



W. A. CRAIG, INC.

Environmental Contracting and Consulting

6940 Tremont Road
Dixon, California 95620

Contractor and Hazardous Substances License #455752

e-mail: tech@wacraig.com

(800) 522-7244

Dixon (707) 693-2929

Napa (707) 252-3353

Fax: (707) 693-2922

January 26, 2001

Project No. 3628

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

ENVIRONMENTAL
PROTECTION
09 JAN 31 PM 2:51

Groundwater Monitoring Report, November 2000
1107 Fifth Street
Oakland, California

Dear Mr. Rinehart:

W.A. Craig, Inc. (WAC) is pleased to submit this Groundwater Monitoring Report for sampling conducted on November 6, 2000 at the Rino Pacific service station, located at 1107 Fifth Street (site), Oakland, California (**Figure 1**). This work was performed in accordance with the scope of work presented in WAC's Work Plans dated September 16, 1996 and May 23, 2000.

This report includes groundwater quality and elevation data for two monitoring wells installed at the site in October 1996 and six additional monitoring wells installed in August 2000. Descriptions of the previous site investigations are presented in the "*Subsurface Investigation Report*," dated January 17, 1997 and the "*Subsurface Investigation Report*" dated September 15, 2000.

SCOPE OF WORK

The scope of work conducted by WAC during this period includes the following tasks:

- Measure dissolved oxygen concentrations and static water levels in eight monitoring wells;
- Purge and sample groundwater from eight monitoring wells;
- Analyze groundwater samples for total petroleum hydrocarbons as gasoline (TPH-g), total petroleum hydrocarbons as diesel (TPH-d), benzene, toluene, ethylbenzene, xylenes

(BTEX), and fuel oxygenates including methyl tert-butyl ether (MtBE); and

- Prepare this groundwater monitoring report.

GROUNDWATER SAMPLING AND ANALYSIS

Groundwater Elevations

WAC technical staff measured water levels in the eight monitoring wells on November 6, 2000 using an electronic water-level indicator. The wells were exposed to atmospheric conditions for approximately 30 minutes to stabilize static water levels. Langford Land Surveying measured the elevation of the top of each monitoring well casing. Groundwater elevations for this and previous monitoring events are summarized in **Table 1**.

Groundwater Sampling

At least three well casing volumes were purged from each monitoring well prior to collecting groundwater samples. Field parameters including temperature, pH, conductivity, dissolved oxygen concentration and turbidity were intermittently monitored during purging of the wells. Groundwater samples were collected using disposable polyethylene bailers. The field groundwater sampling logs are included in **Attachment A**.

The samples were submitted under chain-of-custody control to McCampbell Analytical, Inc. (MAI), of Pacheco, California. The purged groundwater is currently stored on-site in labeled, DOT approved, 55-gallon, steel drums.

Groundwater Analytical Results

The groundwater samples were analyzed by MAI for TPH-g/TPH-d using EPA Method 8015 (modified), purgeable aromatic hydrocarbons (BTEX) using EPA Method 8020 and for fuel oxygenates using EPA Method 8260. MAI is certified by the State of California to perform the required analyses. The results of the analyses are summarized in **Table 2**. A copy of the original laboratory analytical report and chain-of-custody document are in **Attachment B**.

Conclusions

This is the first monitoring event since installation of the six monitoring wells in August 2000. Concentrations of TPH-d remained relatively unchanged in all eight monitoring wells. TPH-g concentrations decreased by an order of magnitude in monitoring wells MW-1 and MW-7. TPH-g was not detected in the six remaining monitoring wells.

Benzene and MtBE were detected above their respective primary maximum contaminant limits (MCLs) in monitoring wells MW-1, MW-4, MW-6 and MW-7. MtBE is above the MCL in all seven

monitoring wells. Toluene, ethylbenzene or xylenes were detected in monitoring wells MW-1, MW-4, MW-6 and MW-7.

Recommendations

As determined in the Site Investigation Report, dated September 15, 2000, groundwater in the vicinity of the Site has no beneficial use as a drinking water resource based on total dissolved solids. We recommend continued quarterly groundwater monitoring to further assess groundwater quality and natural attenuation of petroleum hydrocarbons with time.

Professional Certification

This report has been prepared by the staff of W. A. Craig, Inc., under the professional supervision of the persons whose seals and signatures appear hereon. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of quarterly monitoring and sampling and they are subject to change.

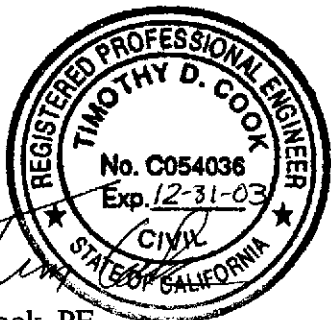
The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. W.A. Craig, Inc. recognizes that the limited scope of services performed in execution of this scope of work may not be appropriate to satisfy the needs, or requirements of other state agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein the sole risk of the user. There is no other warranty, either expressed or implied.

Closing Statement

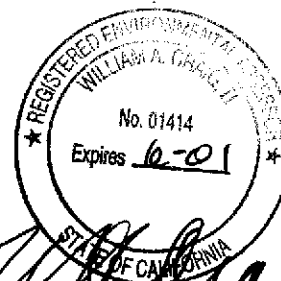
The next quarterly sampling event will take place during February 2001. Should you have any questions regarding this report please call Tim Cook at (707) 693-2929.

Sincerely,

W.A. Craig, Inc.,



Tim Cook, PE
Principal Engineer



W. A. Craig, II, REA
Principal

TC:sao

Attachments:

- Table 1 – Groundwater Elevation Data
- Table 2 – Groundwater Sample Analytical Results
- Table 3 – Dissolved Oxygen Concentrations
- Figure 1 – Site Location Map
- Figure 2 – Site Plan
- A -Groundwater Sampling Logs and graphs
- B – Laboratory Analytical Reports

cc: Larry Seto, Alameda County Department of Environmental Health

Table 1
Groundwater Elevations
Oakland Truck Stop

| Well Number | Date | Top of Casing (ft) | Depth to Water | Static Water Elevation | | |
|-------------|----------|--------------------|----------------|------------------------|------|------|
| MW-1 | 10/21/96 | 7.60 | 5.08 | 2.52 | | |
| | 11/04/96 | | 3.02 | 4.58 | | |
| | 03/04/97 | | 2.28 | 5.32 | | |
| | 06/12/97 | | 4.80 | 2.80 | | |
| | 07/14/97 | | 2.66 | 4.94 | | |
| | 09/09/97 | | 2.45 | 5.15 | | |
| | 09/19/97 | | 2.60 | 5.00 | | |
| | 02/13/98 | | 2.76 | 4.84 | | |
| | 07/07/98 | | 2.15 | 5.45 | | |
| | 10/01/98 | | 3.63 | 3.97 | | |
| | 12/30/98 | | 4.40 | 3.20 | | |
| | 03/21/00 | | 2.62 | 4.98 | | |
| | 08/30/00 | | 3.21 | 4.39 | | |
| | 11/06/00 | | 3.10 | 4.50 | | |
| MW-2 | 10/21/96 | 4.48 | 4.66 | -0.18 | | |
| | 11/04/96 | | 4.60 | -0.12 | | |
| | 03/04/97 | | 3.68 | 0.80 | | |
| | 06/12/97 | | 3.70 | 0.78 | | |
| | 07/14/97 | | 4.16 | 0.32 | | |
| | 09/09/97 | | 3.88 | 0.60 | | |
| | 09/19/97 | | 4.50 | -0.02 | | |
| | 02/13/98 | | 3.08 | 1.40 | | |
| | 07/07/98 | | 3.74 | 0.74 | | |
| | 10/01/98 | | 4.63 | -0.15 | | |
| | 12/30/98 | | 3.90 | 0.58 | | |
| | 03/21/00 | | Well Destroyed | | | |
| | MW-3 | | 10/21/96 | 7.79 | 7.66 | 0.13 |
| | | | 11/04/96 | | 5.70 | 2.09 |
| 03/04/97 | | 11.38 | -3.59 | | | |
| 06/12/97 | | 5.18 | 2.61 | | | |
| 07/14/97 | | 7.96 | -0.17 | | | |
| 09/09/97 | | 10.16 | -2.37 | | | |
| 09/19/97 | | 12.80 | -5.01 | | | |
| 02/13/98 | | 11.42 | -3.63 | | | |
| 07/07/98 | | 11.76 | -3.97 | | | |
| 10/01/98 | | 11.34 | -3.55 | | | |
| 12/30/98 | | 4.56 | 3.23 | | | |
| 03/21/00 | | 10.92 | -3.13 | | | |
| 08/30/00 | | 5.12 | 2.67 | | | |
| 11/06/00 | | 4.10 | 3.69 | | | |
| MW-4 | 08/30/00 | 7.74 | 3.74 | 4.00 | | |
| | 11/06/00 | | 3.85 | 3.89 | | |
| MW-5 | 08/30/00 | 7.53 | 3.01 | 4.52 | | |
| | 11/06/00 | | 3.35 | 4.18 | | |
| MW-6 | 08/30/00 | 7.89 | 3.40 | 4.49 | | |
| | 11/06/00 | | 3.72 | 4.17 | | |
| MW-7 | 08/30/00 | 8.96 | 6.72 | 2.24 | | |
| | 11/06/00 | | 6.85 | 2.11 | | |
| MW-8 | 08/30/00 | 7.32 | 3.06 | 4.26 | | |
| | 11/06/00 | | 2.98 | 4.34 | | |
| MW-9 | 08/30/00 | 7.30 | 2.81 | 4.49 | | |
| | 11/06/00 | | 2.68 | 4.62 | | |

Notes : Monitoring wells elevations are based on City of Oakland Datum # 16NW10 which lies 15 ft west of the centerline intersection of 3rd Street and Linden Street. Elevation = 8.108 (City of Oakland Datum = 5.108 + 3.00 = 8.108). Elevations have been converted to U.S. Geodetic Datum by adding 3.00 feet.

Table 2
Groundwater Sample Analytical Results
Oakland Truck Stop

| Well Number | Date Sampled | ANALYTES (ug/L) | | | | | | | |
|----------------|--------------|-----------------|-------|---------|-----------|---------|---------|---------------|---------|
| | | TPH-g | TPH-d | MtBE | MtBE 8260 | benzene | toluene | ethyl-benzene | xylenes |
| MW-1 | 11/04/96 | ND | 220 | ND | NA | ND | ND | ND | ND |
| | 03/05/97 | ND | 230 | ND | NA | ND | ND | ND | ND |
| | 06/12/97 | ND | 290 | ND | NA | ND | ND | ND | ND |
| | 09/09/97 | ND | 180 | ND | NA | ND | ND | ND | ND |
| | 02/13/98 | ND | 590 | 9.4 | NA | ND | ND | ND | ND |
| | 07/07/98 | ND | 1,400 | ND | 2.7 | ND | ND | ND | ND |
| | 10/01/98 | ND | 1,100 | ND | 1.8 | ND | ND | ND | ND |
| | 12/30/98 | ND | 1,700 | ND | 2.3 | ND | ND | ND | ND |
| | 03/21/00 | 220 | 3,100 | 3,800 | 4,800 | 11 | ND | ND | ND |
| | 08/30/00 | 140 | 1,600 | 2,900 | NS | 5.3 | ND | ND | ND |
| | 11/06/00 | 51 | 1,500 | 1,700 | 2,100 | 1.0 | ND | ND | ND |
| MW-2 | 11/04/96 | 910 | 2,700 | 470,000 | NA | 120 | 23 | 3.5 | 51 |
| | 03/05/97 | 4,400 | 2,300 | 760,000 | NA | 1,500 | 51 | 24 | 100 |
| | 06/12/97 | 3,600 | 2,400 | 840,000 | NA | 1,200 | 14 | 12 | 40 |
| | 09/09/97 | 3,700 | 970 | 470,000 | NA | 570 | 31 | 19 | 60 |
| | 02/13/98 | 6,500 | 2,200 | 750,000 | NA | 2,400 | 31 | ND | ND |
| | 07/07/98 | 5,200 | 2,700 | 950,000 | 1,000,000 | 2,800 | ND | ND | ND |
| | 10/01/98 | 1,200 | 1,200 | 420,000 | 360,000 | 330 | 12 | 8.8 | 11 |
| | 12/30/98 | 1,000 | 1,900 | 370,000 | 360,000 | 96 | ND | ND | ND |
| Well Destroyed | 03/21/00 | | | | | | | | |
| MW-3 | 11/04/96 | ND | 310 | 1,000 | NA | ND | ND | ND | ND |
| | 03/05/97 | ND | 210 | 13 | NA | ND | ND | ND | ND |
| | 06/12/97 | ND | 94 | 17 | NA | ND | ND | ND | ND |
| | 09/09/97 | ND | 2,300 | 12 | NA | ND | ND | ND | ND |
| | 02/13/98 | ND | 570 | 14 | NA | ND | ND | ND | ND |
| | 07/07/98 | ND | 1,100 | 7.8 | 6.6 | ND | ND | ND | ND |
| | 10/01/98 | ND | 390 | 9.2 | 4.8 | ND | ND | ND | ND |
| | 12/30/98 | ND | 64 | 6.9 | 4.5 | ND | ND | ND | ND |
| | 03/21/00 | ND | 2,800 | 6.7 | 4.8 | ND | ND | ND | ND |
| | 08/30/00 | ND | 260 | 12 | NS | 1.3 | ND | ND | ND |
| | 11/06/00 | ND | 940 | 25 | 12.0 | ND | ND | ND | ND |
| MW-4 | 08/30/00 | 1,300 | 390 | 210,000 | NS | 64 | 63 | 9.7 | 110 |
| | 11/06/00 | ND<3,300 | 170 | 130,000 | 120,000 | 80 | ND<4 | ND<5 | ND<3 |
| MW-5 | 08/30/00 | 1,000 | 450 | 52,000 | NS | ND | ND | ND | ND |
| | 11/06/00 | ND<1,000 | 520 | 44,000 | 42,000 | ND<1 | ND<1 | ND<1 | ND<1 |

Table 2
Groundwater Sample Analytical Results
Oakland Truck Stop

| Well Number | Date | TPH-g | TPH-d | MtBE | ANALYTES (ug/L) | | | | ethyl-benzene | xylenes |
|-------------|----------|----------|-------|----------------|-----------------|---------------|---------------|--------------|---------------|---------|
| | | | | | MtBE 8260 | benzene | toluene | | | |
| MW-6 | 08/30/00 | 1,300 | 1,300 | 23,000 | NS | 55 | ND | 16 | 27 | |
| | 11/06/00 | ND<630 | 1,100 | 26,000 | 27,000 | 7 | 8.1 | ND<3 | 5.2 | |
| MW-7 | 08/30/00 | 160,000 | 2,600 | 800,000 | NS | 28,000 | 15,000 | 1,200 | 5,900 | |
| | 11/06/00 | 80,000 | 1,700 | 540,000 | 920,000 | 23,000 | 12,000 | 1,200 | 5,000 | |
| MW-8 | 08/30/00 | ND | 690 | 28,000 | NS | ND | ND | ND | ND | |
| | 11/06/00 | ND<3,300 | 810 | 120,000 | 76,000 | ND<8 | ND<5 | ND<3 | ND<7 | |
| MW-9 | 08/30/00 | ND | 770 | 97 | NS | ND | ND | ND | ND | |
| | 11/06/00 | ND | 390 | 190 | 220 | ND | ND | ND | ND | |
| MCL | | NE | NE | 13 | 13 | 1 | 150 | 700 | 1,750 | |

units are micrograms per liter (ug/L)

ND = Not detected

NS = Not sampled

MCL= Primary Maximum Contaminant Level (California drinking water standard)

Concentrations in excess of the MCL are in bold

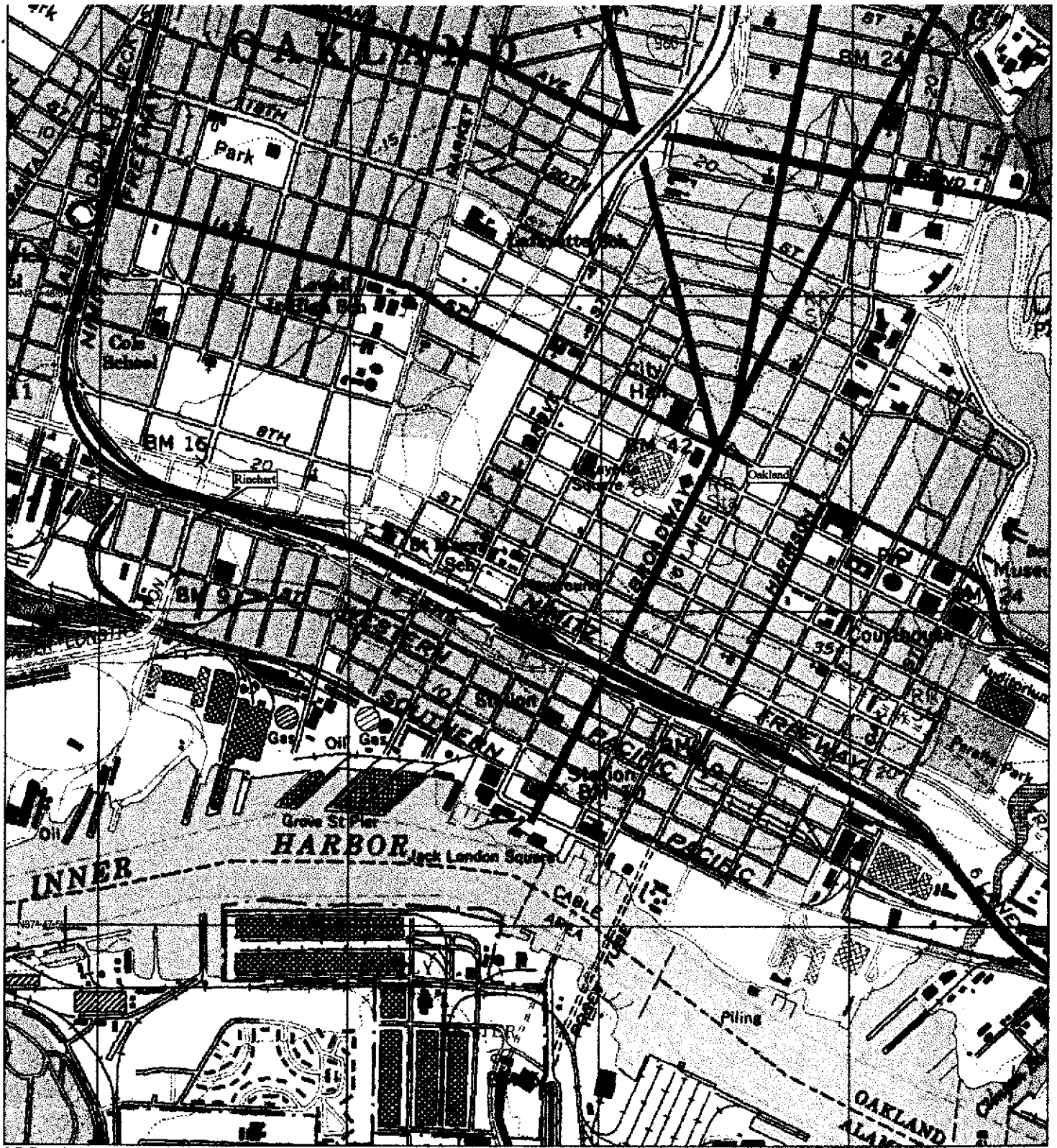
NE= no MCL is established

MW-2 was destroyed during excavation of contaminated soil

MW-4 through MW-9 were constructed in August 2000

Table 3
Dissolved Oxygen Concentrations
Oakland Truck Stop

| Monitoring Well | Date | Dissolved Oxygen Concentration (mg/l) | Temperature (Celsius) | Dissolved Oxygen Percentage |
|-----------------|----------|---------------------------------------|-----------------------|-----------------------------|
| MW-1 | 08/30/00 | 0.27 | 24.2 | 3.21% |
| | 11/06/00 | 0.24 | 21.8 | 2.71% |
| MW-3 | 08/30/00 | 0.35 | 26.4 | 4.38% |
| | 11/06/00 | 0.23 | 22.7 | 2.65% |
| MW-4 | 08/30/00 | 0.16 | 27.4 | 2.05% |
| | 11/06/00 | 0.30 | 23.9 | 3.54% |
| MW-5 | 08/30/00 | 0.28 | 27.0 | 3.55% |
| | 11/06/00 | 0.24 | 22.6 | 2.76% |
| MW-6 | 08/30/00 | 0.42 | 27.7 | 5.42% |
| | 11/06/00 | 0.23 | 23.0 | 2.66% |
| MW-7 | 08/30/00 | 0.17 | 26.8 | 2.15% |
| | 11/06/00 | 0.25 | 23.5 | 2.93% |
| MW-8 | 08/30/00 | 0.18 | 26.4 | 2.25% |
| | 11/06/00 | 0.25 | 23.7 | 2.94% |
| MW-9 | 08/30/00 | 0.30 | 22.8 | 3.46% |
| | 11/06/00 | 0.31 | 21.7 | 3.49% |



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS | 650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84

Project No: 3628
November 2000

Site Location Map
Rinehart
1107 Fifth St.
Oakland, California

Figure 1



Checked by:



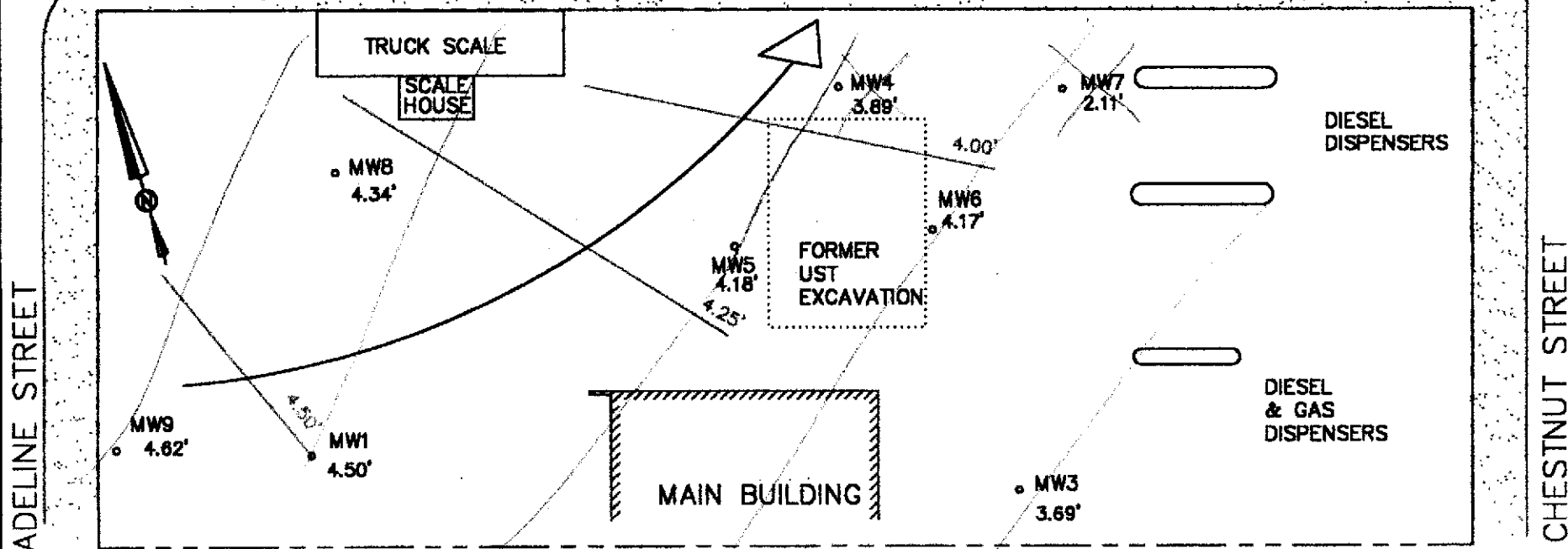
W. A. Craig, Inc.
Environmental Contracting and Consulting

6940 Tremont Road
Dixon, California 95620
Cal License #435752

(707) 693-2929
FAX (707) 693-2922

5TH STREET

CONCRETE SIDEWALK



SCALE



(IN FEET)
1 INCH = 30 FEET

EXPLANATION

MW-3 and MW-7 were not used to calculate the groundwater gradient as they are believed to be screened in a deeper water-bearing zone

MW5



W.A. Craig, Inc.

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

OAKLAND TRUCK STOP
1107 FIFTH STREET
OAKLAND, CA

| | |
|-----------------|---------|
| Project #: 3628 | Figure: |
| Date: 11/6/2000 | 2 |

**ATTACHMENT A
MONITORING WELL SAMPLING LOGS**

750 volume
24 gallons

WELL DEVELOPMENT AND SAMPLING LOG

Project Name VINEHART Job No. 3125 Date 4/00 Weather _____
 Sampler O'GRADY

3.1'

| | | | |
|--|--|-------------------------------|-----------------------------|
| Well Data | | Well Number <u>W-1</u> | |
| Total Depth of Well <u>20'</u> | Casing Elevation _____ | Depth to Water <u>3.1'</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.8 gallons</u> | Volume Factors: 2"=0.166g/ft; 4"=0.853g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft | | |
| Depth to Water Prior to Sampling <u>3' x 3 = 8.4 gallons D.O. 0.24 mg/l @ 21.8°C</u> | | | |

| Field Parameters | | | | | | |
|------------------|--------------------|---------------|-------------|-------------|-----------------|--|
| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
| | Begin purging well | | | | | |
| <u>2:35</u> | <u>2</u> | <u>21.3°C</u> | <u>3927</u> | <u>7.23</u> | <u>MILD</u> | <u>REDDISH BROWN EARTHY SMELL/NO SHEEN</u> |
| <u>2:40</u> | <u>4</u> | <u>21.1°C</u> | <u>---</u> | <u>7.15</u> | <u>MILD-MOD</u> | <u>GREY/BROWN "</u> |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Sampling for TPH-S, TPH-L, BTEX, fuel oils / lead scavenger

4.1'

| | | | |
|--|--|-------------------------------|-----------------------------|
| Well Data | | Well Number <u>W-3</u> | |
| Total Depth of Well <u>20'</u> | Casing Elevation _____ | Depth to Water <u>4.7'</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.6 gallons</u> | Volume Factors: 2"=0.166g/ft; 4"=0.853g/ft; 6"=1.47g/ft; 8"=2.61g/ft; 12"=5.88g/ft | | |
| Depth to Water Prior to Sampling <u>3' x 3 = 7.6 gallons D.O. 0.23 mg/l @ 22.7°C</u> | | | |

| Field Parameters | | | | | | |
|------------------|--------------------|-------------|----|----|-----------|--|
| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
| | Begin purging well | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Sampling as above.

WELL DEVELOPMENT AND SAMPLING LOG

Project Name RINGHART Job No. 3628 Date 11/06/00 Weather _____
 Sampler O'GRADY

3' 10 1/8" → 3.85'

Well Data Well Number MW 4
 Total Depth of Well 20.5' Casing Elevation _____ Depth to Water 3' Groundwater Elevation _____
 Method of Purging Well _____ Method of Sampling Well _____
 Casing Volume 2.7 gallons 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 1 x 3 = 7.9 gallons D.O. 0.30 mg/l @ 23.9°C

Field Parameters

| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
|------|--------------------|-------------|------|------|-----------|--|
| | Begin purging well | | | | | |
| 4:50 | 2.6 | 22.6 | 2962 | 6.94 | MILD | GREEN/BEIGN PETROLEUM ODOOR/NO SHEEN |
| 4:55 | 5.0 | 22.7 | 2974 | 6.90 | " | " |
| 4:57 | 7.0 | 21.7 | 3249 | 6.85 | " | " |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Purged 8.7 gallons Sampling for TPH-S, TPH-D, BTEX, Fuel oils, lead sorbent

3' 4 1/8" → 3.35'

Well Data Well Number MW 5
 Total Depth of Well 20.5' Casing Elevation _____ Depth to Water 3' Groundwater Elevation _____
 Method of Purging Well _____ Method of Sampling Well _____
 Casing Volume 2.8 gallons 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 1 x 3 = 8.4 gallons D.O. 0.24 mg/l @ 22.6°C

Field Parameters

| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
|------|--------------------|-------------|------|------|-----------|--|
| | Begin purging well | | | | | |
| 4:59 | 2 | 21.4°C | 2197 | 7.06 | MODERATE | BEIGN PETROLEUM ODOOR/NO SHEEN |
| 4:59 | 4 | 21.5°C | 2155 | 7.02 | " | " |
| 4:56 | 6.5 | 21.5°C | 1790 | 7.04 | " | " |
| 4:57 | 8.5 | 21.5°C | 1897 | 7.0 | " | " |
| | | | | | | |
| | | | | | | |

Comments: Purged 9.0 gallons Sampling as above!

WELL DEVELOPMENT AND SAMPLING LOG

Project Name RIVERVIEW Job No. 3128 Date 11/02/00 Weather _____
 Sampler O'GRADY

3' 8 7/8" 3.72'

| | | | |
|---|--|--------------------------------|-----------------------------|
| Well Data | | Well Number <u>MW 6</u> | |
| Total Depth of Well <u>20.5</u> | Casing Elevation _____ | Depth to Water <u>3.72'</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.7 gallons</u> | 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 <u>3 x 3 = 8.1 gallons D.O. 0.23 mg/l @ 23.0°C</u> | | | |

Field Parameters

| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
|------|--------------------|-------------|------|------|-----------|--|
| | Begin purging well | | | | | |
| 5:33 | 2.5 | 21.4°C | 1557 | 7.29 | HIGH | GREY (DARK) STRONG PETROLEUM ODOR |
| 5:37 | 5.0 | 21.3°C | 1493 | 7.23 | " | " |
| 5:41 | 8.0 | 21.1°C | 1313 | 7.24 | " | " |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Purged 8.2 gallons Sampling for TPH-S, TPH-D, BTEX, Polonics/lead scavengers

6' 10 7/8" 6.85'

| | | | |
|---|--|--------------------------------|-----------------------------|
| Well Data | | Well Number <u>MW 7</u> | |
| Total Depth of Well <u>20.5</u> | Casing Elevation _____ | Depth to Water <u>6.85'</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.2 gallons</u> | 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 <u>3 x 3 = 6.5 gallons D.O. 0.25 mg/l @ 23.5°C</u> | | | |

Field Parameters

| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
|------|--------------------|-------------|------|------|-----------|--|
| | Begin purging well | | | | | |
| 6:10 | 3.0 | 22.2°C | 1471 | 6.98 | MED-HIGH | GREY (OPACUE) STRONG PETROLEUM ODOR / NO SHEEN |
| 6:14 | 5.0 | 22.0°C | 1458 | 6.91 | MEDIUM | " |
| 6:17 | 6.5 | 21.3°C | 1402 | 7.30 | MEDIUM | GREY/GREEN (OPACUE) " |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Purged 6.5 gallons Sampling as above!

WELL DEVELOPMENT AND SAMPLING LOG

Project Name VINEHART Job No. 3628 Date 11/01/00 Weather _____
 Sampler OGRADY

2' 11 1/2" → 2.98'

| | | | |
|--|--|---------------------------------|-----------------------------|
| Well Data | | Well Number <u>MW-8</u> | |
| Total Depth of Well <u>20.5</u> | Casing Elevation _____ | Depth to Water <u>2 11 1/2"</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.6 gallons</u> | 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 <u>x 3 = 8.5 gallons D.O. 0.25 ml/l @ 23.7 °C</u> | | | |

| Field Parameters | | | | | | |
|------------------|--------------------|-------------|------|------|-----------|--|
| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
| | Begin purging well | | | | | |
| 3:15 | 2 | 22.5°C | 1946 | 7.13 | MODERATE | GREY (OPAKUS) PECULIAR ODOR NO SHEEN |
| 3:18 | 4.5 | 22.6°C | 2054 | 7.08 | " | " |
| 3:21 | 6.5 | 22.7°C | 2129 | 7.09 | HIGH | " |
| 3:25 | 8.5 | 22.7°C | 2342 | 7.08 | " | " |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Purged 8.5 gallons Sampling for TPH's, TPH's, BTEX, Pesticides, Lead, Seawater

2' 8 2/10" → 2.48'

| | | | |
|--|--|---------------------------------|-----------------------------|
| Well Data | | Well Number <u>MW 9</u> | |
| Total Depth of Well <u>20.5</u> | Casing Elevation _____ | Depth to Water <u>2 8 2/10"</u> | Groundwater Elevation _____ |
| Method of Purging Well _____ | | Method of Sampling Well _____ | |
| Casing Volume <u>2.9 gallons</u> | 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 <u>x 3 = 8.6 gallons D.O. 0.31 mg/l @ 21.7 °C</u> | | | |

| Field Parameters | | | | | | |
|------------------|--------------------|-------------|----|------|-----------|---|
| Time | Volume (gal) | Temperature | SP | pH | Turbidity | Comments (color/odor/sheen/product etc.) |
| | Begin purging well | | | | | |
| 1:10 | 2 | 20.7 | — | 6.95 | MILD | GREEN/GRY PECULIAR ODOR PRESSURE NO SHEEN |
| 2:15 | 4 | 20.8 | | 6.86 | " | GRY |
| 2:18 | 6 | 20.8 | | 6.85 | MODERATE | " |
| 2:21 | 8 | 20.8 | | 6.82 | MODERATE | " |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Comments: Purged 8.6 gallons Sampling as above!

**ATTACHMENT B
LABORATORY ANALYTICAL RESULTS**



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: 11/06/00 |
| | | Date Received: 11/06/00 |
| | Client Contact: Sean O'Grady | Date Extracted: 11/08-11/10/00 |
| | Client P.O: | Date Analyzed: 11/08-11/10/00 |

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

| Lab ID | 52323 | 52324 | 52325 | 52326 | Reporting Limit | |
|--------------------------------|----------------|-------|-----------|-----------|-----------------|------|
| Client ID | MW1 | MW3 | MW4 | MW4D | | |
| Matrix | W | W | W | W | S | W |
| Compound | Concentration* | | | | ug/kg | ug/L |
| Di-isopropyl Ether (DIPE) | ND<50 | ND | ND<2500 | ND<2500 | 5.0 | 1.0 |
| Ethyl tert-Butyl Ether (ETBE) | ND<50 | ND | ND<2500 | ND<2500 | 5.0 | 1.0 |
| Methyl-tert Butyl Ether (MTBE) | 2100 | 12 | 120,000 | 120,000 | 5.0 | 1.0 |
| tert-Amyl Methyl Ether (TAME) | ND<50 | ND | ND<2500 | ND<2500 | 5.0 | 1.0 |
| tert-Butanol | ND<250 | ND | ND<13,000 | ND<13,000 | 25 | 5.0 |

Surrogate Recoveries (%)

| | | | | | |
|----------------------|----|-----|-----|-----|--|
| Dibromofluoromethane | 99 | 101 | 102 | 101 | |
| Comments: | | | | | |

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis
 (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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: 11/06/00 |
| | | Date Received: 11/06/00 |
| | Client Contact: Sean O'Grady | Date Extracted: 11/08-11/10/00 |
| | Client P.O: | Date Analyzed: 11/08-11/10/00 |

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

| Lab ID | 52327 | 52328 | 52329 | 52330 | Reporting Limit | |
|--------------------------------|----------------|---------|-----------|-----------|-----------------|------|
| Client ID | MW5 | MW6 | MW7 | MW8 | | |
| Matrix | W | W | W | W | S | W |
| Compound | Concentration* | | | | ug/kg | ug/L |
| Di-isopropyl Ether (DIPE) | ND<1000 | ND<630 | ND<13,000 | ND<2500 | 5.0 | 1.0 |
| Ethyl tert-Butyl Ether (ETBE) | ND<1000 | ND<630 | ND<13,000 | ND<2500 | 5.0 | 1.0 |
| Methyl-tert Butyl Ether (MTBE) | 42,000 | 27,000 | 920,000 | 76,000 | 5.0 | 1.0 |
| tert-Amyl Methyl Ether (TAME) | ND<1000 | ND<630 | ND<13,000 | ND<2500 | 5.0 | 1.0 |
| tert-Butanol | ND<5000 | ND<3200 | ND<63,000 | ND<13,000 | 25 | 5.0 |

Surrogate Recoveries (%)

| | | | | | |
|----------------------|-----|-----|-----|-----|--|
| Dibromofluoromethane | 108 | 107 | 107 | 108 | |
| Comments: | | | | | |

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis
 (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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| | | |
|--|------------------------------------|--------------------------------|
| W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603 | Client Project ID: #3628; Rinehart | Date Sampled: 11/06/00 |
| | | Date Received: 11/06/00 |
| | Client Contact: Sean O'Grady | Date Extracted: 11/08-11/10/00 |
| | Client P.O: | Date Analyzed: 11/08-11/10/00 |

Oxygenated Volatile Organics By GC/MS

| | | | | | | |
|---------------------------------|----------------|------------|--|--|-----------------|------|
| EPA method 8260 modified | | | | | | |
| Lab ID | 52331 | 52332 | | | Reporting Limit | |
| Client ID | MW9 | Trip Blank | | | | |
| Matrix | W | W | | | S | W |
| Compound | Concentration* | | | | ug/kg | ug/L |
| Di-isopropyl Ether (DIPE) | ND<25 | ND | | | 5.0 | 1.0 |
| Ethyl tert-Butyl Ether (ETBE) | ND<25 | ND | | | 5.0 | 1.0 |
| Methyl-tert Butyl Ether (MTBE) | 220 | ND | | | 5.0 | 1.0 |
| tert-Amyl Methyl Ether (TAME) | ND<25 | ND | | | 5.0 | 1.0 |
| tert-Butanol | ND<125 | ND | | | 25 | 5.0 |
| Surrogate Recoveries (%) | | | | | | |
| Dibromofluoromethane | 99 | 101 | | | | |
| Comments: | | | | | | |

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis
 (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content

DHS Certification No. 1644

Edh Edward Hamilton, Lab Director



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| | | |
|--|------------------------------------|--------------------------------|
| W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603 | Client Project ID: #3628; Rinehart | Date Sampled: 11/06/00 |
| | | Date Received: 11/06/00 |
| | Client Contact: Sean O'Grady | Date Extracted: 11/08-11/10/00 |
| | Client P.O: | Date Analyzed: 11/08-11/10/00 |

Ethylene Dibromide (1,2-Dibromoethane) & 1,2-DCA (1,2-Dichloroethane)

EPA method 8260

| Lab ID | Client ID | Matrix | EDB ⁺ | 1,2-DCA ⁺ | % Recovery Surrogate |
|--|------------|--------|------------------|----------------------|----------------------|
| 52323 | MW1 | W | ND<50j | ND<50 | 99 |
| 52324 | MW3 | W | ND | ND | 101 |
| 52325 | MW4 | W | ND<2500j | ND<2500 | 102 |
| 52326 | MW4D | W | ND<2500j | ND<2500 | 101 |
| 52327 | MW5 | W | ND<1000j | ND<1000 | 108 |
| 52328 | MW6 | W | ND<630j | ND<630 | 107 |
| 52329 | MW7 | W | ND<13,000j | ND<13,000 | 107 |
| 52330 | MW8 | W | ND<2500j | ND<2500 | 108 |
| 52331 | MW9 | W | ND<5.0j | ND<5.0 | 99 |
| 52332 | Trip Blank | W | ND | ND | 101 |
| | | | | | |
| | | | | | |
| | | | | | |
| Reporting Limit unless otherwise stated; ND means not detected above the reporting limit | | W | 1.0 ug/L | 1.0 ug/L | |
| | | S | 5.0 ug/kg | 5.0 ug/kg | |

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

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



QC REPORT

Date: 11/05/00-11/06/00 Matrix: Water

Extraction: N/A

| Compound | Concentration: ug/L | | | %Recovery | | RPD |
|----------|---------------------|----|-----|---------------|----|-----|
| | Sample | MS | MSD | Amount Spiked | MS | |

SampleID: 51008

Instrument GC-7

| | | | | | | | |
|---------------|-------|-------|--------|---------|-----|-----|-----|
| Surrogate1 | 0.000 | 97.0 | 98.0 | 100.00 | 97 | 98 | 1.0 |
| Xylenes | 0.000 | 312.0 | 321.0 | 300.00 | 104 | 107 | 2.8 |
| Ethyl Benzene | 0.000 | 100.0 | 105.0 | 100.00 | 100 | 105 | 4.9 |
| Toluene | 0.000 | 102.0 | 105.0 | 100.00 | 102 | 105 | 2.9 |
| Benzene | 0.000 | 100.0 | 102.0 | 100.00 | 100 | 102 | 2.0 |
| MTBE | 0.000 | 105.0 | 100.0 | 100.00 | 105 | 100 | 4.9 |
| GAS | 0.000 | 998.7 | 1020.0 | 1000.00 | 100 | 102 | 2.1 |

SampleID: 11400

Instrument GC-2 A

| | | | | | | | |
|--------------|-------|-------|-------|--------|-----|----|------|
| Surrogate1 | 0.000 | 115.0 | 91.0 | 100.00 | 115 | 91 | 23.3 |
| TPH (diesel) | 0.000 | 289.0 | 244.0 | 300.00 | 96 | 81 | 16.9 |

$$\% \text{ Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation



QC REPORT

Date: 11/07/00 Matrix: Water

Extraction: N/A

| Compound | Concentration: ug/L | | | | %Recovery | | RPD |
|----------|---------------------|----|-----|---------------|-----------|-----|-----|
| | Sample | MS | MSD | Amount Spiked | MS | MSD | |

SampleID: 51008

Instrument: GC-3

| | | | | | | | |
|---------------|-------|-------|-------|---------|-----|-----|-----|
| Surrogate1 | 0.000 | 99.0 | 98.0 | 100.00 | 99 | 98 | 1.0 |
| Xylenes | 0.000 | 303.0 | 295.0 | 300.00 | 101 | 98 | 2.7 |
| Ethyl Benzene | 0.000 | 102.0 | 99.0 | 100.00 | 102 | 99 | 3.0 |
| Toluene | 0.000 | 104.0 | 102.0 | 100.00 | 104 | 102 | 1.9 |
| Benzene | 0.000 | 107.0 | 104.0 | 100.00 | 107 | 104 | 2.8 |
| MTBE | 0.000 | 115.0 | 119.0 | 100.00 | 115 | 119 | 3.4 |
| GAS | 0.000 | 844.2 | 829.4 | 1000.00 | 84 | 83 | 1.8 |

SampleID: 11200

Instrument: GC-2 A

| | | | | | | | |
|--------------|-------|-------|-------|--------|-----|----|------|
| Surrogate1 | 0.000 | 107.0 | 93.0 | 100.00 | 107 | 93 | 14.0 |
| TPH (diesel) | 0.000 | 267.0 | 250.0 | 300.00 | 89 | 83 | 6.6 |

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$

RPD means Relative Percent Deviation



QC REPORT

VOCs (EPA 8240/8260)

Date: 11/08/00-11/09/00 Matrix: Water

Extraction: TTLC

| Compound | Concentration: ug/L | | | %Recovery | | RPD | |
|--------------------|---------------------|-------------------|-------|---------------|-----|-----|-----|
| | Sample | MS | MSD | Amount Spiked | MS | | MSD |
| SampleID: 111300 | | Instrument: GC-10 | | | | | |
| Surrogate | 0.000 | 109.0 | 110.0 | 100.00 | 109 | 110 | 0.9 |
| Toluene | 0.000 | 98.0 | 94.0 | 100.00 | 98 | 94 | 4.2 |
| Benzene | 0.000 | 106.0 | 101.0 | 100.00 | 106 | 101 | 4.8 |
| Chlorobenzene | 0.000 | 102.0 | 96.0 | 100.00 | 102 | 96 | 6.1 |
| Trichloroethane | 0.000 | 76.0 | 71.0 | 100.00 | 76 | 71 | 6.8 |
| 1,1-Dichloroethene | 0.000 | 88.0 | 82.0 | 100.00 | 88 | 82 | 7.1 |

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$

RPD means Relative Percent Deviation

22854 ZWAC393

McCAMBELL 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

Report To: SEAN O'GRADY

Bill To:

Company: W. A. Craig

6940 Tremont Road

Dixon, CA 95620-9603

Tele: (707) 693-2929

Fax: (707) 693-2922

Project #: 3L28

Project Name: RINEMET

Project Location: OAKLAND

Sampler Signature: Sean O'Grady

Analysis Request

Other

Comments

| SAMPLE ID | LOCATION | SAMPLING | | # Containers | Type Containers | MATRIX | | | | | METHOD PRESERVED | | | | BTEX & TPH as Gas (602/8020 + 8015) MIBE | 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) Fuel oils / Lead Sampling | EPA 625 / 8270 | PAH's / PNA's by EPA 625 / 8270 / 8310 | CAM-17 Metals | LUFT 5 Metals | Lead (7240/7421/739.2/6010) | RCI | | | | | | | | | |
|-----------|----------|----------|------|--------------|-----------------|--------|------|-----|--------|-------|------------------|-----|------------------|-------|--|----------------------|---|--------------------------------------|----------------|----------------------------|----------------|---------------------------|---|----------------|--|---------------|---------------|-----------------------------|-----|--|--|--|--|--|--|--|--|--|
| | | Date | Time | | | Water | Soil | Air | Sludge | Other | Ice | HCl | HNO ₃ | Other | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW1 | 11/6/00 | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW3 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW4 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW4D | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW5 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW6 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW7 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW8 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| + | MW9 | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ✓ | TRIO BLK | | | | | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

52323
52324
52325
52326
52327
52328
52329
52330
52331
52332

Relinquished By: Sean O'Grady Date: 11/6/00 Time: 7:34pm Received By: DIVISION 00771 11/6/00

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Remarks:

ICE/✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓
VOAS | O&G | METALS | OTHER