geo - logic geotechnical and environmental consulting services

1140 - 5th Avenue, Crockett, CA 94525

(510) 787-6867 - Fax (510) 787-1457

GL-97-110.R18 Paradiso Job No. 1120-02 September 25, 2001

Mr. Peter Puckett Berkeley Farms 25500 Clawiter Road Hayward, California

RE:

3rd Quarter 2001 Monitoring and Sampling Report for Former Berkeley Farms Truck Repair Shop and Yard 4575 San Pablo Avenue, Emeryville, California SUN 0 4 2002

Mr. Puckett:

This report presents the results of the third quarter 2001 monitoring and sampling of the wells at the subject site. During this quarter, the three wells were monitored and sampled on September 17, 2001. The work during this quarter was performed in compliance with the guidelines established Regional Water Quality Control Board (RWQCB), and the Alameda County Department of Environmental Health (ACDEH).

SITE DESCRIPTION AND BACKGROUND

The subject site is located on the western side of San Pablo Avenue between 45th and 47th Streets in Emeryville, California, and formerly contained a service station facility at the southern portion of the property. Until 1998, the site operated as a truck repair shop and yard for Berkeley Farms. A Site Plan (Figure 1) is attached to this report.

Geo-Logic's previous work at the site includes sampling during overexcavation of a waste oil tank at the northern end of the property. This work is summarized in Geo-Logic's reports (GL-97-110.R1 and GL-97-110.R2), both dated February 10, 1998.

Following this work, installation of three monitoring wells was proposed (workplan/proposal GL-98-110, dated November 15, 1997). The wells were installed in February, 1998. This work, including the results of the first quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R3) dated March 7, 1998.

In April and May, 1998, a former service station fuel tank pit at the southern portion of the site was extensively overexcavated. This work, and the results of the second quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R4) dated June 9, 1998.

On September 5, 1998, as discussed in a prior meeting with Ms. Susan Hugo of the ACDEH, ORC filter socks were placed in monitoring wells MW2 and MW3. ORC is a insoluble solid peroxygen consisting of magnesium peroxide which has been formulated to release oxygen at a controlled rate when hydrated. The purpose of the ORC in wells MW2 and MW3 was to enhance conditions for the natural biodegradation of petroleum hydrocarbons. Prior to installation of the ORC, baseline measurements of dissolved oxygen in groundwater (DO) were taken. With the concurrence of MS. Susan Hugo of the ACDEH, the ORC was removed from well MW2 on February 5, 1999.

On July 30, 1999, well MW1, damaged during construction, was properly abandoned, and replacement well MW1A was constructed, developed, and initially sampled. This work was documented in Geo-Logic's report (GL-97-110.R9) dated August 12, 1999. The wells have been monitored and sampled quarterly since that time.

RECENT FIELD ACTIVITIES

Wells MW1A, MW2 and MW3 were monitored and sampled during this quarter on September 17, 2001. Prior to sampling, the wells were checked for depth to water, and the presence of free product and sheen. No free product or sheen was noted in any of the wells. Monitoring data collected this quarter is summarized in Table 1. Water samples were then collected by the use of a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

HYDROLOGY

On September 17, 2001, the measured depth to ground water in the three monitoring wells varied between 7.69 and 10.92 feet below the tops of the well casings. Since last quarter, the elevation of ground water in the wells has decreased between 0.18 and 0.98 feet. The calculated ground water flow direction at the site June 15, 2001, was to the west-southwest, as shown on the attached Potentiometric Surface Map, Figure 1. The hydraulic gradient at the site on September 17, 2001, was approximately 0.02.

ANALYTICAL RESULTS

Water samples from the three wells were analyzed at McCampbell Analytical, Inc., in Pacheco, California. All samples analyzed were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline and TPH as diesel by EPA method 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA method 8020. In addition, the sample collected from MW2, located in the downgradient vicinity of a former waste oil tank, was analyzed for TPH as Motor Oil by EPA Method 8015-modified.

The concentrations of TPH as gasoline, benzene, and TPH as diesel detected in the ground water samples collected on September 17, 2001, are shown on the attached Figure 2. The results of the water analyses are summarized in Table 2. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

DISTRIBUTION

A copy of this report should be sent to Ms. Susan Hugo of the ACDEH.

LIMITATIONS

Environmental changes, either naturally occurring or artificially induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this work are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed these data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

If you have any questions regarding this report, please do not hesitate to call me at (510) 787-6867.

Sincerely,

Geo-Logic

Joel G. Greger, C.E.G.

Certified Engineering Geologist

License No. EG 1633 Exp. Date 8/31/2002

Attachments:

Tables 1 and 2

Figures 1 and 2

Laboratory Analyses and

Chain of Custody documentation

| | Ground Water Elevation | Depth to Water | Total Well De | Produc epth T | t hickness | Water Purged |
|--------|---------------------------|-------------------|---------------------|------------------|-----------------------|-----------------|
| Well # | (feet) | (feet)♦ | (feet)* | (feet) | Sheen | (gallons) |
| | (Monito | red and Sam | | | | <u></u> |
| MW1A | 31.09 | 10.92 | 16.90 | 0 | No | . 0 |
| MW2 | 32.55 | 8.23 | 16.50 | 0 | No | 0 |
| MW3 | 33.39 | 7.69 | 16.56 | 0 | No | 0 |
| | (Monito: | red and Sam | pled on Jui | ne 15, 2 | 2001) | |
| MW1A | 31.50 | 9.28 | 16.90 | 0 | No | 0 |
| MW2 | 32.73 | 8.35 | 16.51 | 0 | No | 0 |
| MW3 | 34.37 | 7.64 | 16.56 | 0 | No | 0 |
| | (Monito: | red and Sam | pled on Mai | rch 13, | 2001) | |
| MW1A | 35.54 | 6.47 | 16.91 | 0 | No | 0 |
| MW2 | 34.54 | 6.24 | 16.51 | 0 | No | 0 |
| MW3 | 35.87 | 5.21 | 16.56 | 0 | No | 0 |
| | | red and Sam | | cember : | 13, 2000) | |
| MW1A | 32.68 | 9.33 | 16.92 | 0 | No | 0 |
| MW2 | 32.56 | 8.22 | 16.52 | 0 | No | 0 |
| MW3 | 33.67 | 7.41 | 16.56 | 0 | No | 0 |
| | | red and Sam | pled on <u>Se</u> j | otember | 19, 2000) | |
| MW1A | 32.10 | 9.91 | 16.92 | 0 | No | 0 |
| MW2 | 32.04 | 8.74 | 16.53 | 0 | No | 0 |
| MW3 | 32.89 | 8.19 | 16.57 | 0 | No. | 0 |
| | | red and Sam | pled on <u>Ju</u> | ne 6, 20 | 000) | |
| MW1A | 33.59 | 8.42 | 16.93 | 0 | No | 0 |
| MW2 | 32.46 | 8.32 | 16.53 | 0 | No | . 0 |
| MM3 | 33.93 | 7.15 | 16.58 | 0 | No | 0 |
| | | red and Sam | | rch 6, 2 | 2000) | |
| MW1A | 36.46 | 5.55 | 16.93 | 0 | No | 0 |
| MW2 | 35.77 | 5.01 | 16.54 | 0 | No | 8 |
| KWM | 37.49 | 3.59 | 16.58 | 0 | No | 8 |
| | | red and Sam | pled on <u>De</u> | cember | B, 1999) | |
| MW1A | 32.95 | 9.06 | 16.93 | 0 | No | 8 |
| MW2 | 31.87 | 8.91 | 16.55 | 0 | No | 8 |
| MW3 | 32.57 | 8.51 | 16.58 | 0 | No | 8 |
| | | red and Sam | | otember | 6, 199 9) | |
| MW1A | 32.92 | 9.88 | 16.94 | 0 | No | 8 |
| MW2 | 32.16 | 8.62 | 16.55 | 0 | No | 8 |
| SWM | 32.88 | 8.20 | 16.59 | 0 | No | 8 |

TABLE 1 - (Continued) SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

| | (Monitor | | pled on Jur | | | |
|-----|----------|------------|-------------------|----------|-------------|----|
| MW1 | | (₩ei | ll inaccess | ible, da | maged) | |
| MW2 | 32.65 | 8.13 | 16.55 | 0 | No | 8 |
| MW3 | 33.57 | 7.51 | 16.61 | 0 | No | 8 |
| | (Monitor | ed and Sam | pled on Mai | ch 4, 1 | 999) | |
| MW1 | • | | 1 inaccess: | | | |
| MW2 | 35.28 | 5.5 | 16.56 | 0 | No | 8 |
| MW3 | 35.85 | 5.23 | 16.60 | 0 | No | 8 |
| | | | pled on Nov | vember 1 | 7, 1998) | |
| MW1 | 32.95 | 9.06 | 16.59 | Ö | No | 7 |
| MW2 | 31.73 | 9.05 | 16.55 | 0 | No | 7 |
| MW3 | 33.09 | 7.99 | 16.61 | 0 | No | 7 |
| | (Monitor | ed and Sam | pled on Aug | gust 21, | 1998) | |
| MW1 | 35.51 | 7.84 | 16.60 | 0 | No | 7 |
| MW2 | 34.17 | 8.61 | 16.56 | 0 | No | 7 |
| MW3 | 35.42 | 6.27 | 16.61 | 0 | No | |
| | (Monitor | ed and Sam | pled on <u>Ju</u> | ne 3, 19 | 98) | |
| MW1 | 35.51 | 6.50 | 16.60 | 0 | No | 8 |
| MW2 | 34.17 | 6.61 | 16.57 | 0 | No | 8 |
| MW3 | 35.42 | 5.66 | 16.62 | 0 | Ио | 8 |
| | (Monitor | ed and Sam | pled on Fel | oruary 2 | 7, 1998) | |
| MW1 | 37.51 | 4.50 | 16.61 | 0 | No | 8 |
| MW2 | 35.61 | 5.17 | 16.58 | 0 | No | 8 |
| MW3 | 37.28 | 3.80 | 16.63 | 0 | No | 8 |
| | (Monito | red and De | veloped on | Februar | y 24, 1998) | |
| MW1 | 37.57 | 4.44 | 16.59 | 0 | No | 24 |
| MW2 | 35.69 | 5.09 | 16.58 | 0 | No | 21 |
| MW3 | 37.38 | 3.70 | 16.62 | 0 | No. | 25 |

| | Top of Casing Elevation* |
|--------|-----------------------------|
| Well # | (feet) |
| MW1A | 42.01 |
| MW2 | 40.78 |
| MW3 | 41.08 |

- ♦ Depth to water and total well depth measurements are taken from the top of the well casings.
- * The elevation of the tops of the well casings have been surveyed relative to City of Oakland Benchmark No. 241.

TABLE 2
SUMMARY OF LABORATORY ANALYSES-WATER

| | ample umber | TPH as Diesel | TPH as Gasoline | Benzene | Toluene | Ethyl benzene | Xylenes |
|----------|------------------|------------------|--------------------|-----------|-------------|------------------|---------|
| Date I | unoc1 | <u>D10301</u> | Gasottile | Denzene | TOTHETTE | Denzene | Ayrenes |
| 9/17/01 | MW1A | 180 | 820 | 84 | 7.7 | 8.4 | 26 |
| 6/15/01 | MW1A | 94 | 350 | 15 | 3.5 | <0.5 | <0.5 |
| 3/13/01 | MW1A | 1,600 | 15,000 | 980 | 37 | 820 | 2,100 |
| 12/13/00 | MW1A | 250 | 1,400 | 96 | 12 | <2.0 | 10 |
| 9/19/00 | MW1A | < 50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/6/00 | MW1A | 630 | 2,400 | 270 | 9.5 | 79 | 27 |
| 3/6/00 | MW1A | 2,100 | 13,000 | 560 | <20 | 640 | 1,200 |
| 12/8/99 | MW1A | 310 | 1,200 | 93 | 1.8 | 48 | 53 |
| 9/6/99 | MW1A | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 8/6/99 | MW1A | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/7/99 | MW1 | | (Well | inaccessi | ole, damage | d) | |
| 3/4/99 | MW1 | | (Well | inaccessi | ole, damage | d) | |
| 11/17/98 | MW1 | 88,000 | 29,000 | 2,300 | 3,000 | 3,600 | 3,100 |
| 8/21/98 | MW1+ | 96,000 | 38,000 | 1,700 | 1,000 | 2,400 | 3,300 |
| 6/2/98 | MW1 | 105,000 | 34,000 | 1,900 | 1,600 | 2,400 | 3,500 |
| 2/27/98 | MW1 | 81,000 | 27,000 | 2,200 | 910 | 1,700 | 2,700 |
| 9/17/01 | MW2 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/15/01 | MW2 | < 50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/13/01 | MW2 | < 50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 12/13/00 | MW2 | < 50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 9/19/00 | MW2 | 330 | 2,000 | 210 | 8.7 | 5.5 | 6.0 |
| 6/6/00 | MW2 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/6/00 | MW2 | <50 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 12/8/99 | MW2 | < 50 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 9/6/99 | MW2 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/7/99 | MW2 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/4/99 | MW2 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 11/17/98 | | 4,300 | 260 | 190 | 420 | 470 | 600 |
| 8/21/98 | MW2+ | 1,900 | <5.0 | <0.5 | <0.5 | 220 | 400 |
| 6/2/98 | MW2 | 7,600 | 60 | 220 | 510 | 800 | 1,100 |
| 2/27/98 | MW2 | 14,000 | <5.0 | <0.5 | 120 | 460 | 730 |

TABLE 2
SUMMARY OF LABORATORY ANALYSES-WATER (continued)

| Sample | | TPH as | TPH as | | | Ethyl | |
|---------------|--------------|---------------|----------|---------|---------|---------|---------|
| <u>Date</u> N | <u>umber</u> | <u>Diesel</u> | Gasoline | Benzene | Toluene | benzene | Xylenes |
| 9/17/01 | MW3 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/15/01 | MM3 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/13/01 | MW3 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 12/13/00 | MW3 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 9/19/00 | EWM | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/6/00 | MW3 | <50 | < 50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/6/00 | MW3 | <50 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 12/8/99 | MW3 | < 50 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 9/6/99 | EWM | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/7/99 | MW3 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/4/99 | MW3 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 11/17/98 | MW3 | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 8/21/98 | MW3+ | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 6/2/98 | ММЗ | <5.0 | <5.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 2/27/98 | MW3 | | <5.0 | <0.5 | <0.5 | <0.5 | <0. |

TABLE 2 SUMMARY OF LABORATORY ANALYSES-WATER (continued)

| | Sample | TPH as | (1 111/11111 | DED WITTER(CO. |
|----------------------|--------------|---------------|--------------|-----------------|
| Date | Number | Motor Oil | MTBE | TOTAL LEAD |
| 6 /15/ 01 | MW1A | 10001 011 | 120 | <u> </u> |
| 6/15/01 | MW1A | | 84 | |
| 3/13/01 | MW1A | | 320 | |
| 12/13/00 | MW1A | | 170 | |
| 9/19/00 | MW1A | | 13 | |
| 6/6/00 | MW1A | | 210 | |
| 3/6/00 | MW1A | 320 | <400 | |
| 12/8/99 | MW1A | 520 | 140 | |
| 9/6/99 | MW1A | - | <0.5 | |
| 8/6/99 | MW1A | | <0.5 | |
| 6/7/99 | MW1 | /Wall in- | | la damagad\ |
| 3/4/99 | | | accessib | |
| | MW1 | (Well ina | accessib: | le, damaged) |
| 11/17/98 | MW1 | | <0.5 | |
| 6/2/98 | MW1 * | 80,000 | <0.5 | <5.0 |
| 2/27/98 | MW1 | | <0.5 | |
| 6/15/01 | MW2 | <250 | <5.0 | |
| 6/15/01 | MW2 | <250 | <5.0 | |
| 3/13/01 | MW2 | <250 | <5.0 | |
| 12/13/00 | MW2 | <250 | <5.0 | |
| 9/19/00 | MW2 | <250 | 180 | *** |
| 6/6/00 | MW2 | <250 | <5.0 | |
| 3/6/00 | MW2 | <250 | <5.0 | |
| 12/8/99 | MW2 | · · | | |
| 9/6/99 | | <250 | <5.0 | |
| | MW2 | 47 | <0.5 | *** *** |
| 6/7/99 | MW2 | <0.5 | <0.5 | |
| 3/4/99 | MW2 | <0.5 | <0.5 | |
| 11/17/98 | MW2 | <0.5 | <0.5 | |
| 6/2/98 | MW2* | 3,800 | <0.5 | <5.0 |
| 2/27/98 | MW2 | 20,000** | <0.5 | |
| 9/17/01 | MW3 | | 8.4 | |
| 6/15/01 | MW3 | | 6.7 | |
| 3/13/01 | MW3 | | 11 | |
| 12/13/00 | MW3 | | 9.3 | |
| 9/19/00 | MW3 | | <5.0 | |
| 6/6/00 | MW3 | | 21 | |
| 3/6/00 | MW3 | -250 | | |
| | | <250 | 24/21++ | |
| 12/8/99 | MW3 | | 18 | |
| 9/6/99 | MW3 | | <0.5 | |
| 6/7/99 | MW3 | | <0.5 | |
| 3/4/99 | MW3 | | <0.5 | |
| 11/17/98 | мwз | | <0.5 | |
| 6/2/98 | MW3* | <5.0 | <0.5 | <5.0 |
| 2/27/98 | MM3 | | | |
| Bhalvses | not performe | rl | | |

3rd Qtr. 2001 Monitoring and Sampling Report, 4575 San Pablo Avenue, Emeryville

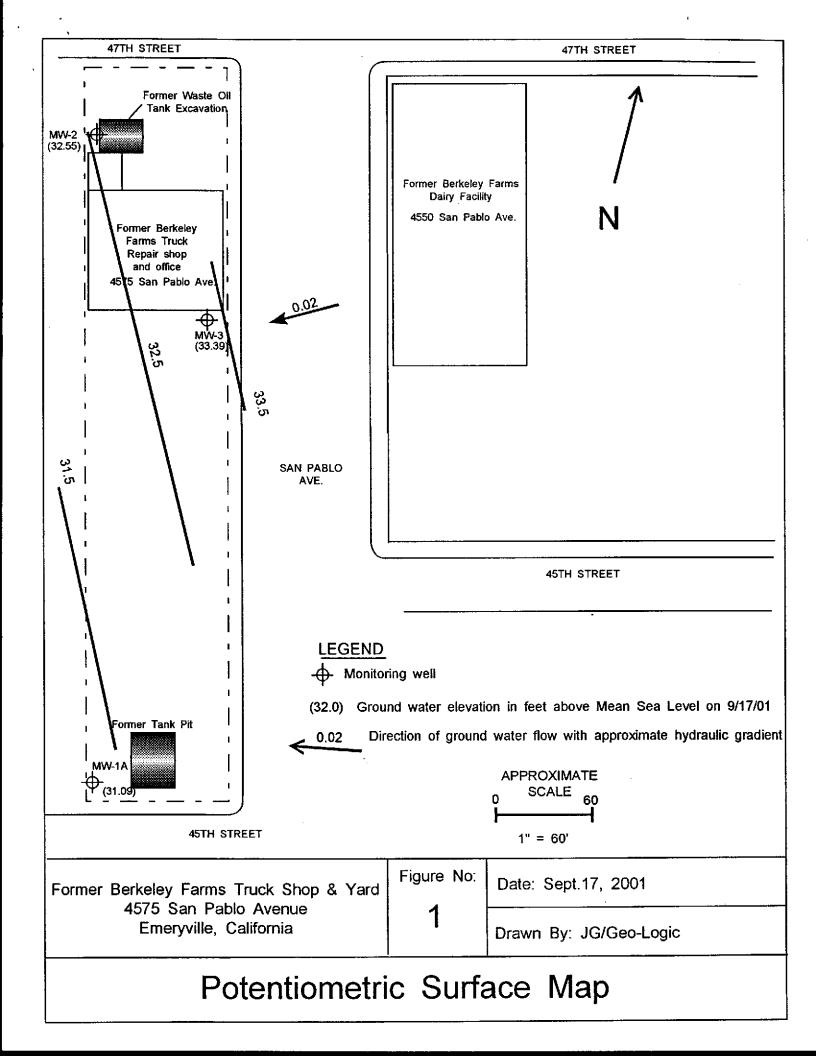
⁻⁻ Analyses not performed.

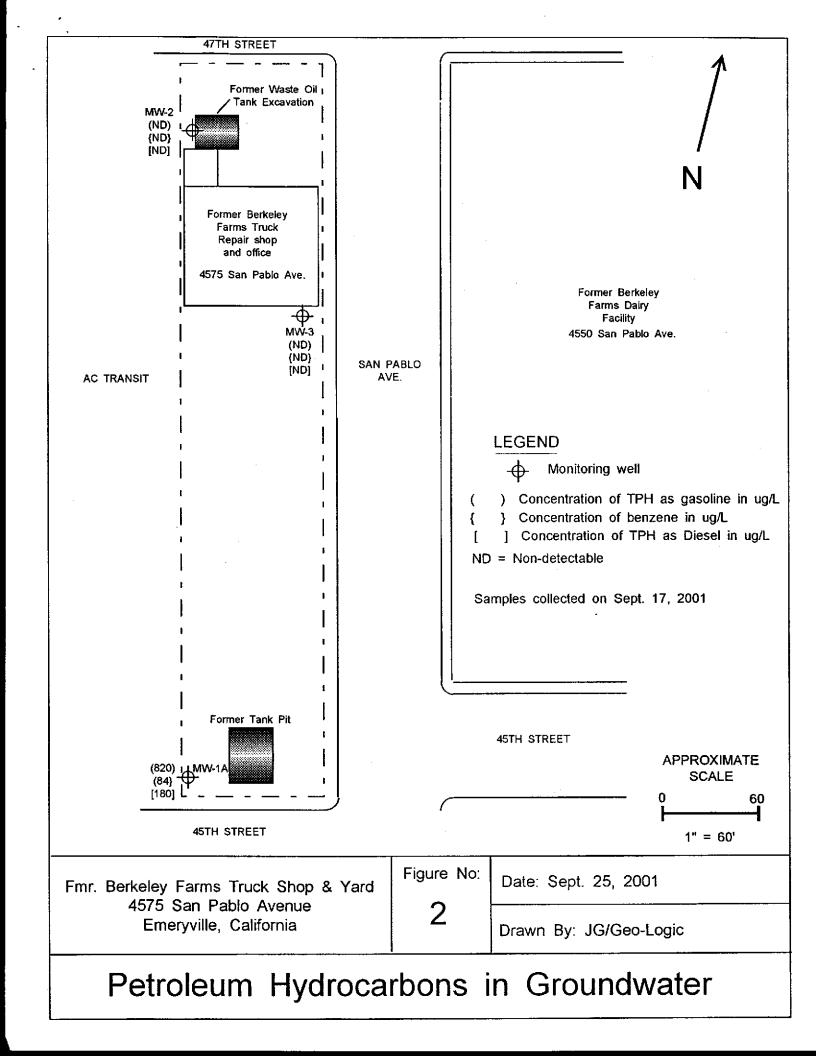
+ Cadmium, chromium, lead, nickel, and zinc were nondetectable, except for 0.078 mg/l of nickel detected in MWl.

++ 21 ppb by EPA Method 8260.

* All EPA Method 8010 constituents were nondetectable.

** 20,000 ppb of Total Recoverable Petroleum Hydrocarbons by EPA Method 418.1. Results are in micrograms per liter ($\mu g/L$), unless otherwise indicated.





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

| Geo-Logic | Client Project ID: #1120-02; Fmr. | Date Sampled: 09/17/01 |
|-----------------------------|-----------------------------------|--------------------------------|
| 1140 5 th Avenue | Berkeley Farms | Date Received: 09/18/01 |
| Crockett, CA 94525 | Client Contact: Joel Greger | Date Extracted: 09/21-09/24/01 |
| | Client P.O: | Date Analyzed: 09/21-09/24/01 |

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

| Lab ID | Client ID | Matrix | T PH (g)⁺ | МТВЕ | Benzene | Toluene | Ethyl- benzene | Xylenes | % Recovery Surrogate |
|-----------|--|--------|------------------|------|---------|---------|-------------------|---------|-------------------------|
| 78733 | MW1 | w | 820,a | 120 | 84 | 7.7 | 8.4 | 26 | 114 |
| 78734 | MW2 | w | ND | ND | ND | ND | ND | ND | 103 |
| 78735 | MW3 | w | ND | 8.4 | ND | ND | ND | ND | 100 |
| | | | | | | : | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | • | | |
| | | | | | | | | | |
| | | | | | | | | • | |
| | | | | | | | | | |
| Reporting | Limit unless | w | 50 ug/L | 5.0 | 0.5 | 0.5 | 0.5 | 0.5 | |
| means not | e stated; ND detected above orting limit | s | 1.0 mg/kg | 0.05 | 0.005 | 0.005 | 0.005 | 0.005 | |

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

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



[&]quot; cluttered chromatogram; sample peak coelutes with surrogate peak

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

| Client Project ID: #1120-02; Fmr. | Date Sampled: 09/17/01 | | |
|-----------------------------------|-----------------------------|--|--|
| Berkeley Farms | Date Received: 09/18/01 | | |
| Client Contact: Joel Greger | Date Extracted: 09/18/01 | | |
| Client P.O: | Date Analyzed: 09/18/01 | | |
| | Client Contact: Joel Greger | | |

Diesel Range (C10-C23) and Oil-Range (C18+) Extractable Hydrocarbons as Diesel and Motor Oil*

| Lab ID | Client ID | Matrix | TPH(d) ⁺ | TPH(mo) ⁺ | % Recovery Surrogate |
|----------------------------|---------------------------------------|--------|---------------------|----------------------|-------------------------|
| 78733 | MW1 | w | 180,d | | 93 |
| 78734 | MW2 | w | ND | ND | 90 |
| 78735 | MW3 | w | ND | | 91 |
| | · · · · · · · · · · · · · · · · · · · | | | | |
| | -111-14 | | | | |
| | | | | · ··· | _ |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Reporting Limit | unless otherwise | w | 50 ug/L | 250 ug/L | |
| ated; ND means the repo | not detected above rting limit | S | 1.0 mg/kg | 5.0 mg/kg | |

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

^{*}The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



[#] 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.

110 2nd Ave. South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622

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

QC REPORT

EPA 8015m + 8020

| Date: 09/21/01-09/22/01 | Extraction | Matrix: | | | | | | |
|-------------------------|---|---------|---------|------------------|-----------|---------------|-------------|--|
| | | Concent | ration: | ug/L | %Rec | | | |
| Compound | Sample | MS | MSD | Amount Spiked | MS | MSD | RPD | |
| SampleiD: 92201 | 10 1 10 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | | Instrumer | <u>nt:</u> G(| D- 7 | |
| Surrogate1 | ND | 106.0 | 102.0 | 100.00 | 106 | 102 | 3.8 | |
| Xylenes | DND | 34.9 | 35.1 | 30.00 | 116 | 117 | 0.6 | |
| Ethylbenzene | ND | 11.5 | 11.5 | 10.00 | 115 | 115 | 0.0 | |
| Toluene | ND | 11.6 | 11.5 | 10.00 | 116 | 115 | 0.9 | |
| Benzene | ND | 10.8 | 10.8 | 10.00 | 108 | 108 | 0.0 | |
| MTBE | ND | 10.8 | 10.5 | 10.00 | 108 | 105 | 2.8 | |
| TPH (gas) | ND | 108.4 | 107.4 | 100.00 | 108 | 107 | 0.9 | |

$$\% \text{ Re covery} = \frac{\left(MS - Sample \right)}{AmountSpiked} \cdot 100$$

110 2nd Ave. South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622

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

QC REPORT

EPA 8015m + 8020

| Date: 09/18/01 | Extraction | n: EPA 8 | 5030 | | Matrix: | Water | | |
|-----------------|---------------------|----------|--------|------------------|----------|-----------|-----|--|
| | Concentration: ug/L | | | | | %Recovery | | |
| Compound | Sample | MS | MSD | Amount Spiked | MS | MSD | RPD | |
| SampleID: 91801 | | | | | Instrume | nt: GC-1 | 1 B | |
| Surrogate1 | ND | 107.0 | 109.0 | 100.00 | 107 | 109 | 1.9 | |
| TPH (diesel) | ND | 7425.0 | 7525.0 | 7500.00 | 99 | 100 | 1.3 | |

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

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

278 13 Zgol 32

| McCAMPBELL ANALYTICAL INC. | | | | | | | | | | | | - | CHAIN OF CUSTODY RECORD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------|-----------------|--------------------|---|----------------|--------------|----------|------------------------|-------------|--|---------------------------------------|---|---|----------------------|--|---------------|--------------------------------------|----------------|----------------------------|----------------|---------------------------|-----------------------|----------------|--|---------------|---------------|-----------------------------|--------------|--------------|----------|------------------------------|---------------|-------------|-------|-------------|--|--|--|--|--|--|--|--|
| 110 2 nd AVENUE SOUTH, #D7 PACHECO, CA 94553-5568 | | | | | | | | | | | - | T | FURN AROUND TIME 📮 📮 📮 | | | | | | | | | | | | XI DAY | | | | | | | | | | | | | | | | | | | |
| Telephone: (925) 798-1620 | | | | | Fax: (925) 798-1622 | | | | | | | | | | | | | | | | | | RUSH | | | 24 | HR | | 48 HR ' | | | 72 HR | 5 | DĀY | | | | | | | | | | |
| Report To: Joel Greger Bill To: ParadisoMechanical | | | | | | | | | Analysis Request Other | | | | | | | | | | | Cor | nmer | ıts | | | | | | | | | | | | | | | | | | | | | | |
| Company: Geo-Logic POB 18 1140-5th Ave. 2000 With Cruckett Ct 94525 Sanles | | | | | | 1836 | | | | | | | | ្រុ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1/40-5th Ave. 2600 Williams St. | | | | | | | | <u>μ</u> | , ا ہ | ٥ | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The Court | Crockett CA 94025 San Leardin CA 94577 | | | | | | | | | |] } | i i | 2 2 2 | 3 | ےÌ | | | | | | | 310 | | | | | ı | | } | i | | | | | | | | | | | | | | |
| Tele: (3)/0 7 | Tele: (5/0 18 16867 Fax: (5)/0 787/457 Project #: //20 - 02 Project Name: Fax: Berkeley Factors | | | | | | | | | ROLEN MITRE | <u> </u> | S | 77 | <u>~</u> | | | | | | | 2 | | } | | | l | | | 1 | | | | | | | | | | | | | | | |
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| SAMPLING & MATRIX METHOD | | | | | | | | | | , cos | | - A | ક | g | | 602 | | B,s (| 8 | ŀ | A | | | 77 | ļ | | | <u>-</u> | 1 | | | | | | | | | | | | | | | |
| SAMPLE ID | LOCATION | SANI | TEING | ع ا | le le | MAINIA | | | UA | PR | | ESERVED | | 2 8 | | | 3 | 割 | إي | EPA | | 2 | 8/0 | | اغ. | | | 2172 | | } | | ctivi | HOL | 1 | | | | | | | | | | |
| | | Date | Time | # Containers | Type Containers | Water | Soil | Air | Sludge | Other | 93 | HCI | Other | BTEX & TPH & Gas (602/8020 + | TPH as Diesel (2015) | Total Demoleum Oil & George /5520 E S.E.D S.E. | ORM L'EMBIECH | Total Petroleum Hydrocarbons (418.1) | EPA 601 / 8010 | BTEX ONLY (EPA 602 / 8020) | EPA 608 / 8080 | EPA 608 / 8080 PCB's ONLY | EPA 624 / 8240 / 8260 | EPA 625 / 8270 | PAH's / PNA's by EPA 625 / 8270 / 8310 | CAM-17 Metals | LUFT 5 Metals | Lead (7240/7421/239.2/6010) | RCI | Hd | TSS | Specific Conductivity | duantity | | | | | | | | | | | |
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| Retinquished By: | | Date: | Time: 1:30Am | Received By: Venus | | | | | | | | | ICE/ta PRESERVATION VOAS O&G METALS OTHER | | | | | | | | | | | | ER . | | | | | | | | | | | | | | | | | | | |
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