	1429	7.16	5	"

Comments:

D.O. 0.13 mg/L
Temp 22.4 °C

Wrong # written on ground.
Used survey map #

WELL DEVELOPMENT AND SAMPLING LOG

Project Name Rino Job No. 3628 Date 8/1/02 Weather Clear/Warm

ler Clay

Well Data

Well Number MW-8

Total Depth of Well 20 Casing Elevation ______ Depth to Water 3.06 Groundwater Elevation ______

Method of Purging Well bailer Method of Sampling Well bailer

Casing Volume 2.9 gal Volume Factors: (2"=0.166g/ft); 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft

Depth to Water Prior to Sampling ______ purge 8.4

Field Parameters

Time	Volume (gal)	Temperature	SP (mS)	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
	3	25.4	1428	7.01	5	Strong odor/high sheen
	5	23.6	1.97 ms	7.02	5	" "
	8	23.6	1703 ms	7.05	5	" "

Comments:

water in well box

* floating product in well

D.O. 0.21 mg/L

Temp 22.7 °C

Well Data

Well Number MW-5

Total Depth of Well 20 Casing Elevation ______ Depth to Water 3.21 Groundwater Elevation ______

Method of Purging Well bailer Method of Sampling Well bailer

Casing Volume 2.9 gal Volume Factors: (2"=0.166g/ft); 4"=0.653g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft

Depth to Water Prior to Sampling ______ purge 8.36

Field Parameters

Time	Volume (gal)	Temperature	SP	pH	Turbidity	Comments (color/odor/sheen/product etc.)
	Begin purging well					
1:15	4	25.4	1300	7.00	3	Some odor
	6	25.2	1309	7.00	3	" "
	8	25.2	1302	7.00		

Comments:

D.O. 1.30 mg/L

water in Wellbox Temp 20.8 °C

W.A. Craig Inc., Dixon, California

(707)693-2929

FORM WACgwm152196

APPENDIX B
LABORATORY ANALYTICAL REPORTS FOR MONITORING WELLS

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. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 08/01/02
		Date Received: 08/02/02
	Client Contact: Tim Cook	Date Reported: 08/09/02
	Client P.O.:	Date Completed: 08/09/02

August 09, 2002

Dear Tim:

Enclosed are:

1). the results of **10** 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.

Yours truly,

Angela Rydelius, Lab Manager

WACD

12823

MAIN @ MCCAMPBELL.com

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 HOUR ☐ 48 HOUR ☑ 5 DAY

EDF Required? ☑ Yes ☐ No

Report To: Tim Cook Bill To: W.A. Craig, Inc.

Company: W.A. Craig, Inc.

E-mail: tech@wacraig.com

Tele: 707-693-2929 Fax: 707-693-2922

Project #: 3628 Project Name: Rinehart

Project Location: 1107 5th St, Oakland Ca

Sampler Signature: [signature]

SAMPLE ID (Field Point Name)	LOCATION	Sampling Date	Sampling Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	Ice	HCl	HNO_3	Other	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 (9 oxys only)	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1		8-1		5	*	X					X	X			X	X							X								
MW-3N						X					X	X			X	X							X								
MW-4						X					X	X			X	X							X								
MW-5						X					X	X			X	X							X								
MW-6						X					X	X			X	X							X								
MW-7						X					X	X			X	X							X								
MW-8						X					X	X			X	X							X								
MW-9						X					X	X			X	X							X								
MW-10						X					X	X			X	X							X								
MW-11						X					X	X			X	X							X								

Relinquished By:	Date:	Time:	Received By:
Clayton Mokri	8/1	3:46p	Tim Cook
Tim Cook	8/2	7:50A	[signature]

Remarks: * 3 voa; 2 Ambers

ICE/t° ✓

GOOD CONDITION ✓

HEAD SPACE ABSENT ✓

PRESERVATION ✓

APPROPRIATE CONTAINERS ✓

VOAS | O&G | METALS | OTHER

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: 08/01/02
6940 Tremont Road		Date Received: 08/02/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 08/02/02-08/07/02
	Client P.O.:	Date Analyzed: 08/02/02-08/07/02

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0208023

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	480	ND	ND	ND	ND	1	98.6
002A	MW-3N	W	ND	350	ND	ND	ND	ND	1	95.7
003A	MW-4	W	ND<2500,j	89,000	ND<25	ND<25	ND<25	ND<25	50	94.7
004A	MW-5	W	ND<500,j	21,000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	10	95.1
005A	MW-6	W	ND<250,j	8100	8.0	ND<2.5	ND<2.5	ND<2.5	5	95.7
006A	MW-7	W	110,000,a,h	120,000	15,000	16,000	4000	21,000	330	99.3
007A	MW-8	W	ND<1200,j	53,000	ND<12	ND<12	ND<12	ND<12	25	102
008A	MW-9	W	ND	74	ND	ND	ND	ND	1	98.4
009A	MW-10	W	ND	ND	0.95	ND	ND	ND	1	100
010A	MW-11	W	ND,i	52	ND	1.9	0.55	ND	1	99.4

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	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 08/01/02
6940 Tremont Road		Date Received: 08/02/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 08/02/02
	Client P.O.:	Date Analyzed: 08/02/02-08/03/02

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0208023

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0208023-001C	MW-1	W	600,c/m	1	97.8
0208023-002C	MW-3N	W	2900,b,g	1	99.5
0208023-003C	MW-4	W	200,b	1	99.1
0208023-004C	MW-5	W	810,b,g	1	85.5
0208023-005C	MW-6	W	1100,b,g	1	86.1
0208023-006C	MW-7	W	160,000,a,d,h	10	---#
0208023-007C	MW-8	W	2800,a/m	1	86.7
0208023-008C	MW-9	W	320,b,g	1	85.4
0208023-009C	MW-10	W	720,c/m	1	85.0
0208023-010C	MW-11	W	190,b,g,i	1	88.0

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 ug/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 ug/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 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.

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 08/01/02
6940 Tremont Road		Date Received: 08/02/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 08/07/02-08/08/02
	Client P.O.:	Date Analyzed: 08/07/02-08/08/02

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0208023

Lab ID	0208023-001B	0208023-002B	0208023-003B	0208023-004B	Reporting Limit for DF =1	
Client ID	MW-1	MW-3N	MW-4	MW-5		
Matrix	W	W	W	W		
DF	20	20	3300	1000	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND<10	ND<10	ND<1700	ND<500	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<10	ND<10	ND<1700	ND<500	NA	0.5
Methyl-t-butyl ether (MTBE)	610	540	100,000	24,000	NA	0.5
tert-Amyl methyl ether (TAME)	ND<10	14	ND<1700	ND<500	NA	0.5
t-Butyl alcohol (TBA)	ND<100	ND<100	ND<17,000	ND<5000	NA	5.0
Methanol	ND<10,000	ND<10,000	ND<1,700,000	ND<500,000	NA	500
Ethanol	ND<1000	ND<1000	ND<170,000	ND<50,000	NA	50
1,2-Dibromoethane (EDB)	ND<10	ND<10	ND<1700	ND<500	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<10	ND<10	ND<1700	ND<500	NA	0.5
Surrogate Recoveries (%)						
%SS:	94.7	97.7	88.8	88.3		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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.

DHS Certification No. 1644

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 08/01/02
6940 Tremont Road		Date Received: 08/02/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 08/07/02-08/08/02
	Client P.O.:	Date Analyzed: 08/07/02-08/08/02

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0208023

Lab ID	0208023-005B	0208023-006B	0208023-007B	0208023-008B	Reporting Limit for DF =1	
Client ID	MW-6	MW-7	MW-8	MW-9		
Matrix	W	W	W	W		
DF	330	5000	2000	2	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND<170	ND<2500	ND<1000	ND<1	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<170	ND<2500	ND<1000	ND<1	NA	0.5
Methyl-t-butyl ether (MTBE)	9100	150,000	67,000	84	NA	0.5
tert-Amyl methyl ether (TAME)	ND<170	ND<2500	ND<1000	ND<1	NA	0.5
t-Butyl alcohol (TBA)	3800	ND<25,000	ND<10,000	ND<10	NA	5.0
Methanol	ND<170,000	ND<2,500,000	ND<1,000,000	ND<1000	NA	500
Ethanol	ND<17,000	ND<250,000	ND<100,000	ND<100	NA	50
1,2-Dibromoethane (EDB)	ND<170	ND<2500	ND<1000	ND<1	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<170	ND<2500	ND<1000	ND<1	NA	0.5
Surrogate Recoveries (%)						
%SS:	88.8	86.8	98.2	103		
Comments		h				

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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.

DHS Certification No. 1644

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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 08/01/02
		Date Received: 08/02/02
	Client Contact: Tim Cook	Date Extracted: 08/07/02-08/08/02
	Client P.O.:	Date Analyzed: 08/07/02-08/08/02

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0208023

Lab ID	0208023-009B	0208023-010B	Reporting Limit for DF =1	
Client ID	MW-10	MW-11		
Matrix	W	W		
DF	1	2	S	W
Compound	**Concentration**		ug/kg	µg/L
Diisopropyl ether (DIPE)	ND	ND<1	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<1	NA	0.5
Methyl-t-butyl ether (MTBE)	1.1	65	NA	0.5
tert-Amyl methyl ether (TAME)	ND	ND<1	NA	0.5
t-Butyl alcohol (TBA)	ND	ND<10	NA	5.0
Methanol	ND	ND<1000	NA	500
Ethanol	ND	ND<100	NA	50
1,2-Dibromoethane (EDB)	ND	ND<1	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<1	NA	0.5
Surrogate Recoveries (%)				
%SS:	99.8	99.2		
Comments		i		

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0208023

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 3275 Spiked Sample ID: 0208023-001A

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)	ND	60	91.6	97.2	5.92	100	105	4.06	80	120
MTBE	484.7	10	NR	NR	NR	104	108	4.12	80	120
Benzene	ND	10	90.1	92.1	2.16	110	108	1.57	80	120
Toluene	ND	10	95.9	99.3	3.46	115	118	2.56	80	120
Ethylbenzene	ND	10	98.9	100	1.56	116	114	1.62	80	120
Xylenes	ND	30	100	102	1.65	117	113	2.90	80	120
%SS:	98.9	100	96.3	96.9	0.649	104	103	0.348	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: 0208023

EPA Method: SW8015C	Extraction: SW3510C			BatchID: 3281		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	129	129	0.555	70	130
%SS:	N/A	100	N/A	N/A	N/A	103	103	0.592	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.

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 SW8260B

Matrix: W WorkOrder: 0208023

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 3280	Spiked Sample ID: 0208023-001B

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)	ND	10	95	97.1	2.11	94.7	96.1	1.46	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	95.7	96.9	1.23	95.2	96.3	1.21	70	130
Methyl-t-butyl ether (MTBE)	612	10	NR	NR	NR	96	97	1.05	70	130
tert-Amyl methyl ether (TAME)	ND	10	98.5	101	2.79	96.9	99	2.15	70	130
%SS:	94.7	100		102	1.31	77.5	76.1	1.81	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.

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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(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0208023

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

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

02-Aug-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests SW8015C	8021B/8015	SW8260B
0208023-001	MW-1	Water	8/1/02		C	A	B
0208023-002	MW-3N	Water	8/1/02		C	A	B
0208023-003	MW-4	Water	8/1/02		C	A	B
0208023-004	MW-5	Water	8/1/02		C	A	B
0208023-005	MW-6	Water	8/1/02		C	A	B
0208023-006	MW-7	Water	8/1/02		C	A	B
0208023-007	MW-8	Water	8/1/02		C	A	B
0208023-008	MW-9	Water	8/1/02		C	A	B
0208023-009	MW-10	Water	8/1/02		C	A	B
0208023-010	MW-11	Water	8/1/02		C	A	B

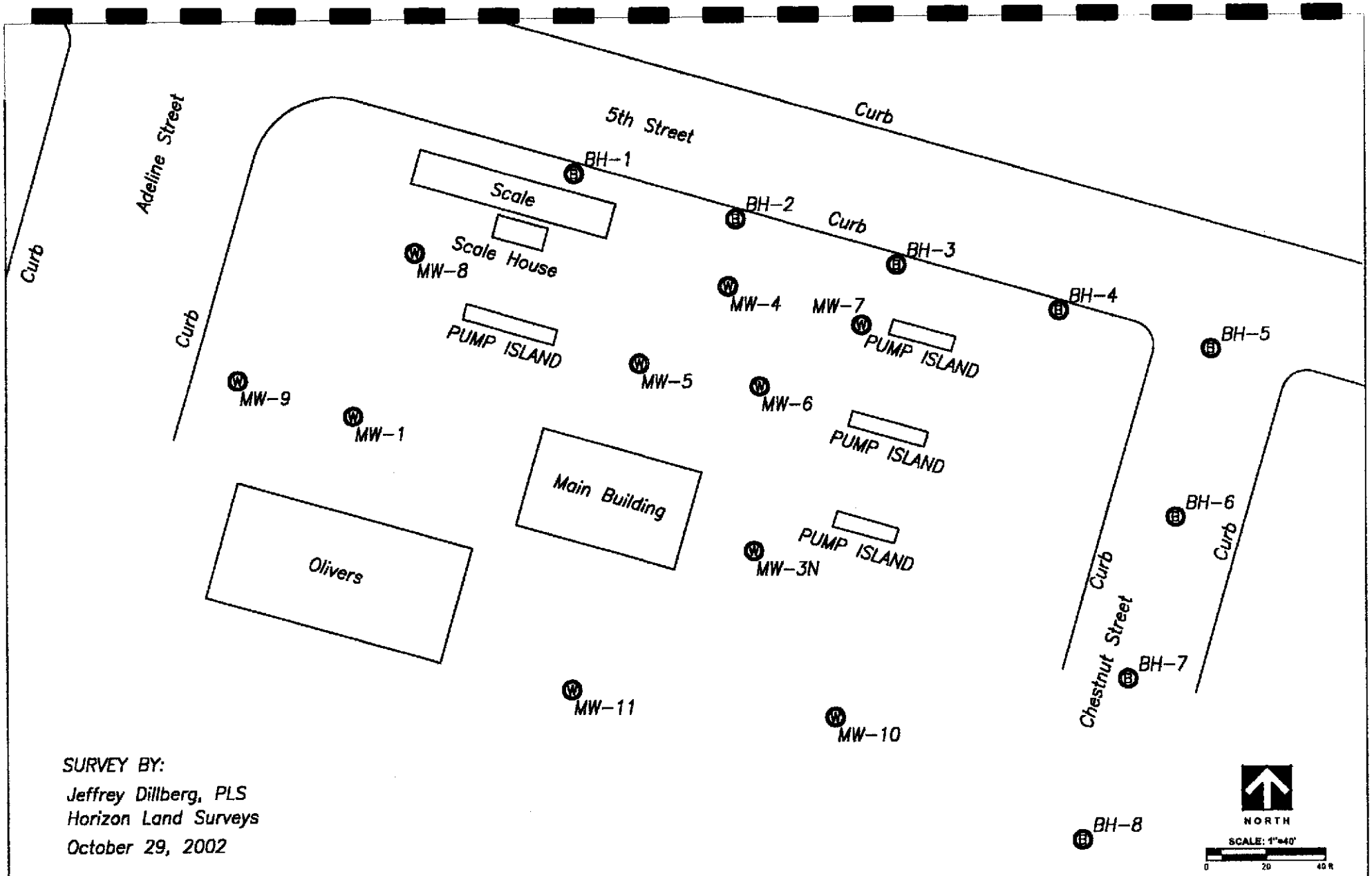
Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

APPENDIX C
SURVEYOR'S DATA FOR UTILITY BORINGS



SURVEY BY:
Jeffrey Dillberg, PLS
Horizon Land Surveys
October 29, 2002

SURVEYED MAP OF SOIL BORING LOCATIONS

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

Oakland Truck Stop
1107 5th Street
Oakland, California

Project #: 3628	Figure:
Date: 10/29/02	
Scale: 1" = 40'	

Northing	Easting	Elev.	Boring #
54	1689980.4144	6478357.3778	10.197	BH-1
55	1689966.7167	6478405.5731	10.147	BH-2
56	1689952.8530	6478453.4945	10.784	BH-3
57	1689939.2103	6478501.7141	11.572	BH-4
58	1689927.6337	6478546.9599	12.074	BH-5
59	1689877.1438	6478536.2751	11.800	BH-6
60	1689828.9565	6478521.9006	11.689	BH-7
61	1689781.0425	6478508.1650	11.512	BH-8

APPENDIX D
LABORATORY ANALYTICAL REPORTS FOR UTILITY BORINGS

McCampbell 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: 07/18/02
		Date Received: 07/19/02
	Client Contact: Tim Cook	Date Reported: 07/26/02
	Client P.O.:	Date Completed: 07/26/02

July 26, 2002

Dear Tim:

Enclosed are:

1). the results of **8** 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.

Yours truly,

Angela Rydelius, Lab Manager

WACi 0207277

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 HOUR ☐ 48 HOUR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No

Report To: Tim Cook Bill To: W.A. Craig, Inc.
Company: W.A. Craig, Inc.

Tele: 707-693-2929 E-mail: tech@wacraig.com
Project #: 3628 Fax: 707-693-2922
Project Location: Oakland Project Name: Rinehart
Sampler Signature: Tim Cook

	SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	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 (Oxys only)	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
+2)	B-1		7/19		5	3 VOA amber	X					X				X	X							X								
+	B-2		↓		↓	↓	X					X	X			X	X							X								
+	B-3						X					X				X	X							X								
+	B-4						X					X	X			X	X							X								
(+5)	B-5				1	V	X					X	X			X	~~X~~							X								~~[illegible]~~
(+20)	B-6						X					X	X			X	X							X								NO TPH-d
+20)	B-7						X					X	X			X	X							X								
+50)	B-8		7/18		3		X					X	X			X	~~X~~							X								
	~~D-1~~		~~7/19~~																													
	~~D-2~~																															NO TPH-d
	~~D-3~~																															
	~~D-5~~																															

[stamps, illegible]

Relinquished By:	Date:	Time:	Received By:
Tim Cook	7/19	4:03 p	[signature]
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: Only 1 VOA Collected for B-5 do what you can

Lg... MeLIMeL...

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/24/02-07/26/02
	Client P.O.:	Date Analyzed: 07/24/02-07/26/02

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0207277

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	B-1	W	59,000,a,h,i	210,000	5700	ND<100	2300	7500	200	104
002A	B-2	W	ND<7500,j,h	220,000	ND<50	ND<50	ND<50	ND<50	100	102
003A	B-3	W	41,000,a,h	420,000	1800	210	1500	3600	200	100
004A	B-4	W	ND<8000,j	160,000	ND<50	ND<50	ND<50	ND<50	100	101
005A	B-5	W	ND,i	26	ND	1.1	ND	ND	1	105
006A	B-6	W	ND,i	ND	ND	1.2	0.57	3.5	1	98.3
007A	B-7	W	ND,i	5.3	ND	0.91	ND	1.7	1	98.2
008A	B-8	W	ND,i	ND	ND	1.1	ND	2.0	1	100
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	ug/L	
		S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg	

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); 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) sample diluted due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/19/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/19/02
	Client P.O.:	Date Analyzed: 07/20/02-07/21/02

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0207277

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0207277-001B	B-1	W	42,000,a,d,h,i	10	128
0207277-002B	B-2	W	180,b,h	1	99.6
0207277-003B	B-3	W	11,000,d,b,h	1	105
0207277-004B	B-4	W	19,000,a	1	119
0207277-006B	B-6	W	1400,n,b,g,i	2	107
0207277-007B	B-7	W	400,g,i	1	109

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 ug/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 ug/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 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.

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/23/02-07/27/02
	Client P.O.:	Date Analyzed: 07/23/02-07/27/02

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0207277

Lab ID	0207277-001C	0207277-002C	0207277-003C	0207277-004C	Reporting Limit for DF =1	
Client ID	B-1	B-2	B-3	B-4		
Matrix	W	W	W	W		
DF	5000	5000	20000	10000	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND<2500	ND<2500	ND<10,000	ND<5000	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<2500	ND<2500	ND<10,000	ND<5000	NA	0.5
Methyl-t-butyl ether (MTBE)	250,000	210,000	460,000	170,000	NA	0.5
tert-Amyl methyl ether (TAME)	ND<2500	ND<2500	ND<10,000	ND<5000	NA	0.5
t-Butyl alcohol (TBA)	ND<25,000	ND<25,000	ND<100,000	ND<50,000	NA	5.0
Methanol	ND<2,500,000	ND<2,500,000	ND<10,000,000	ND<5,000,000	NA	500
Ethanol	ND<250,000	ND<250,000	ND<1,000,000	ND<500,000	NA	50
1,2-Dibromoethane (EDB)	ND<2500	ND<2500	ND<10,000	ND<5000	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<2500	ND<2500	ND<10,000	ND<5000	NA	0.5
Surrogate Recoveries (%)						
%SS:	97.2	96.3	99.7	96.7		
Comments	h,i	h				

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/23/02-07/26/02
	Client P.O.:	Date Analyzed: 07/23/02-07/26/02

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0207277

Lab ID	0207277-005A	0207277-006C	0207277-007C	0207277-008B	Reporting Limit for DF =1	
Client ID	B-5	B-6	B-7	B-8		
Matrix	W	W	W	W		
DF	1	1	1	1	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND	ND	ND	ND	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	34	3.0	3.1	3.1	NA	0.5
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	NA	0.5
t-Butyl alcohol (TBA)	ND	ND	ND	ND	NA	5.0
Methanol	ND	ND	ND	ND	NA	500
Ethanol	ND	ND	ND	ND	NA	50
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	NA	0.5
Surrogate Recoveries (%)						
%SS:	97.8	99.9	97.8	99.4		
Comments	i	i	i	i		

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0207277

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 3036 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	103	110	5.68	80	120
MTBE	N/A	10	N/A	N/A	N/A	104	93.2	10.5	80	120
Benzene	N/A	10	N/A	N/A	N/A	119	106	11.5	80	120
Toluene	N/A	10	N/A	N/A	N/A	118	108	8.77	80	120
Ethylbenzene	N/A	10	N/A	N/A	N/A	116	113	2.78	80	120
Xylenes	N/A	30	N/A	N/A	N/A	117	113	2.90	80	120
%SS:	N/A	100	N/A	N/A	N/A	116	102	13.0	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: 0207277

EPA Method: SW8015C	Extraction: SW3510C	BatchID: 3064	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	105	104	0.649	70	130
%SS:	N/A	100	N/A	N/A	N/A	107	106	1.07	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.

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: 0207277

EPA Method: SW8015C	Extraction: SW3510C			BatchID: 3032		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	104	100	3.29	70	130
%SS:	N/A	100	N/A	N/A	N/A	107	104	2.84	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.

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 SW8260B

Matrix: W WorkOrder: 0207277

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 3063	Spiked Sample ID: 0207280-002B

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)	ND	10	111	105	6.15	97.6	100	2.61	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	110	102	7.10	97	99.4	2.45	70	130
Methyl-t-butyl ether (MTBE)	ND	10	95	82.3	14.3	96	98.3	2.38	70	130
tert-Amyl methyl ether (TAME)	ND	10	101	95	6.19	97.8	101	3.53	70	130
%SS:	96.0	100	98.7	98	0.742	99	99.3	0.267	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.

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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CHAIN-OF-CUSTODY RECORD

WorkOrder: 0207277

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

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

19-Jul-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests		
					SW8015C	8021B/8015	SW8260B
0207277-001	B-1	Water	7/19/02		B	A	C
0207277-002	B-2	Water	7/19/02		B	A	C
0207277-003	B-3	Water	7/19/02		B	A	C
0207277-004	B-4	Water	7/19/02		B	A	C
0207277-005	B-5	Water	7/19/02			A	A
0207277-006	B-6	Water	7/19/02		B	A	C
0207277-007	B-7	Water	7/19/02		B	A	C
0207277-008	B-8	Water	7/18/02			A	B

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
		Date Received: 07/19/02
	Client Contact: Tim Cook	Date Reported: 07/26/02
	Client P.O.:	Date Completed: 07/26/02

July 26, 2002

Dear Tim:

Enclosed are:

1). the results of 9 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.

Yours truly,

Angela Rydelius, Lab Manager

WAC

0207278zwac726.doc

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 HOUR ☐ 48 HOUR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No

Report To: Tim Cook
Bill To: W.A. Craig, Inc.
Company: W.A. Craig, Inc.

Tele: 707-693-2929
E-mail: tech@wacraig.com
Fax: 707-693-2922
Project #: 3628
Project Name: Riverhost
Project Location: Oakland
Sampler Signature: Tim Cook

SAMPLE ID (Field Point Name)	LOCATION	Sampling Date	~~Time~~ Depth	# Containers	Type Containers	Matrix: Water	Soil	Air	Sludge	Other	Method Preserved: Ice	HCl	HNO_3	Other	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 (VOCs only)	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010) (WET test)	RCI	Other	Comments
B-1		7/19	8'	5	ENC CORE		X				X				X								X								
B-2		↓	↓	↓	↓		X				X				X								X								
B-3		↓	↓	↓	↓		X				X				X								X								
B-4		↓	↓	↓	↓		X				X				X								X								
B-5		↓	↓	↓	↓		X				X				X								X								
B-6		↓	↓	↓	↓		X				X				X								X								
B-7		7/18	5'	↓	↓		X				X				X								X								
B-8		7/19	6'	↓	↓		X				X				X								X								
D-1		7/19	N/A	1	brass tube		X				X																	X			4 point composite
D-2		↓	↓	↓	↓		X				X																	X			
D-3		↓	↓	↓	↓		X				X																	X			
D-4		↓	↓	↓	↓		X				X																	X			

Relinquished By: Tim Cook | Date: 7/19 | Time: 4:30 | Received By: [signature]

Relinquished By: | Date: | Time: | Received By:

Relinquished By: | Date: | Time: | Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
PRESERVATION
APPROPRIATE CONTAINERS

VOAS | O&G | METALS | OTHER

Remarks: D-1 to D-4 4 pt composite for STLC lead only

L:SV

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/19/02
	Client P.O.:	Date Analyzed: 07/21/02-07/23/02

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

Extraction method: SW5035 Analytical methods: SW8021B/8015Cm Work Order: 0207278

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	B-1	S	6.0,a	14	0.071	0.016	0.13	0.44	1	---#
002A	B-2	S	1.7,a	58	0.027	0.012	0.028	0.085	1	101
003A	B-3	S	13,a	51	0.024	0.022	0.12	0.48	1	102
004A	B-4	S	48,m	53	ND<0.04	ND<0.04	ND<0.04	0.082	10	---#
005A	B-5	S	ND	0.080	ND	ND	ND	ND	1	109
006A	B-6	S	ND	ND	ND	ND	ND	ND	1	108
007A	B-7	S	ND	ND	ND	ND	ND	ND	1	111
008A	B-8	S	ND	ND	ND	ND	ND	ND	1	112
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		ug/L
		S	1.0	0.05	0.005	0.005	0.005	0.005		mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); 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) sample diluted due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/19/02
	Client P.O.:	Date Analyzed: 07/24/02-07/26/02

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

Extraction Method: SW5035B | Analytical Method: SW8260B | Work Order: 0207278

Lab ID	0207278-001A	0207278-002A	0207278-003A	0207278-004A	Reporting Limit for DF =1	
Client ID	B-1	B-2	B-3	B-4		
Matrix	S	S	S	S		
DF	20	20	40	20	S	W
Compound	**Concentration**				µg/Kg	ug/L
Diisopropyl ether (DIPE)	ND<680	ND<1900	ND<1600	ND<1700	5.0	NA
Ethyl tert-butyl ether (ETBE)	ND<680	ND<1900	ND<1600	ND<1700	5.0	NA
Methyl-t-butyl ether (MTBE)	**15,000**	**72,000**	**50,000**	**51,000**	5.0	NA
tert-Amyl methyl ether (TAME)	ND<680	ND<1900	ND<1600	ND<1700	5.0	NA
t-Butyl alcohol (TBA)	ND<6800	ND<19,000	ND<16,000	ND<17,000	50	NA
Methanol	ND<68,000	ND<47,000	ND<82,000	ND<42,000	2500	NA
Ethanol	ND<6800	ND<4700	ND<8200	ND<4200	250	NA
1,2-Dibromoethane (EDB)	ND<680	ND<1900	ND<1600	ND<1700	5.0	NA
1,2-Dichloroethane (1,2-DCA)	ND<680	ND<1900	ND<1600	ND<1700	5.0	NA
Surrogate Recoveries (%)						
%SS:	87	84	82	82		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/19/02
	Client P.O.:	Date Analyzed: 07/24/02-07/26/02

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

Extraction Method: SW5035B Analytical Method: SW8260B Work Order: 0207278

Lab ID	0207278-005A	0207278-006A	0207278-007A	0207278-008A	Reporting Limit for DF =1	
Client ID	B-5	B-6	B-7	B-8		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				µg/Kg	ug/L
Diisopropyl ether (DIPE)	ND	ND	ND	ND	5.0	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	5.0	NA
Methyl-t-butyl ether (MTBE)	57	ND	ND	ND	5.0	NA
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	5.0	NA
t-Butyl alcohol (TBA)	ND	ND	ND	ND	50	NA
Methanol	ND	ND	ND	ND	2500	NA
Ethanol	ND	ND	ND	ND	250	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	5.0	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	5.0	NA
Surrogate Recoveries (%)						
%SS:	84	86	85	90		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/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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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S WorkOrder: 0207278

EPA Method: SW8021B/8015Cm	Extraction: SW5035	BatchID: 3090	Spiked Sample ID: N/A

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	N/A	0.60	N/A	N/A	N/A	98.8	97.2	1.58	80	120
MTBE	N/A	0.10	N/A	N/A	N/A	92.5	101	8.67	80	120
Benzene	N/A	0.10	N/A	N/A	N/A	107	114	6.79	80	120
Toluene	N/A	0.10	N/A	N/A	N/A	110	118	6.90	80	120
Ethylbenzene	N/A	0.10	N/A	N/A	N/A	107	115	7.07	80	120
Xylenes	N/A	0.30	N/A	N/A	N/A	107	113	6.06	80	120
%SS:	N/A	100	N/A	N/A	N/A	109	111	2.56	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 SW8260B

Matrix: S WorkOrder: 0207278

EPA Method: SW8260B	Extraction: SW5035B			BatchID: 2977			Spiked Sample ID: 0207210-005A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Diisopropyl ether (DIPE)	ND	50	75.6	71.8	5.24	125	126	2.85	70	130
Ethyl tert-butyl ether (ETBE)	ND	50	76.4	70.4	8.21	125	129	9.22	70	130
Methyl-t-butyl ether (MTBE)	16.63	50	71	59.3	F1	11.9	123	126	13.6	70	130
tert-Amyl methyl ether (TAME)	ND	50	75.9	72.1	5.13	129	130	3.15	70	130
%SS:	121	100	115	111	3.61	121	121	3.62	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

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

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 E200.7

Matrix: STLC WorkOrder: 0207278

EPA Method: E200.7	Extraction: SW1311			BatchID: 3039		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Lead	N/A	10	N/A	N/A	N/A	90.9	89.1	2.00	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.

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

% 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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W. A. Craig Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3628; Rinehart	Date Sampled: 07/18/02
		Date Received: 07/19/02
	Client Contact: Tim Cook	Date Reported: 09/05/02
	Client P.O.:	Date Completed: 09/05/02

September 05, 2002

Dear Tim:

Enclosed are:

1). the results of 9 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.

Yours truly,

Angela Rydelius, Lab Manager

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W. A. Craig Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/19/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 08/29/02-08/30/02
	Client P.O.:	Date Analyzed: 08/30/02

Lead by ICP*

Extraction method: SW1311 Analytical methods: SW6010C Work Order: 0207278

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0207278-009A	D-1-4	S	TCLP	3.5	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA		mg/L
	S	TCLP	0.2		mg/L

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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QC SUMMARY REPORT FOR SW6010C

Matrix: S WorkOrder: 0207278

EPA Method: SW6010C	Extraction: SW1311			BatchID: 3729		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Lead	N/A	10	N/A	N/A	N/A	101	99.9	0.729	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.

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

% 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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W. A. Craig, Inc.	Client Project ID: #3628; Rinehart	Date Sampled: 07/18-0719/02
6940 Tremont Road		Date Received: 07/19/02
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 07/19-07/21/02
	Client P.O:	Date Analyzed: 07/22/02

Lead*

EPA analytical methods 200.9+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
0207278-009	D-1-4	S	STLC	20	N/A
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 200.9 (AA Furnace) for water samples

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCampbell Analytical Inc.
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(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0207278

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

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

19-Jul-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests		
					E200_7	8021B/8015	SW8260B
0207278-001	B-1	Soil	7/19/02			A	A
0207278-002	B-2	Soil	7/19/02			A	A
0207278-003	B-3	Soil	7/19/02			A	A
0207278-004	B-4	Soil	7/19/02			A	A
0207278-005	B-5	Soil	7/19/02			A	A
0207278-006	B-6	Soil	7/19/02			A	A
0207278-007	B-7	Soil	7/18/02			A	A
0207278-008	B-8	Soil	7/18/02			A	A
0207278-009	D-1-4	Soil	7/19/02		A		

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other