PROTECTION

<u>geo - logic</u>

geotechnical and environmental consulting services

1140 - 5th Avenue, Crockett, CA 94525

(510) 787-6867 - Fax (510) 787-1457 3: 51

August 12, 1999

Stocks

Ms. Susan Hugo Alameda County Environmental Health Services 1131 Harbor Bay Parkway, 2nd Floor Alameda, California 94502

RE: Report of Replacement of Monitoring Well MW-1 Former Berkeley Farms Truck Repair Shop and Yard 4575 San Pablo Avenue Emeryville, California 94608

Dear Ms. Hugo:

Enclosed is the above-referenced report. Should you have any questions regarding the report, please feel free 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 8/31/2000

Attachment

## SITE DESCRIPTION AND BACKGROUND

The subject site is located at the northwestern comer of San Pablo Avenue and 47th Street in Emeryville, California, and formerly contained a service station facility. A Site Plan (Figure 1) is attached to this report. The site also formerly operated as a truck repair shop and yard for Berkeley Farms. The southern portion of the site, where Geo-Logic's work was performed, has been redeveloped as a Kentucky Fried Chicken outlet. During construction, well MW1 was damaged, requiring replacement.

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. The most recent monitoring and sampling event (wells MW2 and MW3) was conducted on June 7, 1999, and is documented in Geo-Logic's report (GL-97-110.R8) dated June 11, 1999.

#### RECENT FIELD ACTIVITIES

Prior to drilling, the area was marked with white paint and Underground Service Alert was notified. Also, a permit was obtained from the Alameda County Department of Public Works – Water Resources Section.

It was originally proposed that well MW1 be properly abandoned by overdrilling. However, the proximity of utilities and landscaping installed during site redevelopment precluded access by the drill rig, therefore, the well was properly abandoned by pressure grouting. After verifying that the total original depth of the well (17 feet) was accessible, neat cement grout was pumped into the well casing under pressure using a hose plumbed directly to the well casing. Native soil was used to fill the uppermost two feet of the former well, which had been completely demolished during site redevelopment.

Also on July 30, 1999, one two-inch diameter monitoring well (designated as MW1A on the attached Figure 1) was installed at the site, at a location approximately seven feet north of damaged damaged well MW1. The subsurface materials that were encountered and the construction of the well were essentially identical to damaged well MW1. The replacement well was drilled,

constructed, and completed in accordance with the guidelines of the Regional Water Quality Control Board (RWQCB) and the California Well Standards (per Bulletin 74-90).

The replacement well was drilled and completed to a total depth of 17 feet below grade. The uppermost five feet of the well were hand dug to insure that there was no conflict with underground utilities. Ground water was encountered at a depth of approximately 10.2 feet below grade during drilling. A soil sample was collected for laboratory analysis and for lithologic logging purposes beginning at five feet below grade below the hand dug portion of the boring. Another soil sample was collected at the capillary fringe. The undisturbed soil samples were collected by driving a California-modified split-spoon sampler holding brass liners ahead of the drilling augers. The two-inch diameter brass liners holding the samples were sealed with Teflon-lined plastic caps, labeled, and placed in individually sealed plastic bags, which were then stored in a cooler, on ice, until delivery to a state-certified laboratory.

The well casing was installed with a watertight cap and padlock. A round, watertight, flush-mounted well cover was cemented in place over the well casing. The surface of the well cover and the top of the well casing will be surveyed by Kier and Wright of Pleasanton, California, to Mean Sea Level (MSL) and to a vertical accuracy of 0.01 foot.

Well MW1A was developed on August 3, 1999. Prior to development, the well was checked for the depth to the water table (by the use of an electronic sounder) and the presence of free product (by the use of an interface probe or paste tape). No free product was noted in the well. After recording the monitoring data, the well was purged of approximately 25 gallons of water, until the evacuated water was relatively clear and free of visible suspended sediment. Monitoring and well development data are summarized in Table 1.

Well MW1A was sampled on August 6, 1999. Prior to sampling, the well was checked for depth to water, and the presence of free product and sheen. No free product or sheen was noted in the wells. After recording the monitoring data, the well was purged of approximately eight gallons of water. Once approximately three to four casing volumes had been removed from the well and the groundwater level was observed to have stabilized, a water sample was collected by the use of a clean Teflon bailer. The sample was decanted into clean VOA vials which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

#### **ANALYTICAL RESULTS**

The water sample, soil samples, and a composite drill cuttings stockpile soil sample from the boring for well MW1A were analyzed at Calcoast Analytical, Inc., in Emeryville, 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 5030/modified 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA method 8020. In addition, the composite stockpile soil sample was analyzed for total lead.

The results of the soil analyses are summarized in Table 1, and 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.

#### **DISCUSSION AND RECOMMENDATIONS**

In their letter to Berkeley Farms dated June 15, 1999, the ACHCSA requested a work plan addressing abatement of petroleum hydrocarbons found in soil and/or groundwater at the site, in addition to addressing replacement of well MW1. This report summarizes the proper abandonment and replacement of well MW1. The risk assessment performed by Waterstone Environmental dated April 2, 1999, and referenced in the letter from the ACHCSA, concluded that the "soil and groundwater to indoor air" exposure pathway for on-site commercial workers is the only exposure route through which concentrations exceeded U.S. EPA risk threshold levels. For this exposure pathway, the levels were slightly exceeded. According to the risk assessment, the planned installation of a vapor barrier including backup vapor collection and exhaust system "should eliminate the vapor transport route of exposure". Based on this, there does not appear to be any unacceptable risk to human health from the residual hydrocarbons remaining in soil and/or groundwater at the site.

The site is currently monitored and sampled quarterly. The next quarterly event will be conducted in early September, 1999. Upon review of the analytical results from this event, additional recommendations will be made, as warranted.

#### DISTRIBUTION

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

#### LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in 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 study are based on the data obtained from the field and laboratory analyses obtained from a state certified laboratory. We have analyzed this 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.

Should you have any questions regarding this report, please feel free to call me at (510) 787-6867.

JOEL G. GREGER

No. EG 1633 CERTIFIED ENGINEERING

GEOLOGIST

Sincerely,

Geo-Logic

Joel G. Greger, C.E.G.

Certified Engineering Geologist

License No. EG 1633

Exp. Date 8/31/2000

Attachments:

Tables 1 through 3

Figure 1

Laboratory Analyses and Chain of Custody documentation

# TABLE 1

# SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

Well #	Depth to Water (feet)*	Total Well Depth (feet)*	Product Thickness (feet)	Sheen	Water Purged (gallons)
	(Monito	red and Samp	led on <u>Augus</u>	t 6, 199	<u>9</u> )
MW1A	9.77	16.94	0	No	8
	(Monito	red and Deve	loped on <u>Aug</u>	ust 3, 19	<del>999</del> )
MW1A	9.75	16.94	0	No	25

Depth to water and total well depth measurements are taken from the top of the well casings.

TABLE 2

## SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Sample <u>Number</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Ethyl- <u>benzene</u>	<u>Xylenes</u>
8/6/99	MW1A *	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
Detecti	on Limit	5.0	5.0	0.5	0.5	0.5	0.5

<sup>\*</sup> MTBE was nondetectable.

Results are in parts per billion (ppb).

TABLE 3

#### SUMMARY OF LABORATORY ANALYSES - SOIL

(Collected on July 30, 1999)

Sample <u>No./Depth</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Ethyl- benzene	<u>Xylenes</u>	MTBE
MW1A (4.5')	53	2.7	0.019	<0.005	0.046	0.041	<0.005
MW1A (9.5')	570	35	0.23	0.14	0.29	0.38	<0.005
Comp S1*	2.7	160	0.020	<0.005	0.039	0.027	<0.005
Det. Limit	0.10	0.10	0.005	0.005	0.005	0.005	<0.005

Total Lead was detected at a concentration of 33 ppm. Results are in parts per million (ppm).

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1140 - 5th Avenue, Crockett, CA 94525

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

GL-97-110.R9 Paradiso Job No. 1103-03 August 12, 1999

Berkeley Farms 25500 Clawiter Road Hayward, California

Attention: Mr. Pat Roland

RE: Abandonment and Replacement of Monitoring Well MW1

Former Berkeley Farms Truck Repair Shop and Yard

4575 San Pablo Avenue

Emeryville, California 94608

Dear Mr. Roland:

This report documents the proper abandonment and replacement of damaged well MW1 at the subject site. The well was irreparably damaged during construction of a Kentucky Fried Chicken outlet. The scope of the work performed by Geo-Logic consisted of the following:

Coordination with the regulatory agencies

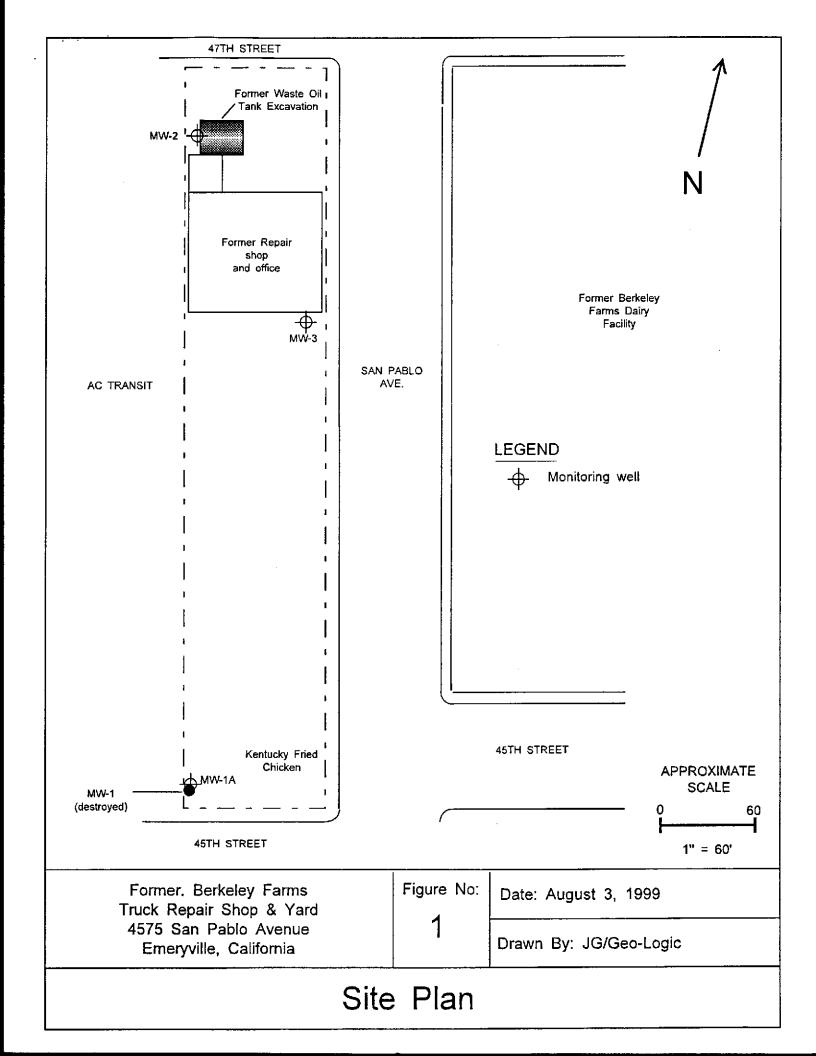
Geologic logging of one boring for the installation of one monitoring well, and proper abandonment of the damaged well

Soil sampling

Well development and ground water monitoring and sampling

Delivery of soil and ground water samples (including properly executed Chain of Custody documentation) to a California-certified analytical laboratory for laboratory analyses

Data analysis, interpretation, and report preparation



# **CALCOAST ANALYTICAL**

# Materials Chemistry

#### Certified by

California Department of Health Services City of Los Angeles, Dept. of Building & Safety

August 9, 1999

Geo - Logic 1140 - 5th Avenue Crockett, CA 94525

Attn: Mr. Joel Greger

Ref: Lab File No. 0806-5A/C-99

#### 1. SAMPLE:

One (1) water sample contained in three (3) VOAs;

Project:

Former Berkeley Farms Truck Yard, 4575 San Pablo, Emeryville

Project No: 1103 - 03

Sample:

A. MW1A

Collected: August 6, 1999 Received: August 6, 1999

#### 2. ANALYSIS REQUIRED:

- A. Total Petroleum Hydrocarbons gasoline (TPH-g) by Gas Chromatography (GC).
- B. Total Petroleum Hydrocarbons diesel (TPH-d) by GC.
- C. Benzene, Toluene, Ethylbenzene and Xylene (BTEX) by GC.
- D. Methyl-tert-butyl ether (MTBE) by GC.

#### 3. METHODS OF ANALYSIS:

- A. EPA Method 8015; SW-846
- B. EPA Method 8015; SW-846
- C. EPA Method 8020; SW-846
- D. EPA Method 8020; SW-846

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# 4. RESULTS:

# A. TPH - gasoline

SAMPLE	TPH:∍gasoline ≟ # (μg/L)
A. MW1A	< 5.0 (ND)

Method Blank / Detection Limit =  $< 5.0 \mu g/L$  (none detected) Mean Spike Recovery = 108%

# B. TPH - diesel

	SAMPLE	TPH:≃diesela (μg/៤):
A.	MW1A	< 5.0 (ND)

Method Blank / Detection Limit =  $< 5.0 \mu g/L$  (none detected) Mean Spike Recovery = 111%

# C. BTEX

Sample		Concentration	r- ( μg/L )	
	Benzene	Toluene	Ethylbenzene	Xýlene
A. MW1A	< 0.5 (ND)	< 0.5 (ND)	< 0.5 (ND)	< 0.5 (ND)
Method Blank	< 0.5 (ND)	< 0.5 (ND)	< 0.5 (ND)	< 0.5 (ND)
Mean Spike	102%	97%	107%	109%
Recovery				

## D. MTBE

ONDE	¥MTBE - ≇(μg/E)
A. MW1A	< 0.5 (ND)

Method Blank / Detection Limit =  $< 0.5 \mu g/L$  (none detected)

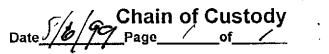
Ronald W. Shrewsbury Analytical Chemist

RWS: swr

ALL SAMPLES SUBMITTED FOR TESTING WILL BE HELD 30 DAYS FROM REPORT DATE AT WHICH TIME THEY WILL BE RETURNED TO CLIENT OR DESTROYED. CLIENT WILL BE RESPONSIBLE FOR ALL SHIPPING, HANDLING, AND DISPOSAL CHARGES. SAMPLES WILL BE STORED UPON WRITTEN INSTRUCTIONS AND FEE ARRANGEMENTS.

This report was made at the request of and for the use only of the purchaser of said report. Any use of or dissemination of information contained herein or reference to Calcoast Labs, Inc. without prior written consent of Calcoast Labs, Inc. is strictly prohibited

# Calcoast Analytical, Inc.



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# **CALCOAST ANALYTICAL**

# Materials Chemistry

#### Certified by

California Department of Health Services
City of Los Angeles, Dept. of Building & Safety

August 4, 1999

Geo - Logic 1140 - 5<sup>th</sup> Avenue Crockett, CA 94525

Attn: Mr. Joel Greger

Ref: Lab File No. 0802-4A/B-99

#### 1. SAMPLE:

Two (2) soil cores;

Project:

Former Berkeley Farms / KFC; 4575 San Pablo Ave.,

Emeryville.

Project No:

1103-03

Samples:

A. MW1A (5.5')

B. MW1A (9.5')

Collected: July 30, 1999 Received: August 2, 1999

#### 2. ANALYSIS REQUIRED:

- A. Total Petroleum Hydrocarbons gasoline (TPH-g) by Gas Chromatography (GC).
- B. Total Petroleum Hydrocarbons diesel (TPH-d) by GC.
- C. Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by GC.
- D. Methyl-tert-butyl ether (MTBE) by GC.

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## 3. METHODS OF ANALYSIS:

A. EPA Method 8015; SW-846

B. EPA Method 8015; SW-846

C. EPA Method 8020; SW-846

D. EPA Method 8020; SW-846

#### 4. RESULTS:

A. TPH - gasoline

	Sample.	TRH: gasolines ::
A.	MW1A (5.5')	2.7
B.	MW1A (9.5')	35

Method Blank / Detection Limit = < 0.10 mg/kg (none detected) Matrix Spike Recovery = 97%

## B. TPH - diesel

		TPH ₹diesel: ( mg/kg )
A.	MW1A (5.5')	53
B.	MW1A (9.5')	570

Method Blank / Detection Limit = < 0.10 mg/kg (none detected) Matrix Spike Recovery = 108%

## C. BTEX

Sample	Concentration = ( mg/kg )										
7.7	Benzene 🔠	Toluene	二分 Ethylbenzene そう	‡ Xylene ⊕							
MW1A (5.5')	0.019	<0.005(ND)	0.046	0.041							
MW1A (9.5')	0.23	0.14	0.29	0.38							
Method Blank	<0.005(ND)	<0.005(ND)	<0.005(ND)	<0.005(ND)							
Mean Spike	106%	94%	103%	105%							
Recovery											

## D. MTBE

Sample	
A. MW1A (5.5')	< 0.005 (ND)
B. MW1A (9.5')	< 0.005 (ND)

Method Blank / Detection Limit = < 0.005 mg/kg (none detected)

Ronald W. Shrewsbury Analytical Chemist

ALL SAMPLES SUBMITTED FOR TESTING WILL BE HELD 30 DAYS FROM REPORT DATE AT WHICH TIME THEY WILL BE RETURNED TO CLIENT OR DESTROYED. CLIENT WILL BE RESPONSIBLE FOR ALL SHIPPING, HANDLING, AND DISPOSAL CHARGES. SAMPLES WILL BE STORED UPON WRITTEN INSTRUCTIONS AND FEE ARRANGEMENTS.

This report was made at the request of and for the use only of the purchaser of said report. Any use of or dissemination of information contained herein or reference to Calcoast Labs, Inc. without prior written consent of Calcoast Labs, Inc. is strictly prohibited

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# **CALCOAST ANALYTICAL**

# Materials Chemistry

#### Certified by

California Department of Health Services City of Los Angeles, Dept. of Building & Safety

August 4, 1999

Geo - Logic 1140 - 5<sup>th</sup> Avenue Crockett, CA 94525

Attn: Mr. Joel Greger

Ref: Lab File No. 0802-5A/D-99

#### 1. SAMPLE:

Four (4) soil cores which are composited into one (1) sample for analysis;

Project:

Former Berkeley Farms / KFC; 4575 San Pablo Ave.,

Emeryville.

Project No:

1103-03

Samples:

Comp S1

Collected: July 30, 1999 Received: August 2, 1999

#### 2. ANALYSIS REQUIRED:

- A. Total Petroleum Hydrocarbons gasoline (TPH-g) by Gas Chromatography (GC).
- B. Total Petroleum Hydrocarbons diesel (TPH-d) by GC.
- C. Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by GC.
- D. Methyl-tert-butyl ether (MTBE) by GC.
- E. Total lead (Pb) content by Atomic Absorption Spectroscopy (AAS).

COATINGS • BUILDING MATERIALS • HAZARDOUS WASTE SPECTROSCOPY • CHROMATOGRAPHY • MICROSCOPY

## 3. METHODS OF ANALYSIS:

- A. EPA Method 8015; SW-846
- B. EPA Method 8015; SW-846
- C. EPA Method 8020; SW-846
- D. EPA Method 8020; SW-846
- E. Sample Digestion EPA Method 3050; SW-846 AAS Analysis - EPA Method 7420; SW-846

# 4. RESULTS:

A. TPH - gasoline

<ul><li>「經濟學學學學學」之一。</li></ul> <li>(2) (2) (2) (2) (2) (2) (2) (2) (2) (2)</li>	TPH≝gasolines ( mg/kg )
A. Comp S1	2.7

Method Blank / Detection Limit = < 0.10 mg/kg (none detected)
Matrix Spike Recovery = 97%

#### B. TPH - diesel

	TPH = diesel ( mg/kg ) = k
A. Comp S1	160

Method Blank / Detection Limit = < 0.10 mg/kg (none detected) Matrix Spike Recovery = 108%

#### C. BTEX

Sample		Concentra	ation∷ ( mg/kg )	
	Benzene :	Toluene Toluene	Ethylbenzene —	Xylene -
Comp S1	0.020	<0.005(ND)	0.039	0.027
Method Blank	<0.005(ND)	<0.005(ND)	<0.005(ND)	<0.005(ND)
Mean Spike	106%	94%	103%	105%
Recovery				

#### D. MTBE

A. Comp S1	< 0.005 (ND)

Method Blank / Detection Limit = < 0.005 mg/kg (none detected)

#### E. Total Pb

. Šample	Töyal Pb (mg/kg:)
A. Comp S1	33

Method Blank / Detection Limit = < 2.0 mg/kg (none detected) Matrix Spike Recovery = 102%

Ronald W. Shrewsbury Analytical Chemist

ALL SAMPLES SUBMITTED FOR TESTING WILL BE HELD 30 DAYS FROM REPORT DATE AT WHICH TIME THEY WILL BE RETURNED TO CLIENT OR DESTROYED. CLIENT WILL BE RESPONSIBLE FOR ALL SHIPPING, HANDLING, AND DISPOSAL CHARGES. SAMPLES WILL BE STORED UPON WRITTEN INSTRUCTIONS AND FEE ARRANGEMENTS.

This report was made at the request of and for the use only of the purchaser of said report. Any use of or dissemination of information contained herein or reference to Calcoast Labs, Inc. without prior written consent of Calcoast Labs, Inc. is strictly prohibited

# Calcoast Analytical, Inc.

Date 5/2/99 Page of

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