

# Erler & Kalinowski, Inc.

Consulting Engineers and Scientists

1730 So. Amphlett Blvd., Suite 320  
San Mateo, California 94402  
(650) 578-1172  
Fax (650) 578-9131

29 June 1999

Ms. Susan L. Hugo  
Alameda County Health Care Services Agency  
Department of Environmental Health Services  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

Subject:       Underground Storage Tank Removal Report  
                  Former Elementis Pigments Facility  
                  Shellmound Properties  
                  4650 Shellmound Street  
                  Emeryville, California  
                  (970003.15)

99 JUN 30 AM 8:47  
ENVIRONMENTAL  
PROTECTION

Dear Ms. Hugo:

Erler & Kalinowski, Inc. ("EKI") is pleased to submit this report on behalf of the City of Emeryville Redevelopment Agency ("Agency"), to the Alameda County Health Care Services Agency, Department of Environmental Health Services ("Health Department"). This report documents the removal of two underground storage tanks ("USTs") from the Former Elementis Pigments Facility at 4650 Shellmound Street in Emeryville, California ("Site") (Figure 1). The removal of two USTs associated with the former Elementis (Harcros) Pigments facility included:

- removal of residual product and sludge from the USTs,
- removal of one 10,000-gallon UST used for storing diesel fuel,
- removal of one 1,000-gallon UST used for storing gasoline,
- excavation of soil surrounding the USTs,
- collection and laboratory analysis of confirmation samples from the four sidewalls of the UST excavation,
- collection and laboratory analysis of a sample of the accumulated water in the UST excavation,
- disposal of residuals, soil, and USTs at appropriate off-site permitted facilities, and
- backfill of the excavation with clean imported backfill

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The location of the former USTs on the Former Elementis Pigments Facility is shown on Figure 2.

### **Background**

On 12 and 13 December 1989, 11 USTs were removed from the Elementis Property. The former USTs included nine 10,000-gallon USTs used to store diesel fuel, one 10,000-gallon UST used to store Bunker C fuel oil, and one 1,000-gallon UST used to store regular gasoline. The Diesel and Bunker C fuel oil USTs were located west of Building No. 7 (Figure 2). The gasoline UST was located near the southeast corner of the Maintenance Shop (Figure 2). A total of approximately 550 cubic yards of soil were excavated during the removal of the USTs (*Removal of Eleven Underground Storage Tanks, Pfizer Pigment Plant, 4650 Shellmound Street, Emeryville, California, Roux Associates, 8 March 1990*).

While monitoring groundwater wells on 22 January 1990, Roux Associates observed free hydrocarbon product (Diesel fuel) in Monitoring well RW-4, and RW-11 (*Final Report Diesel Fuel Investigation, Pfizer Pigment Plant, Emeryville, California, Roux Associates, 1 May 1990*). At the request of the Health department, approximately 84 cubic yards of soil were removed from the area of the release of diesel fuel during August 1990 (*Remedial Excavation of Soils, Former Underground Storage Tank Pit, Elementis Pigments Facility, Emeryville, California, Roux Associates, 31 May 1991*).

Two USTs, one 10,000-gallon UST used for storing diesel fuel and one 1,000-gallon UST used for storing gasoline ("two new USTs"), were installed just east of Building No. 10 (Figure 2) following the removal of the USTs discussed above. This report documents the removal of these two USTs during the current demolition activities at the Site. The two new USTs were removed in accordance with the Underground Storage Tank Closure Plan ("Closure Plan") prepared by Evans Brothers, Inc. ("EBI"), a licensed California Hazardous Waste contractor under contract to the Agency. The Closure Plan was approved by Susan L. Hugo of the Health Department on 17 March 1999. A copy of the approved Closure Plan is included in Appendix A.

### **Underground Storage Tank Removal**

Residual petroleum product and sludge was pumped from the two new USTs by Clearwater Environmental and transported to Alviso Independent Oil in Alviso, California for disposal on 25 January 1999. Approximately 700 gallons of residual petroleum product and sludge was disposed. A copy of the Uniform Hazardous Waste Manifests for the disposal of the residual product and sludge is included in Appendix B.

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On 30 March 1999, EBI exposed the top and sides of the two USTs by excavating approximately 50 cubic yards of backfill material (i.e., principally pea gravel) from around the top and sides of the USTs. The excavated soil was stockpiled on plastic sheeting adjacent to the excavation. On 31 March 1999, EBI removed the USTs and appurtenant piping. Ms. Hugo visually inspected the removal of the UST on 31 March 1999. Both USTs were constructed of steel and coated with a red fiberglass-like material. Ms. Hugo and EKI personnel visually inspected each of the two tanks after they were removed from the excavation. Based on visual inspection no holes or rust spots were visible in either of the USTs, and the USTs appeared to be in good condition.

The excavation was approximately 5 feet below ground surface ("bgs"). Groundwater infiltrated into the excavation to a depth of approximately 4 feet bgs. No visibly stained or odorous soil was encountered in the soil removed from the excavation nor in the excavation sidewalls. No root holes were visible in the excavation sidewalls. Visual examination of the sidewalls indicated that the soil in the first two to three feet bgs was a sandy fill material, and the soil in the remaining three to four feet below the fill material was native silty clay.

Copies of EKI daily field notes are included in Appendix C.

While EBI was removing the 10,000-gallon diesel UST, a small amount (less than 3 gallons) of diesel fuel leaked from the piping attached to the tank into the groundwater that had accumulated in the excavation. After the tank was removed, EBI placed oil-absorbent pads on the surface of the water in the excavation to remove this product.

Both USTs were transported on 31 March 1999, from the Site by Ecology Control Industries of Richmond, California, and were disposed at Erickson, Inc., 255 Parr Boulevard, in Richmond, California. A copy of the Uniform Hazardous Waste Manifest for the disposal of the two underground storage tanks is included in Appendix D.

The 50 cubic yards of soil excavated while removing the USTs was transported off-site to Chemical Waste Management's Altamont facility as non-hazardous waste based on the stockpile soil analytical data described below.

Results from the confirmation sampling and analysis, described below, were received on 29 April 1999. Following receipt of these results, the tank excavation was backfilled with clean imported material on 6 and 7 May 1999.

### **Confirmation Soil and Groundwater Sampling**

In accordance with the approved Closure Plan, EKI personnel collected one soil sample at the soil-groundwater interface from each of the four sidewalls of the UST excavation (Figure 3). The four soil samples were labeled W-4.5-5, S-3.5-4, N-4-4.5, and E-4-4.5.

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Because groundwater had accumulated in the excavation, no soil samples were collected from the bottom of the excavation. The soil samples were collected from the bucket of the backhoe using a hand-held drive sampler using clean stainless steel liners. Each liner was covered at both ends with Teflon® sheets and plastic caps, labeled with a unique sample identification number, and the date and time of collection. Chain of custody forms were initiated and the liners were placed in a cooler on ice for transport to Sequoia Analytical Laboratory Redwood City, California.

Ms. Hugo requested that a grab groundwater sample be collected from the groundwater that had accumulated in the excavation. However, because a small amount of diesel fuel had spilled into the water in the excavation, Ms Hugo requested that the grab groundwater sample be collected after pumping the excavation dry and allowing it to recharge.

On 1 April 1999, EKI personnel collected a grab groundwater sample (UST-W) from the excavation after EBI had twice pumped the excavation dry and allowed it to recharge. The water extracted from the excavation was stored in a rental tank on the Site. EKI personnel also collected a grab sample (BTW-1) from the groundwater that had been stored in the rental tank. Each water sample was collected using separate clean disposal bailer.

EKI also collected four discreet soil samples from soil removed from the excavation and stockpiled on plastic sheeting adjacent to the tank pit. The samples were collected using hand-held drive sampler using decontaminated stainless steel liners. The four discrete soil samples were composited by the laboratory into one composite sample for analysis (UST-SP). This soil was transported and disposed at Management's Altamont facility, as previously discussed.

As required by Closure Plan, the soil and groundwater confirmation samples were analyzed for the following chemicals of concern:

- total petroleum hydrocarbons as diesel ("TPHd"),
- total petroleum hydrocarbons as gasoline ("TPHg"),
- total petroleum hydrocarbons as motor oil ("TPHmo"),
- benzene, toluene, ethylbenzene, and xylenes ("BTEX"),
- volatile organic compounds including methyl tert-butyl ether ("MTBE"), and
- cadmium, chromium, lead, nickel, and zinc.

Laboratory Reporting sheets are included in Appendix E.

### **Soil Analytical Results**

The confirmation soil sample analytical results are shown in Tables 1 through 3. Review of these data indicate that the concentrations of metals detected in the soil samples are comparable with the background concentrations of metals measured in soil on the Site (Erler & Kalinowski, Inc. *Remedial Investigation Report*, October 1998). Total petroleum hydrocarbons quantified against a motor oil standard was detected in soil sample W-4.5-5 at a concentration of 13.4 mg/kg. No other petroleum hydrocarbons compounds or volatile organic compounds were detected in the sidewall soil samples above their respective laboratory reporting limits.

Soil stockpile composite sample UST-SP (1-4) analytical results indicate that the soil stockpile composite sample contained total petroleum hydrocarbons quantified against a diesel standard at a concentration of 840 mg/kg and total petroleum hydrocarbons quantified against a motor oil standard at a concentration of 520 mg/kg.

### **Groundwater Analytical Results**

Results from the analysis of the groundwater sample collected in the excavation and the water stored in the rental tank are shown in Tables 4 through 6. Groundwater sample UST-W from the groundwater that had flowed into the excavation contained zinc at a concentration of 0.0245 mg/l, total petroleum hydrocarbons quantified against a gasoline standard at a concentration of 0.165 mg/l, total petroleum hydrocarbons quantified against a diesel standard at a concentration of 1.940 mg/l, total xylenes at a concentration of 0.001 mg/l, and cis 1,2-Dichloroethene at a concentration of 0.665 ug/l.

The concentrations of the chemicals of concern, other than the total petroleum hydrocarbons, are all below their respective State of California Maximum Contaminant Levels for Drinking Water ("MCLs"). There are no MCLs for total petroleum hydrocarbons. However, the concentrations of both total petroleum hydrocarbons quantified against a gasoline standard and quantified against a diesel standard are not considered to be indicative of a significant petroleum hydrocarbon release to groundwater and are consistent with low levels of total petroleum hydrocarbons detected in the uppermost groundwater in other areas of the Site (EKI, 1998).

Results of the sample collected from the water pumped from the excavation and stored in the rental tank are also shown in Tables 4 through 6. Water sample BTW-1 contained total petroleum hydrocarbons quantified against a diesel standard at a concentration of 0.869 mg/l and total petroleum hydrocarbons quantified against a motor oil standard at a concentration of 0.292 mg/l. No other compounds were detected in the water sample from the rental tank above their respective laboratory reporting limits. Approximately 15,000 gallons of water was transported off-site by Ecology Control Industries, Richmond, California to Seaport Environmental, Redwood City, California.

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### **Conclusions**

Analytical data from soil and groundwater confirmation sampling and data from previous groundwater sampling on the site indicate that the concentration of the chemicals of concern detected in the soil and groundwater are not considered to be an indicator of significant releases of petroleum hydrocarbon fuels to soil or groundwater related to the former USTs. EKI concludes that appropriate UST removal activities at these two former UST locations have been performed and recommends case closure.

Should you have any questions concerning this matter, please contact us.

Very truly yours,

ERLER & KALINOWSKI, INC.



Stephen A. Tarantino, P.E.  
Project Construction Manager

cc: Ron Gerber, City of Emeryville Redevelopment Agency  
Juan Arrequin, City of Emeryville Redevelopment Agency

**Table 1**  
**Summary of Metals Concentrations in Soil Samples**  
**Removal of the Two Underground Storage Tanks**  
Shellmound Properties - Former Elementis Property  
Emeryville, California

Soil Sample Name	Soil Sample Location	Soil Sample Depth (feet bgs)	Date Sampled	Analyte (mg/kg) (a)				
				Cadmium	Chromium	Lead	Nickel	Zinc
W-4.5-5	Side wall of UST Excavation	4.5 to 5	3/31/99	<1.0	30.7	<7.5	44.4	35.6
S-3.5-4	Side wall of UST Excavation	3.5 to 4	3/31/99	<2.0	61.2	<15	135	33.8
N-4-4.5	Side wall of UST Excavation	4.5 to 5	3/31/99	<1.0	56.4	20.1	123	34.9
E-4-4.5	Side wall of UST Excavation	4 to 4.5	3/31/99	<1.0	31.8	<7.5	34.1	40.9
UST-SP(1-4) composite	Composite sample of stockpiled soil removed from excavation	-	3/31/99	<0.5	9.9	<5	27	14

**Notes:**

Soil samples analyzed by EPA Method 6010A.

(a) Metal analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services Agency, Department of Environmental Health Services.

**Table 2**  
**Summary of Petroleum Hydrocarbon Concentrations in Soil Samples**  
**Removal of the Two Underground Storage Tanks**

Shellmound Properties - Former Elementis Property  
 Emeryville, California

Soil Sample Name	Soil Sample Location	Soil Sample Depth (feet bgs)	Date Sampled	Analyte (mg/kg) (a)		
				Total Petroleum Hydrocarbons as Gasoline	Total Petroleum Hydrocarbons as Diesel	Total Petroleum Hydrocarbons as Motor Oil
W-4.5-5	Side wall of UST Excavation	4.5 to 5	3/31/99	<0.4	<5	13.4
S-3.5-4	Side wall of UST Excavation	3.5 to 4	3/31/99	<0.4	<5	<10
N-4-4.5	Side wall of UST Excavation	4.5 to 5	3/31/99	<0.4	<5	<10
E-4-4.5	Side wall of UST Excavation	4 to 4.5	3/31/99	<0.4	<5	<10
UST-SP(1-4) composite	Composite sample of stockpiled soil removed from excavation	-	3/31/99	<2	840 (b)	520 (c)

Notes:

Soil samples analyzed by EPA Method 8015 Modified.

(a) Analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services

Agency, Department of Environmental Health Services.

(b) Laboratory reported that the chromatogram of this sample resembled the chromatogram for weathered diesel fuel.

(c) Laboratory reported that the chromatogram of this sample was unidentified.



**Table 3**  
**Summary of Volatile Organic Compound Concentrations in Soil Samples**  
**Removal of the Two Underground Storage Tanks**  
Shellmound Properties - Former Elementis Property  
Emeryville, California

Soil Sample Name	Soil Sample Location	Soil Sample Depth (feet bgs)	Date Sampled	Analyte (mg/kg) (a)					
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether (MTBE)	All other VOCs
W-4.5-5	Side wall of UST Excavation	4.5 to 5	3/31/99	<0.002	<0.002	<0.002	<0.004	<0.01	ND (b)
S-3.5-4	Side wall of UST Excavation	3.5 to 4	3/31/99	<0.002	<0.002	<0.002	<0.004	<0.01	ND (b)
N-4-4.5	Side wall of UST Excavation	4.5 to 5	3/31/99	<0.002	<0.002	<0.002	<0.004	<0.01	ND (b)
E-4-4.5	Side wall of UST Excavation	4 to 4.5	3/31/99	<0.002	<0.002	<0.002	<0.004	<0.01	ND (b)
UST-SP(1-4) composite	Composite sample of stockpiled soil removed from excavation	-	3/31/99	<0.01	<0.01	<0.01	<0.02	<0.05	ND (b)

Notes:

Soil samples analyzed by EPA Method 8020 Modified.

(a) Analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services Agency, Department of Environmental Health Services.

(b) Samples also analyzed by EPA Method 8010B for VOCs. No 8010B analytes were detected above laboratory reporting limits in these samples.

**Table 4**  
**Summary of Metals Concentrations in Water Samples**  
**Removal of the Two Underground Storage Tanks**

Shellmound Properties - Former Elementis Property  
 Emeryville, California

Groundwater Sample Name	Groundwater Sample Location	Date Sampled	Analyte (ug/L) (a)				
			Cadmium	Chromium	Lead	Nickel	Zinc
UST-W (b)	Water from tank excavation	4/1/99	<10	<10	<75	<30	24.5
BTW-1 (c)	Water pumped from tank excavation and stored in Baker tank on Site	4/1/99	<10	<10	<75	<30	<20

Notes:

Groundwater samples analyzed by EPA Method 6010A.

(a) Metal analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services Agency, Department of Environmental Health Services.

(b) Grab groundwater sample collected with a disposable bailer from the UST excavation after purging.

(c) Grab groundwater sample collected with a disposable bailer.

**Table 5**  
**Summary of Petroleum Hydrocarbon Concentrations in Water Samples**  
**Removal of the Two Underground Storage Tanks**

Shellmound Properties - Former Elementis Property  
 Emeryville, California

Groundwater Sample Name	Groundwater Sample Location	Date Sampled	Analyte (ug/L) (a)		
			Total Petroleum Hydrocarbons as Gasoline	Total Petroleum Hydrocarbons as Diesel	Total Petroleum Hydrocarbons as Motor Oil
UST-W (b)	Water from tank excavation	4/1/99	165	1,940	<250
BTW-1 (c)	Water pumped from tank excavation and stored in Baker tank on Site	4/1/99	<50	869	292

Notes:

Groundwater samples analyzed by EPA Method 8015 Modified.

- (a) Metal analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services Agency, Department of Environmental Health Services.
- (b) Grab groundwater sample collected with a disposable bailer from the UST excavation after purging.
- (c) Grab groundwater sample collected with a disposable bailer.

**Table 6**  
**Summary of Volatile Organic Compound Concentrations in Water Samples**  
**Removal of the Two Underground Storage Tanks**

Shellmound Properties - Former Elementis Property  
 Emeryville, California

Groundwater Sample Name	Groundwater Sample Location	Date Sampled	Analyte (ug/L) (a)					
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether (MTBE)	All other VOCs
UST-W (b)	Water from tank excavation	4/1/99	<0.5	<0.5	<0.5	1.19	<5	0.665 (c)
BTW-1 (d)	Water pumped from tank excavation and stored in Baker tank on Site	4/1/99	<0.5	<0.5	<0.5	<0.5	<5	ND

Notes:

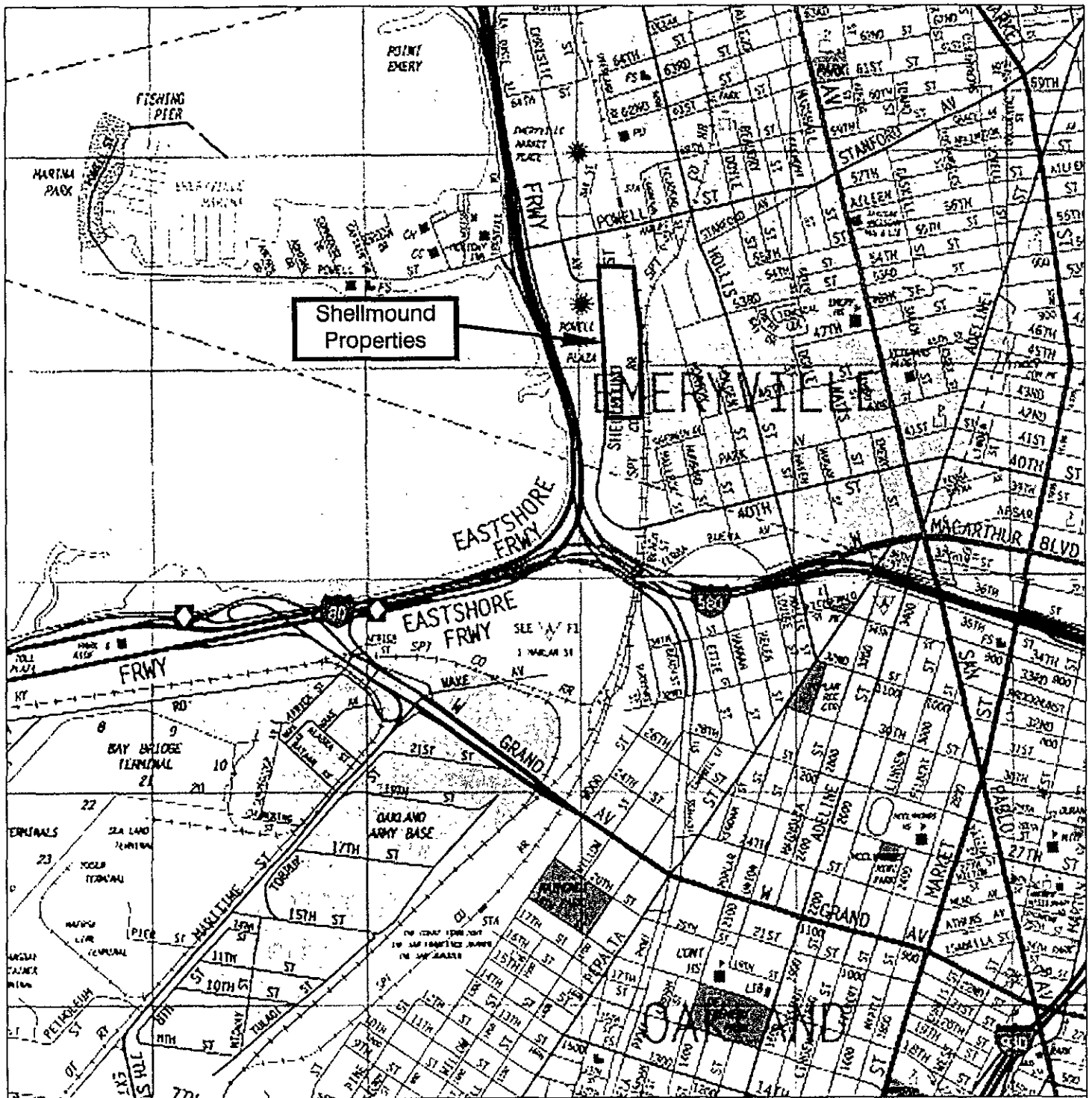
Groundwater samples analyzed by EPA Method 8020 Modified.

(a) Metal analytes requested in the Underground Storage Tank Closure Permit Application accepted by Alameda County Health Care Services Agency, Department of Environmental Health Services.

(b) Grab groundwater sample collected with a disposable bailer from the UST excavation after purging.

(c) Samples also analyzed by EPA Method 8010B for VOCs. All EPA Method 8010B analytes were not detected above laboratory reporting limits in this sample except for cis-1,2-Dichloroethene which was detected at a concentration of 0.665 ug/L.

(d) Grab groundwater sample collected with a disposable bailer.



SOURCE: Thomas Guide Alameda/Contra Costa Counties Street Map, 1997 Edition



0 2400 4800



(Approximate Scale in Feet)

**Notes:**

1. All locations are approximate.

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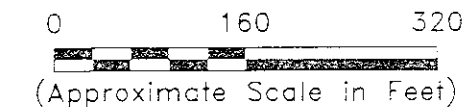
Site Location Map  
Removal of Two Underground Storage Tanks  
Former Elementies Property

Emeryville, CA

June 1999

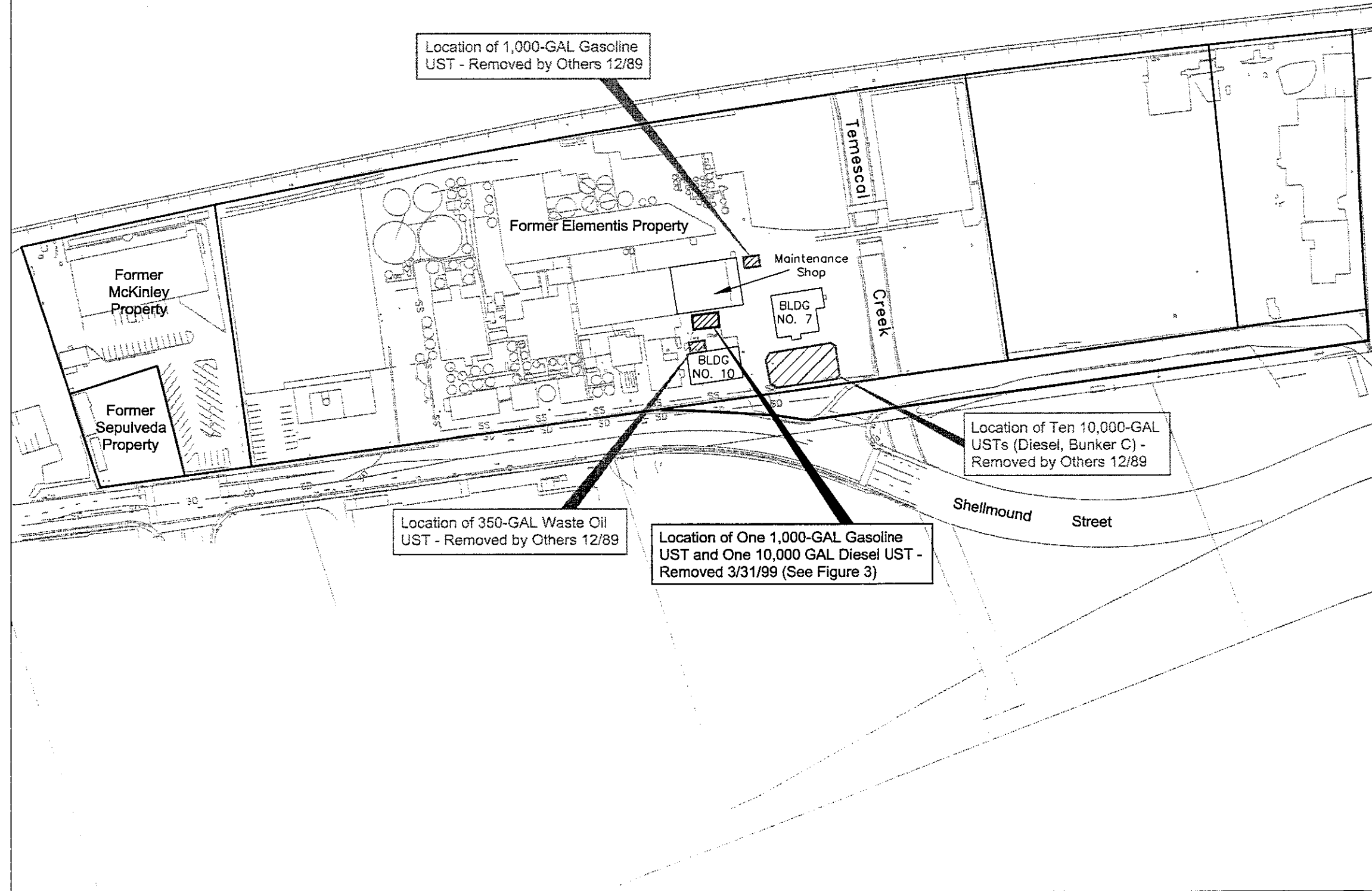
EKI 970003.15

Figure 1



**LEGEND**

- Current Property Boundary
- UST      Underground Storage Tank
- Area of Former Gasoline and Diesel USTs



**Notes:**

- 1. All Locations are approximate.
- 2. Base map from by Mark Thomas & Co. (September 1998).

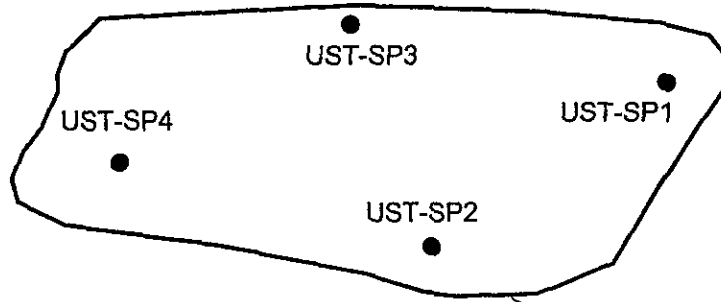
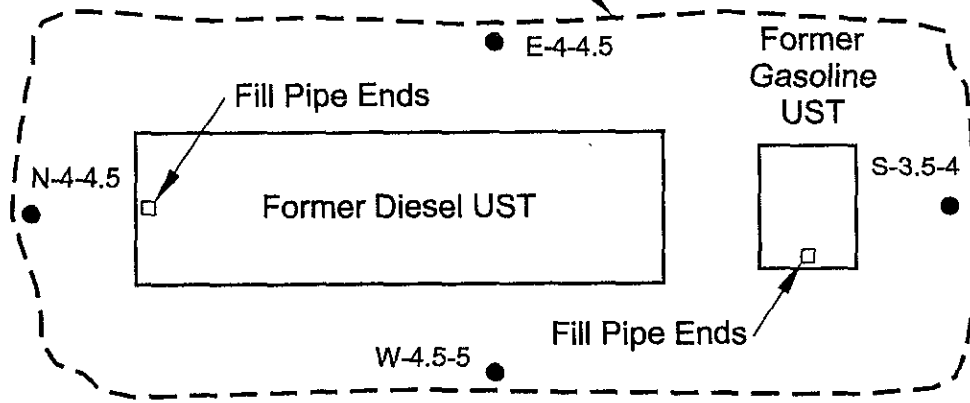
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Former Underground Storage Tank Location  
Removal of Two Underground Storage Tanks  
Former Elementis Property

Emeryville, CA  
June 1999  
EKI 970003.15  
Figure 2

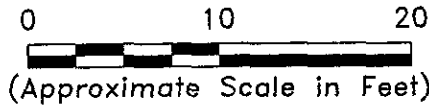


Limits of Excavation  
(Approximately 5 feet deep)



Excavated Soil Stockpile  
(Approximately 50 cubic yards)

PLAN VIEW



LEGEND

- Limit of Excavation
- Soil Confirmation Sample
- E-4-4.5'

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Kalinowski, Inc.**

Confirmation Sampling Locations  
Removal of Two Underground Storage Tanks  
Former Elementies Property

Notes:

1. All locations are approximate.

Emeryville, CA  
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Figure 3

**APPENDIX A**  
**UNDERGROUND STORAGE TANK**  
**CLOSURE PLAN**



**ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY  
 ENVIRONMENTAL HEALTH SERVICES  
 1131 HARBOR BAY PARKWAY, RM 250  
 ALAMEDA, CA 94502-6577**

PHONE # 510/567-6700

**ACCEPTED**

**Underground Storage Tank Closure Permit Application**  
 Alameda County Division of Hazardous Materials  
 1131 Harbor Bay Parkway, Suite 250  
 Alameda, CA 94502-6577

These closure/removal plans have been received and found to be acceptable and essentially meet the requirements of State and Local Health Laws. Changes to your closure plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/alteration.

One copy of the accepted plans must be on the job and available to the contractor and craftsman involved with the removal.

Any changes or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspections Department to determine if such changes meet the requirements of State and local laws. Issuance of a permit at least 72 hours prior to the following required inspections:

- Removal of Tank(s) and Piping
- Sampling
- Final Inspection

Issuance of a) permit to operate, b) permanent site closure, is dependent on compliance with accepted plans and all applicable laws and regulations.

**THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS:**

Contact Specialist:

PLEASE NOTE:

*D PIPINGS ASSOCIATED WITH TANKS MUST BE REMOVED. SOIL SAMPLES MUST BE COLLECTED ALONG PIPING TRENCHES*

*2) Changes made on page 5*  
*3) Changes made on page 6.*  
*Susan Z. Hugo*  
*3/17/99*

**UNDERGROUND TANK CLOSURE PLAN**

\* \* \* Complete plan according to attached instructions \* \* \*

1. Name of Business City of Emeryville Redevelopment Agency  
 Business Owner or Contact Person (PRINT) Ron Gerber
  2. Site Address 4650 Shellmound  
 City Emeryville Zip 94608 Phone (510) 653-1069
  3. Mailing Address 2200 Powell Street - 12th Floor  
 City Emeryville Zip 94608 Phone (510) 596-4357
  4. Property Owner City of Emeryville Redevelopment Agency  
 Business Name (if applicable) N/A  
 Address 2200 Powell St. - 12th Floor  
 City, State Emeryville, CA Zip 94608
  5. Generator name under which tank will be manifested  
City of Emeryville Redevelopment Agency
- EPA ID# under which tank will be manifested C A D 0 0 9 2 0 6 1 7 8

6. Contractor Evans Brothers Inc.  
Address 7589 National Drive  
City Livermore Phone (925) 443-0225  
License Type A, B, C21, Haz, Asb ID# 443018
7. Consultant (if applicable) Erler & Kalinawski, Inc.  
Address 1730 So. Amplett Blvd. - Suite 320  
City, State San Mateo, CA Phone (650) 578-1172
8. Main Contact Person for Investigation (if applicable)  
Name Deborah Hart Title P.E.  
Company Erler & Kalinowski, Inc.  
Phone Office: (650)578-1172 On Site: (510)653-1069
9. Number of underground tanks being closed with this plan 2  
Length of piping being removed under this plan 0  
Total number of underground tanks at this facility (\*\*confirmed with owner or operator) 2
10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

**\*\* Underground storage tanks must be handled as hazardous waste \*\***

a) Product/Residual Sludge/Rinsate Transporter

Name Clearwater Environmental EPA I.D. No. CAR000007013  
Hauler License No. 3515 License Exp. Date 12/31/99  
Address P.O. Box 7420  
City Fremont State CA Zip 94537-7420

b) Product/Residual Sludge/Rinsate Disposal Site

Name Alviso EPA ID# CAL000161743  
Address 5002 Archer Street  
City Alviso State CA Zip 95002

c) Tank and Piping Transporter

Name Ecology Control Industries EPA I.D. No. CA0982030173  
Hauler License No. 1533 License Exp. Date 3/31/99  
Address 255 Parr Blvd.  
City Richmond State CA Zip 94801

d) Tank and Piping Disposal Site

Name Erickson, Inc. EPA I.D. No. CAD009466392  
Address 255 Parr Blvd.  
City Richmond State CA Zip 94801

11. Sample Collector

DEBORAH HART

Company Eriker & Kalinowski  
Address 1730 So. Amplett Blvd. - Suite 320  
City San Mateo State CA Zip 94402 Phone (650) 578-1172

12. Laboratory

Name Sequoia Analytical  
Address 680 Chesapeake Drive  
City Redwood City State CA Zip 94063  
State Certification No. 1210

13. Have tanks or pipes leaked in the past? Yes [ ] No [ ] Unknown [X]

If yes, describe. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. Describe methods to be used for rendering tank(s) inert:

Dry ice method

Before tanks are pumped out and inerted, all associated piping must be flushed back into the tank(s). All accessible piping must then be removed. Inaccessible piping must be permanently plugged using grout.

The Bay Area Air Quality Management District, 415/771-6000, along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of a combustible gas indicator to verify tank inertness. It is the contractor's responsibility to have a functional combustible gas indicator on-site to verify that the tank(s) is inerted.

15. Tank History and Sampling Information \*\*\* (see instructions) \*\*\*

Tank		Material to be sampled (tank contents, soil, groundwater)	Location and Depth of Samples
Capacity	Use History include date last used (estimated)		
1,000 gal.	Installation date Unknown Product-Regular Unleaded gasoline Last used: 12/21/98 (estimated)	Soil, groundwater (if any)	BENEATH TANK MAXIMUM 2 FT BELOW THE NATIVE SOIL/BACKFILL INTERFACE, SIDE WALL AT THE HIGH WATER MARK, GROUNDWATER, IF ANY
10,000	Installation unknown Product - Diesel Last used: 12/31/98	Soil, groundwater (if any)	BENEATH TANK MAXIMUM 2 FT BELOW THE NATIVE SOIL/BACKFILL INTERFACE, SIDE WALL AT THE HIGH WATER MARK, GROUNDWATER, IF ANY

One soil sample must be collected for every 20 linear feet of piping that is removed. A ground water sample must be collected if any ground water is present in the excavation.

Excavated/Stockpiled Soil

Stockpiled Soil Volume (estimated)	Sampling Plan
500 Tons	Stockpile on visqueen in a bermed area. Cover with visqueen. Soil will be sampled by Erler & Kalinowski, Inc. <i>Stockpiled soil must be characterized &amp; disposed properly.</i>

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

Will the excavated soil be returned to the excavation immediately after tank removal?  yes  no  unknown

If yes, explain reasoning \_\_\_\_\_

If unknown at this point in time, please be aware that excavated soil may not be returned to the excavation without prior approval from this office. This means that the contractor, consultant, or responsible party must communicate with the Specialist IN ADVANCE of backfilling activities.

16. Chemical methods and associated detection limits to be used for analyzing samples:

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

17. Submit Site Health and Safety Plan (See Instructions)

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
<p> <i>Diesel TPHd</i>  <i>BTEX</i>  <i>TPH gasoline</i>  <i>TPH motor oil</i>  <i>MTBE</i>  <i>HC VOCs</i>    <i>Metals</i>  <i>Cd, Cr, Pb, Zn Ni</i> </p>	<p>3550</p>	<p>8015m 8020</p>	<p>SOIL 1mg/kg WATER</p>

18. Submit Worker's Compensation Certificate copy

Name of Insurer \_\_\_\_\_ State Fund Insurance

19. Submit Plot Plan **\*\*\* (See Instructions) \*\*\***

20. Enclose Deposit (See Instructions)

21. Report all leaks or contamination to this office within 5 days of discovery.

The written report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report (ULR) form.

22. Submit a closure report to this office within 60 days of the tank removal. The report must contain all information listed in item 22 of the instructions.

23. Submit State (Underground Storage Tank Permit Application) Forms A and B (one-B form for each UST to be removed) (mark box 8 for "tank removed" in the upper right hand corner)

I declare that to the best of my knowledge and belief that the statements and information provided above are correct and true.

I understand that information, in addition to that provided above, may be needed in order to obtain approval from the Environmental Protection Division and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

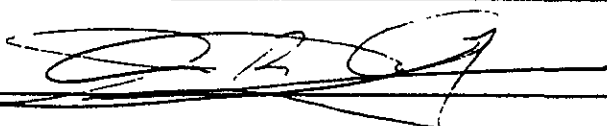
I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

FACTORY INFORMATION

Name of Business EVANS BROTHERS INC.


Name of Individual John Crawford

Signature  Date 22 FEB 99

PROPERTY OWNER OR MOST RECENT TANK OPERATOR (Circle one)

Name of Business City of Emeryville

Name of Individual Juan C. Arreguin

Signature  Date 02-26-99

**ALAMEDA COUNTY ENVIRONMENTAL PROTECTION DIVISION**

*Effective: July 1, 1998*

**UNDERGROUND STORAGE TANK FEE SCHEDULE  
{FOR REMOVALS ONLY}**

<b># OF CONTAINERS</b>	<b>REMOVAL DEPOSIT/REFUND</b>
1	669.00
2	993.00
3	1,320.00
4	1,656.00
5	1,917.00
6	2,280.00
7	2,580.00
8	2,877.00
9	3,174.00
10	3,477.00
11	3,753.00
12	4,005.00
13	4,260.00
14	4,533.00
15	4,794.00
16	5,052.00
17	5,322.00
18	5,586.00
19	5,853.00
20	6,111.00



ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



Cull Rob West

ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700

## UNDERGROUND STORAGE TANK REMOVAL PROCESS

Dear Property Owner/Contractor:

Alameda County Environmental Health Services is responsible for the permitting of underground storage tank removals/closures within its jurisdiction. The jurisdiction covers the cities of Alameda, Albany, Dublin, Emeryville, Piedmont and the unincorporated areas of Alameda County. Please follow the steps outlined below to ensure efficient review of your removal/closure plan. The County's enforcement authority is derived from Title 23 of the California Code of Regulations (CCR), Chapter 6.7 of the California Health and Safety Code, and a letter of agreement with the San Francisco Bay Regional Water Quality Control Board.

1. Obtain a blank Underground Tank Closure Plan from this office. Instructions for completing the plan are attached.
2. Complete the Underground Tank Closure Plan and attach the requested supporting documents (i.e., a site safety plan; a facility plot plan; copy of the contractor's hazardous materials license; and a copy of the contractor's worker's compensation insurance certificate.
3. Submit three copies of the completed plan and attachments to this office. A deposit of fees must also be submitted with the plan. The deposit of fees, authorized by Section 6.92.170 of the Alameda County Ordinance Code, funds the time dedicated to the tank closure project by the Hazardous Materials Specialists. Additional monies will be required if the project exceeds the original estimate of fees. All deposited monies not used to fund the project will be refunded to the property owner or their designee at the close of the project.
4. The Closure Plan will be reviewed within 30 days of plan receipt. If additional information or changes are required we will contact the designated party. We will stamp the plans approved and notify you of approval once the plan is satisfactorily completed. One copy of the plan will be retained for our files. You may then pick up the other two copies of your stamped plan. All notes written on the plans by the project Specialist are conditions of plan acceptance and must be implemented.

5. Present a copy of the stamped closure plan to the administering fire department in order to obtain a fire permit. For tank removals contact one of the following fire departments:

City of Alameda - Steve McKinley - 510/864-3413

City of Albany - Brian Crudo - 510/528-5775

City of Emeryville - George Warren - 510/596-3750

City of Piedmont - Richard Jones - 510/420-3031

Cities of Castro Valley, Dublin, San Lorenzo and all unincorporated areas are the jurisdiction of Alameda County Fire Department - Jim Ferdinand - 510/670-5853.

The city building department and the Bay Area Air Quality Management District (415/749-4990) should also be contacted concerning any other permit requirements.

6. It is the policy of this office to be present at all tank removals; contact the project Hazardous Materials Specialist at least three working days in advance of the job to schedule the tank removal. If special arrangements are needed they must be worked out in advance with the project Hazardous Materials Specialist. All other permitting agencies' notification requirements must be met.

7. Copies of all other permits must be present on-site during the tank removal work.

8. Submit a Tank Closure Report to this office within 60 days of tank removal. The Closure Plan Instructions outline the information and documents to be included in the Closure Report.

If sample analytical data or other evidence indicates the presence of any soil or groundwater contamination, you must file an Underground Storage Tank Unauthorized Release Report to this office within 5 working days of discovery. Report forms are available in limited quantities from either this office or the San Francisco Bay Regional Water Quality Control Board in Oakland (510/286-1255).

If contamination is discovered, contact this office for detailed directions. The following is an overview of our general clean up requirements. All site clean up work must be performed according to the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites. Any clean up work done without concurrence with this office is unacceptable.

1. Determine the horizontal and vertical extent of soil contamination both on and off site.
2. Define the horizontal and vertical extent of any groundwater contamination, both on and off-site. This will include monitoring well construction and regular groundwater sampling.
3. Interpret hydrogeologic data, including characterization of the appropriate aquifer(s).

4. If groundwater is contaminated, determine the type of beneficial uses of the groundwater. The San Francisco Bay Regional Water Quality Control Board Water Quality Control Plan (Basin Plan) has defined all Bay Area water as having beneficial uses. However the types of beneficial uses vary and must be determined in order to establish appropriate cleanup levels (State Water Resources Control Board Sources of Drinking Water Policy, #88-63).
5. Develop a site-specific remediation plan. This plan shall include an evaluation of cleanup alternatives, a proposal for soil cleanup, a proposal for clean up of any groundwater contamination and free product, an appropriate sampling plan to determine the effectiveness of the cleanup program, and a time table for remediation plan implementation.

After the remediation program is completed and the final report is submitted, this office will review the case. If appropriate, this office will submit the case to the San Francisco Bay Regional Water Quality Control Board for final site mitigation approval and case closure. Failure to provide proper documentation of all site cleanup work could result in the requirement to conduct properly documented additional work.

If you have any questions or require further clarification regarding the underground storage tank closure process within Alameda County's jurisdiction, please contact this office at 510/567-6700.

**ALAMEDA COUNTY ENVIRONMENTAL PROTECTION DIVISION**

*Effective: July 1, 1998*

**UNDERGROUND STORAGE TANK FEE SCHEDULE  
{FOR REMOVALS ONLY}**

<b># OF CONTAINERS</b>	<b>REMOVAL DEPOSIT/REFUND</b>
1	669.00
2	993.00
3	1,320.00
4	1,656.00
5	1,917.00
6	2,280.00
7	2,580.00
8	2,877.00
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10	3,477.00
11	3,753.00
12	4,005.00
13	4,260.00
14	4,533.00
15	4,794.00
16	5,052.00
17	5,322.00
18	5,586.00
19	5,853.00
20	6,111.00

**APPENDIX B**

**UNIFORM HAZARDOUS WASTE MANIFEST FOR  
RESIDUAL PRODUCT AND SLUDGE REMAINING IN  
BOTH USTS**

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator US EPA ID No. <b>CAD00092061784</b>	Manifest Document No. <b>1522</b>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator Name and Mailing Address <b>City of Emeryville Redevelopment Agency 901 E. 1730 S. Amphlett Blvd, San Mateo CA 94402</b>		4. Generator's Phone <b>(510) 653 1069</b>	5. US EPA ID Number <b>94402</b>	6. State Manifest Document No. <b>98811522</b>	7. State Generator ID <b>EMERYVILLE</b>
5. Transporter 1 Company Name <b>CLEARWATER ENVIRONMENTAL</b>		6. US EPA ID Number <b>CAR000007013</b>	7. US EPA ID Number	8. State Transporter ID <b>50772511</b>	9. Transporter Name <b>Clearwater Environmental</b>
7. Transporter 2 Company Name		8. US EPA ID Number	9. US EPA ID Number	10. State Transporter ID	11. Transporter's Phone
9. Designated Facility Name and Site Address <b>ALVISO INDEPENDENT OIL 5002 ARCHER STREET ALVISO, CA 95002</b>		10. US EPA ID Number <b>CAL0000161743</b>	11. US EPA ID Number	12. State Facility ID <b>51077431</b>	13. Facility Phone <b>51077431</b>
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Waste Number
a. <b>FUEL OIL Non-RCRA Hazardous Waste Liquid</b>		<b>001</b>	<b>00706</b>	<b>G</b>	<b>223</b>
b.					
c.					
d.					
16. Additional Descriptions for Materials listed Above		17. Handling Code for Waste listed Above			
15. Special Handling Instructions and Additional Information <b>WEAR PPE Emergency Contact (510) 797-6511 Attn: Kirk Hayward ERG # JOB # 970003.15E</b>		<b>site 4650 Shellmound Emeryville CA</b>			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <b>Juan C. Arcequivin</b>		Signature <i>[Signature]</i>		Month Day Year <b>01/25/99</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <b>STEVEN R. STONE</b>		Signature <i>[Signature]</i>		Month Day Year <b>01/25/99</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19 Printed/Typed Name		Signature		Month Day Year	

DO NOT WRITE BELOW THIS LINE.

**APPENDIX C**  
**ERLER & KALINOWSKI, INC.**  
**FIELD NOTES**

Daily Inspection Report

Page 1 of 2

Date: 3/31/99

Project: UST Removal- Former Elementis Pigments Facility Demolition  
EKI 970003.15

Contractor: Evans Brothers, Inc.

EKI Staff On-site: Logan Hansen, Deb Hart

Weather: Sunny, cool

On-site Personnel: EBI: John Crawford, Steve, Willie

Visitors: Susan Hugo from Alameda County, Department of Environmental Health Services

Work Report:

- 7:00 I arrived at the Site and set up the dust monitors as part of the monitoring for the demolition activities at the Site.
- 7:30 EBI has already uncovered the top and sides of the tank and begins pumping groundwater out of the excavation into a Baker Tank on Site. A light sheen is present on the groundwater in the excavation.
- 8:00 I inspect the excavation around the two USTs. The two tanks were in place close together so both tanks are now sitting in the same excavation (see attached Figure 1). Both tanks are made of steel coated with a red fiberglass material. Both tanks appear to be in good shape on top and on the sides, except where EBI scraped some of the red coating off during excavation of the pit.
- 8:30 EBI begins placing dry ice in the tanks.
- 9:30 Large flatbed truck arrives from ECI. ECI will be trucking the tanks off the Site and transporting them to their yard.
- 10:15 Susan Hugo from Alameda County arrives to inspect the tank removal. EBI informs her that Inspector Warren of the Emeryville Fire Department was notified about the tank removal, but was unable to be on Site today. Inspector Warren said that he would contact Susan Hugo and ask her to supervise the tank removal without him. Susan Hugo says that she never heard from the Fire Department and states that we will not be able to remove the tanks without approval from the Fire Department. EBI calls Juan Arreguin of the City of Emeryville who contacts the Fire Department Chief. The FD Chief then approves the tank removal and tells Susan Hugo on the phone that she can supervise the inerting of the tanks.
- 11:00 EBI continues to place dry ice in the tanks and to monitor the gases in the tanks under Susan Hugo's supervision. Deb Hart leaves Site.
- 11:30 Small tank is inerted and is then pulled from the excavation and set on the ground. Susan Hugo and I inspect the bottom of the tank. The tank bottom is in good condition; no holes or rust spots are visible.
- 11:40 As EBI begins moving large tank, a small amount of diesel fuel leaks out of one of the pipes that is still connected to the top of the tank. Approximately one liter of fuel spills into the groundwater at the bottom of the tank pit. After the tank is removed from the pit, EBI places oil-absorbent pads on the surface of the groundwater in the tank pit to soak up the fuel.
- 12:00 Large tank is now on the flatbed truck and is being secured. Susan Hugo and I inspect the



Project: UST Removal- Former Elementis Pigments Facility Demolition  
Work Report (continued):

- 12:30 bottom of the tank. The tank bottom is in good condition; no holes or rust spots are visible. Small tank loaded onto truck and secured. I begin collecting soil samples from the excavation. Susan Hugo and I determine that I will collect one soil sample from each of the four walls of the excavation. Samples will be collected from the soil near the soil/water interface that she and I have identified. I collected the four samples from the backhoe bucket in new stainless steel liners. Samples were placed on ice for transport to the laboratory. Samples will be analyzed according to the approved Underground Tank Closure Plan. We also agree that I will take one groundwater sample from the tank pit. However, I will have ECI pump out the excavation again to try and remove the sheen from the water.
- 13:00 ECI leaves the Site with the tanks to return to their storage yard. Susan Hugo leaves Site.
- 13:30 I collect four soil samples from the pea gravel backfill that was excavated from the tank pit. The pea gravel was stockpiled adjacent to the excavation on a layer of visqueen and also covered with visqueen. I collected the samples by hand in new stainless steel liners. Samples were placed on ice for transport to the laboratory.
- 14:00 EBI pumps groundwater out of excavation again. Sheen still present. I phone Earl James of EKI to ask whether I should still collect a groundwater sample with a sheen present. We agree that we will pump out the excavation again in the morning tomorrow, then I will collect a groundwater sample.
- 15:00 I pick up dust monitors.
- 16:00 I leave Site.

Distribution: Project Inspection File (orig)  
Project Manager

By: 

Logan Hansen

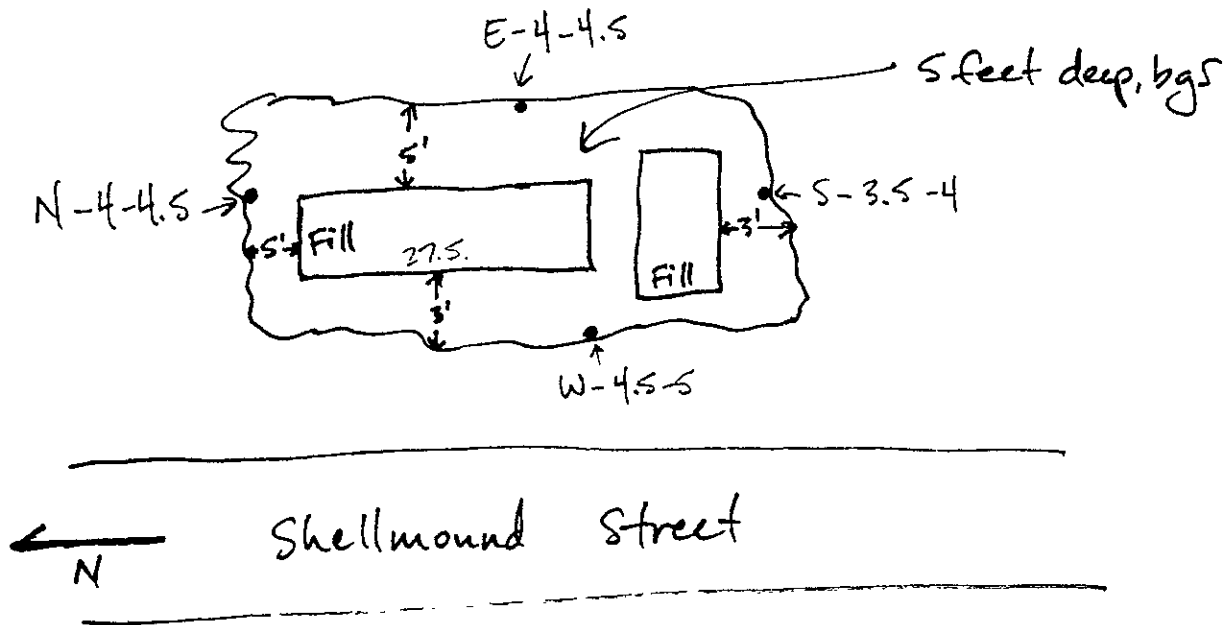
UST Removal

3/31/99

Former Elementis Pigments Facility

(E&I 970003.15)

Figure 1.



Large Diesel Tank

8 ft diameter

27.5 ft long

Small Gas Tank

5 ft diameter

6.5 ft long

Daily Inspection Report

Page 1 of 1

Date: 4/1/99

Project: UST Removal- Former Elementis Pigments Facility Demolition

EKI 970003.15

Contractor: Evans Brothers, Inc.

EKI Staff On-site: Logan Hansen, Deb Hart

Weather: Sunny, cool

On-site Personnel: EBI: John Crawford, Willie

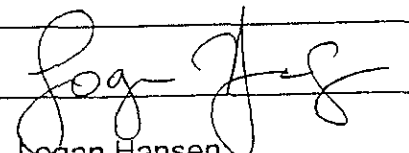
Visitors: Keith from HSR, Dean Garza from Ghilotti Construction

## Work Report:

- 7:30 I arrive at the Site. Deb Hart already <sup>o</sup>in Site. EBI has been pumping groundwater out of the excavation into a Baker Tank on Site. A light sheen is present on the groundwater in the excavation.
- 9:30 I collect groundwater sample from pit. Using a disposable bailer. Slight sheen still visible on water. Samples will be analyzed according to the approved Underground Tank Closure Plan.
- 10:30 I conduct drum inventory with John Crawford of EBI. We count and identify all drums that are presently on Site. See attached list.
- 10:45 Keith from HSR arrives on Site to inspect the area in regards to the Remediation Contract. He leaves at 11:00.
- 11:30-12:30 Lunch.
- 14:00 I collect water sample from Baker Tank on Site that we used to store water from the UST excavation pit.
- 14:45 Dean Garza arrives on Site to inspect the Site in regards to the Remediation Contract. He leaves Site at 15:30.
- 16:00 I leave Site.

Distribution: Project Inspection File (orig)  
Project Manager

By:

  
Logan Hansen

**APPENDIX D**

**UNIFORM HAZARDOUS WASTE MANIFEST FOR  
DISPOSAL OF UNDERGROUND STORAGE TANKS**

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER: 1-800-424-8802. WITHIN CALIFORNIA, CALL: 1-800-852-7550.

UNIFORM HAZARDOUS WASTE MANIFEST  
 Generator's US EPA ID No. CA D0092061785  
 Manifest Document No. 51268  
 Page 1 of 1  
 Information in the shaded area is not required by Federal law.

3. Generator Name and Mailing Address:  
 CITY OF EMERYVILLE  
 2255 FARR BLVD  
 EMERYVILLE, CA 94508  
 4. Generator's Phone: 510-1053-1069  
 5. Transporter 1 Company Name: ECOLOGY CONTROL INDUSTRIES  
 6. US EPA ID Number: CAD982030173  
 7. State Manifest Document Number: 98751268  
 8. State Generator ID: 610-235-1392

9. Designated Facility Name and Site Address:  
 ERICKSON INC  
 255 FARR BLVD  
 RICHMOND, CA 94801  
 10. US EPA ID Number: CAD009466392

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit (WT/VOL)	15. Waste Number
	No.	Type			
WASTE EMPTY STORAGE TANK Non-RCRA hazardous waste solid DISPOSER 1100-251 of PIPING	092	TR	1	11000	P

16. Additional Descriptions or Material Listed Above:  
 CITY OF EMERYVILLE STORAGE TANKS  
 TANKS HAVE BEEN INERTED WITH 16 LBS DRY ICE PER 100 GALLONS CAPACITY

15. Special Handling Instructions and Additional Information:  
 Wear appropriate protective clothing when handling.  
 24 Hour Emergency Telephone Number:  
 24 Hour Emergency Contact: 800-535-5053  
 SITE LOCATION: HARCROSS Facility  
 EMERYVILLE CA  
 ERG# 171

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.  
 If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Juan C. Arreguin  
 Signature: [Signature]  
 Month/Day/Year: 03/31/99

17. Transporter 1 Acknowledgement of Receipt of Materials  
 Printed/Typed Name: James H. Scarborough  
 Signature: [Signature]  
 Month/Day/Year: 03/31/99

18. Transporter 2 Acknowledgement of Receipt of Materials  
 Printed/Typed Name: [Blank]  
 Signature: [Blank]  
 Month/Day/Year: [Blank]

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19  
 Printed/Typed Name: [Blank]  
 Signature: [Blank]  
 Month/Day/Year: [Blank]

DO NOT WRITE BELOW THIS LINE.

**APPENDIX E**  
**SEQUOIA ANALYTICAL LABORATORY**  
**LABORATORY REPORTING SHEETS**



# Sequoia Analytical

1455 McDowell Blvd. North, Ste. D  
Petaluma, CA 94954  
(707) 792-1865  
FAX (707) 792-0342

April 29, 1999

Logan Hansen  
Erler & Kalinowski, Inc (EKI)  
1730 S. Amphlett, Suite 320  
San Mateo, CA 94402

RE: Emeryville - South Bayfront/P904053

Dear Logan Hansen

Enclosed are the results of analyses for sample(s) received by the laboratory on April 1, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott Forbes  
Project Manager

CA ELAP Certificate Number 2245

RECEIVED

MAY 03 1999

ERLER & KALINOWSKI, INC.



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
---	--	---

**ANALYTICAL REPORT FOR P904053**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
W-4.5-5	P904053-01	Soil	3/31/99
S-3.5-4	P904053-02	Soil	3/31/99
N-4-4.5	P904053-03	Soil	3/31/99
E-4-4.5	P904053-04	Soil	3/31/99





Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
---	--	---

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>W-4.5-5</u>				<u>P904053-01</u>			<u>Soil</u>	
Gasoline	9040134	4/7/99	4/7/99		400	ND	ug/kg	
Benzene	"	"	"		2.00	ND	"	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		4.00	ND	"	
Methyl tert-butyl ether	"	"	"		10.0	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	65.0-135		93.7	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	65.0-135		81.3	"	
<u>S-3.5-4</u>				<u>P904053-02</u>			<u>Soil</u>	
Gasoline	9040134	4/7/99	4/7/99		400	ND	ug/kg	
Benzene	"	"	"		2.00	ND	"	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		4.00	ND	"	
Methyl tert-butyl ether	"	"	"		10.0	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	65.0-135		97.7	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	65.0-135		80.3	"	
<u>N-4-4.5</u>				<u>P904053-03</u>			<u>Soil</u>	
Gasoline	9040134	4/7/99	4/7/99		400	ND	ug/kg	
Benzene	"	"	"		2.00	ND	"	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		4.00	ND	"	
Methyl tert-butyl ether	"	"	"		10.0	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	65.0-135		99.3	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	65.0-135		85.0	"	
<u>E-4-4.5</u>				<u>P904053-04</u>			<u>Soil</u>	
Gasoline	9040134	4/7/99	4/7/99		400	ND	ug/kg	
Benzene	"	"	"		2.00	ND	"	
Toluene	"	"	"		2.00	ND	"	
Ethylbenzene	"	"	"		2.00	ND	"	
Xylenes (total)	"	"	"		4.00	ND	"	
Methyl tert-butyl ether	"	"	"		10.0	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	65.0-135		96.3	%	
Surrogate: 4-Bromofluorobenzene	"	"	"	65.0-135		83.7	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				<b><u>P904053-01</u></b>			<b><u>Soil</u></b>	
<b><u>W-4.5-5</u></b> Diesel	9040249	4/12/99	4/19/99		5.00	ND	mg/kg	
Motor Oil	"	"	"		10.0	13.4	"	
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		95.8	%	
				<b><u>P904053-02</u></b>			<b><u>Soil</u></b>	
<b><u>S-3.5-4</u></b> Diesel	9040249	4/12/99	4/19/99		5.00	ND	mg/kg	
Motor Oil	"	"	"		10.0	ND	"	
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		89.2	%	
				<b><u>P904053-03</u></b>			<b><u>Soil</u></b>	
<b><u>N-4-4.5</u></b> Diesel	9040249	4/12/99	4/19/99		5.00	ND	mg/kg	
Motor Oil	"	"	"		10.0	ND	"	
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		86.5	%	
				<b><u>P904053-04</u></b>			<b><u>Soil</u></b>	
<b><u>E-4-4.5</u></b> Diesel	9040249	4/12/99	4/19/99		5.00	ND	mg/kg	
Motor Oil	"	"	"		10.0	ND	"	
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		99.7	%	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Metals by EPA 6000/7000 Series Methods  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>W-4.5-5</u>								<u>Soil</u>
Cadmium	9040075	4/8/99	4/8/99	EPA 6010A	1.00	ND	mg/kg	
Chromium	"	"	"	EPA 6010A	1.00	30.7	"	
Lead	"	"	"	EPA 6010A	7.50	ND	"	
Nickel	"	"	"	EPA 6010A	3.00	44.4	"	
Zinc	"	"	"	EPA 6010A	2.00	35.6	"	
<u>S-3.5-4</u>								<u>Soil</u>
Cadmium	9040075	4/8/99	4/9/99	EPA 6010A	2.00	ND	mg/kg	
Chromium	"	"	"	EPA 6010A	2.00	61.2	"	
Lead	"	"	"	EPA 6010A	15.0	ND	"	
Nickel	"	"	"	EPA 6010A	6.00	135	"	
Zinc	"	"	"	EPA 6010A	4.00	33.8	"	
<u>N-4-4.5</u>								<u>Soil</u>
Cadmium	9040075	4/8/99	4/8/99	EPA 6010A	1.00	ND	mg/kg	
Chromium	"	"	"	EPA 6010A	1.00	56.4	"	
Lead	"	"	"	EPA 6010A	7.50	20.1	"	
Nickel	"	"	"	EPA 6010A	3.00	123	"	
Zinc	"	"	"	EPA 6010A	2.00	34.9	"	
<u>E-4-4.5</u>								<u>Soil</u>
Cadmium	9040075	4/8/99	4/8/99	EPA 6010A	1.00	ND	mg/kg	
Chromium	"	"	"	EPA 6010A	1.00	31.8	"	
Lead	"	"	"	EPA 6010A	7.50	ND	"	
Nickel	"	"	"	EPA 6010A	3.00	34.1	"	
Zinc	"	"	"	EPA 6010A	2.00	40.9	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>W-4.5-5</b>				<b>P904053-01</b>			<b>Soil</b>	
Bromodichloromethane	9040089	4/5/99	4/6/99		50.0	ND	ug/kg	
Bromoform	"	"	"		50.0	ND	"	
Bromomethane	"	"	"		50.0	ND	"	
Carbon tetrachloride	"	"	"		50.0	ND	"	
Chlorobenzene	"	"	"		50.0	ND	"	
Chloroethane	"	"	"		50.0	ND	"	
2-Chloroethylvinyl ether	"	"	"		500	ND	"	
Chloroform	"	"	"		50.0	ND	"	
Chloromethane	"	"	"		50.0	ND	"	
Dibromochloromethane	"	"	"		50.0	ND	"	
1,2-Dibromoethane (EDB)	"	"	"		50.0	ND	"	
1,2-Dichlorobenzene	"	"	"		50.0	ND	"	
1,3-Dichlorobenzene	"	"	"		50.0	ND	"	
1,4-Dichlorobenzene	"	"	"		50.0	ND	"	
Dichlorodifluoromethane	"	"	"		50.0	ND	"	
1,1-Dichloroethane	"	"	"		50.0	ND	"	
1,2-Dichloroethane	"	"	"		50.0	ND	"	
1,1-Dichloroethene	"	"	"		50.0	ND	"	
cis-1,2-Dichloroethene	"	"	"		50.0	ND	"	
trans-1,2-Dichloroethene	"	"	"		50.0	ND	"	
1,2-Dichloropropane	"	"	"		50.0	ND	"	
cis-1,3-Dichloropropene	"	"	"		50.0	ND	"	
trans-1,3-Dichloropropene	"	"	"		50.0	ND	"	
Freon 113	"	"	"		50.0	ND	"	
Methylene chloride	"	"	"		50.0	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		50.0	ND	"	
Tetrachloroethene	"	"	"		50.0	ND	"	
1,1,2-Trichloroethane	"	"	"		50.0	ND	"	
1,1,1-Trichloroethane	"	"	"		50.0	ND	"	
Trichloroethene	"	"	"		50.0	ND	"	
Trichlorofluoromethane	"	"	"		50.0	ND	"	
Vinyl chloride	"	"	"		50.0	ND	"	
Surrogate: Bromochloromethane	"	"	"	65.0-135		103	%	
Surrogate: 1,4-Dichlorobutane	"	"	"	65.0-135		105	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>S-3.5-4</u>				<u>P904053-02</u>			<u>Soil</u>	
Bromodichloromethane	9040089	4/5/99	4/6/99		50.0	ND	ug/kg	
Bromoform	"	"	"		50.0	ND	"	
Bromomethane	"	"	"		50.0	ND	"	
Carbon tetrachloride	"	"	"		50.0	ND	"	
Chlorobenzene	"	"	"		50.0	ND	"	
Chloroethane	"	"	"		50.0	ND	"	
2-Chloroethylvinyl ether	"	"	"		500	ND	"	
Chloroform	"	"	"		50.0	ND	"	
Chloromethane	"	"	"		50.0	ND	"	
Dibromochloromethane	"	"	"		50.0	ND	"	
1,2-Dibromoethane (EDB)	"	"	"		50.0	ND	"	
1,2-Dichlorobenzene	"	"	"		50.0	ND	"	
1,3-Dichlorobenzene	"	"	"		50.0	ND	"	
1,4-Dichlorobenzene	"	"	"		50.0	ND	"	
Dichlorodifluoromethane	"	"	"		50.0	ND	"	
1,1-Dichloroethane	"	"	"		50.0	ND	"	
1,2-Dichloroethane	"	"	"		50.0	ND	"	
1,1-Dichloroethene	"	"	"		50.0	ND	"	
cis-1,2-Dichloroethene	"	"	"		50.0	ND	"	
trans-1,2-Dichloroethene	"	"	"		50.0	ND	"	
1,2-Dichloropropane	"	"	"		50.0	ND	"	
cis-1,3-Dichloropropene	"	"	"		50.0	ND	"	
trans-1,3-Dichloropropene	"	"	"		50.0	ND	"	
Freon 113	"	"	"		50.0	ND	"	
Methylene chloride	"	"	"		50.0	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		50.0	ND	"	
Tetrachloroethene	"	"	"		50.0	ND	"	
1,1,2-Trichloroethane	"	"	"		50.0	ND	"	
1,1,1-Trichloroethane	"	"	"		50.0	ND	"	
Trichloroethene	"	"	"		50.0	ND	"	
Trichlorofluoromethane	"	"	"		50.0	ND	"	
Vinyl chloride	"	"	"		50.0	ND	"	
Surrogate: Bromochloromethane	"	"	"	65.0-135		95.7	%	
Surrogate: 1,4-Dichlorobutane	"	"	"	65.0-135		103	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
<u>N-4-4,5</u>				<u>P904053-03</u>			<u>Soil</u>	
Bromodichloromethane	9040089	4/5/99	4/6/99		50.0	ND	ug/kg	
Bromoform	"	"	"		50.0	ND	"	
Bromomethane	"	"	"		50.0	ND	"	
Carbon tetrachloride	"	"	"		50.0	ND	"	
Chlorobenzene	"	"	"		50.0	ND	"	
Chloroethane	"	"	"		50.0	ND	"	
2-Chloroethylvinyl ether	"	"	"		500	ND	"	
Chloroform	"	"	"		50.0	ND	"	
Chloromethane	"	"	"		50.0	ND	"	
Dibromochloromethane	"	"	"		50.0	ND	"	
1,2-Dibromoethane (EDB)	"	"	"		50.0	ND	"	
1,2-Dichlorobenzene	"	"	"		50.0	ND	"	
1,3-Dichlorobenzene	"	"	"		50.0	ND	"	
1,4-Dichlorobenzene	"	"	"		50.0	ND	"	
Dichlorodifluoromethane	"	"	"		50.0	ND	"	
1,1-Dichloroethane	"	"	"		50.0	ND	"	
1,2-Dichloroethane	"	"	"		50.0	ND	"	
1,1-Dichloroethene	"	"	"		50.0	ND	"	
cis-1,2-Dichloroethene	"	"	"		50.0	ND	"	
trans-1,2-Dichloroethene	"	"	"		50.0	ND	"	
1,2-Dichloropropane	"	"	"		50.0	ND	"	
cis-1,3-Dichloropropene	"	"	"		50.0	ND	"	
trans-1,3-Dichloropropene	"	"	"		50.0	ND	"	
Freon 113	"	"	"		50.0	ND	"	
Methylene chloride	"	"	"		50.0	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		50.0	ND	"	
Tetrachloroethene	"	"	"		50.0	ND	"	
1,1,2-Trichloroethane	"	"	"		50.0	ND	"	
1,1,1-Trichloroethane	"	"	"		50.0	ND	"	
Trichloroethene	"	"	"		50.0	ND	"	
Trichlorofluoromethane	"	"	"		50.0	ND	"	
Vinyl chloride	"	"	"		50.0	ND	"	
Surrogate: Bromochloromethane	"	"	"	65.0-135		104	%	
Surrogate: 1,4-Dichlorobutane	"	"	"	65.0-135		109	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>E-4-4.5</u>				<u>P904053-04</u>			<u>Soil</u>	
Bromodichloromethane	9040089	4/5/99	4/6/99		50.0	ND	ug/kg	
Bromoform	"	"	"		50.0	ND	"	
Bromomethane	"	"	"		50.0	ND	"	
Carbon tetrachloride	"	"	"		50.0	ND	"	
Chlorobenzene	"	"	"		50.0	ND	"	
Chloroethane	"	"	"		50.0	ND	"	
2-Chloroethylvinyl ether	"	"	"		500	ND	"	
Chloroform	"	"	"		50.0	ND	"	
Chloromethane	"	"	"		50.0	ND	"	
Dibromochloromethane	"	"	"		50.0	ND	"	
1,2-Dibromoethane (EDB)	"	"	"		50.0	ND	"	
1,2-Dichlorobenzene	"	"	"		50.0	ND	"	
1,3-Dichlorobenzene	"	"	"		50.0	ND	"	
1,4-Dichlorobenzene	"	"	"		50.0	ND	"	
Dichlorodifluoromethane	"	"	"		50.0	ND	"	
1,1-Dichloroethane	"	"	"		50.0	ND	"	
1,2-Dichloroethane	"	"	"		50.0	ND	"	
1,1-Dichloroethene	"	"	"		50.0	ND	"	
cis-1,2-Dichloroethene	"	"	"		50.0	ND	"	
trans-1,2-Dichloroethene	"	"	"		50.0	ND	"	
1,2-Dichloropropane	"	"	"		50.0	ND	"	
cis-1,3-Dichloropropene	"	"	"		50.0	ND	"	
trans-1,3-Dichloropropene	"	"	"		50.0	ND	"	
Freon 113	"	"	"		50.0	ND	"	
Methylene chloride	"	"	"		50.0	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		50.0	ND	"	
Tetrachloroethene	"	"	"		50.0	ND	"	
1,1,2-Trichloroethane	"	"	"		50.0	ND	"	
1,1,1-Trichloroethane	"	"	"		50.0	ND	"	
Trichloroethene	"	"	"		50.0	ND	"	
Trichlorofluoromethane	"	"	"		50.0	ND	"	
Vinyl chloride	"	"	"		50.0	ND	"	
Surrogate: Bromochloromethane	"	"	"	65.0-135		106	%	
Surrogate: 1,4-Dichlorobutane	"	"	"	65.0-135		110	"	



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040134</b>			<b>Date Prepared: 4/7/99</b>			<b>Extraction Method: EPA 5030 soils</b>				
<b>Blank</b>										
<b>9040134-BLK1</b>										
Gasoline	4/7/99			ND	ug/kg	400				
Benzene	"			ND	"	2.00				
Toluene	"			ND	"	2.00				
Ethylbenzene	"			ND	"	2.00				
Xylenes (total)	"			ND	"	4.00				
Methyl tert-butyl ether	"			ND	"	10.0				
Surrogate: a,a,a-Trifluorotoluene	"	300		269	"	65.0-135	89.7			
Surrogate: 4-Bromofluorobenzene	"	300		270	"	65.0-135	90.0			
<b>LCS</b>										
<b>9040134-BS1</b>										
Gasoline	4/7/99	2000		1960	ug/kg	65.0-135	98.0			
Surrogate: 4-Bromofluorobenzene	"	300		259	"	65.0-135	86.3			
<b>LCS</b>										
<b>9040134-BS2</b>										
Benzene	4/7/99	200		199	ug/kg	65.0-135	99.5			
Toluene	"	200		195	"	65.0-135	97.5			
Ethylbenzene	"	200		192	"	65.0-135	96.0			
Xylenes (total)	"	600		581	"	65.0-135	96.8			
Surrogate: a,a,a-Trifluorotoluene	"	300		307	"	65.0-135	102			
<b>Matrix Spike</b>										
<b>9040134-MS1 P904043-01</b>										
Gasoline	4/7/99	2000	ND	1320	ug/kg	65.0-135	66.0			
Surrogate: 4-Bromofluorobenzene	"	300		177	"	65.0-135	59.0			
<b>Matrix Spike</b>										
<b>9040134-MS2 P904043-01</b>										
Benzene	4/7/99	200	ND	201	ug/kg	65.0-135	101			
Toluene	"	200	ND	193	"	65.0-135	96.5			
Ethylbenzene	"	200	ND	184	"	65.0-135	92.0			
Xylenes (total)	"	600	ND	545	"	65.0-135	90.8			
Surrogate: a,a,a-Trifluorotoluene	"	300		321	"	65.0-135	107			
<b>Matrix Spike Dup</b>										
<b>9040134-MSD1 P904043-01</b>										
Gasoline	4/7/99	2000	ND	1370	ug/kg	65.0-135	68.5	35.0	3.72	
Surrogate: 4-Bromofluorobenzene	"	300		183	"	65.0-135	61.0			
<b>Matrix Spike Dup</b>										
<b>9040134-MSD2 P904043-01</b>										
Benzene	4/7/99	200	ND	220	ug/kg	65.0-135	110	35.0	8.53	
Toluene	"	200	ND	203	"	65.0-135	102	35.0	5.54	
Ethylbenzene	"	200	ND	188	"	65.0-135	94.0	35.0	2.15	
Xylenes (total)	"	600	ND	557	"	65.0-135	92.8	35.0	2.18	





# Sequoia Analytical

1455 McDowell Blvd. North, Ste. C  
 Petaluma, CA 94954  
 (707) 792-1865  
 FAX (707) 792-0342

Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M/Quality Control  
 Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<u>Matrix Spike Dup (continued)</u>	<u>9040134-MSD2</u>		<u>P904043-01</u>							
Surrogate: <i>a,a,a-Trifluorotoluene</i>	4/7/99	300		328	ug/kg	65.0-135	109			



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EK1 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040249</b>		<b>Date Prepared: 4/12/99</b>			<b>Extraction Method: EPA 3550A</b>					
<b>Blank</b>										
<b>9040249-BLK1</b>										
Diesel	4/15/99			ND	mg/kg	5.00				
Motor Oil	"			ND	"	10.0				
Surrogate: <i>o</i> -Terphenyl	"	3.33		3.27	"	50.0-150	98.2			
<b>LCS</b>										
<b>9040249-BS1</b>										
Diesel	4/16/99	33.3		27.3	mg/kg	50.0-150	82.0			
Surrogate: <i>o</i> -Terphenyl	"	3.33		3.09	"	50.0-150	92.8			
<b>Matrix Spike</b>										
<b>9040249-MS1 P904072-38</b>										
Diesel	4/28/99	33.3	1140	700	mg/kg	50.0-150	-1320			
Surrogate: <i>o</i> -Terphenyl	"	3.33		3.52	"	50.0-150	106			
<b>Matrix Spike Dup</b>										
<b>9040249-MSD1 P904072-38</b>										
Diesel	4/28/99	33.3	1140	726	mg/kg	50.0-150	-1240	35.0		
Surrogate: <i>o</i> -Terphenyl	"	3.33		3.37	"	50.0-150	101			



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Total Metals by EPA 6000/7000 Series Methods/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<u>Batch: 9040075</u>			<u>Date Prepared: 4/8/99</u>			<u>Extraction Method: EPA 3050B</u>				
<u>Blank</u>										
Cadmium	4/8/99			ND	mg/kg	1.00				
Chromium	"			ND	"	1.00				
Lead	"			ND	"	7.50				
Nickel	"			ND	"	3.00				
Zinc	"			ND	"	2.00				
<u>LCS</u>										
Cadmium	4/8/99	5.00		4.81	mg/kg	80.0-120	96.2			
Chromium	"	50.0		43.3	"	80.0-120	86.6			
Lead	"	50.0		44.4	"	80.0-120	88.8			
Nickel	"	50.0		44.4	"	80.0-120	88.8			
Zinc	"	50.0		44.8	"	80.0-120	89.6			
<u>Matrix Spike</u>										
		<u>9040075-MS1</u>	<u>P904044-01</u>							
Cadmium	4/8/99	4.72	ND	4.40	mg/kg	75.0-125	93.2			
Chromium	"	47.2	591	738	"	75.0-125	311			
Lead	"	47.2	8.26	44.1	"	75.0-125	75.9			
Nickel	"	47.2	1110	1060	"	75.0-125	-106			
Zinc	"	47.2	23.5	61.6	"	75.0-125	80.7			
<u>Matrix Spike Dup</u>										
		<u>9040075-MSD1</u>	<u>P904044-01</u>							
Cadmium	4/8/99	4.81	ND	4.69	mg/kg	75.0-125	97.5	20.0	4.51	
Chromium	"	48.1	591	667	"	75.0-125	158	20.0	65.2	
Lead	"	48.1	8.26	45.5	"	75.0-125	77.4	20.0	1.96	
Nickel	"	48.1	1110	1180	"	75.0-125	146	20.0	1260	
Zinc	"	48.1	23.5	64.1	"	75.0-125	84.4	20.0	4.48	
<u>Matrix Spike Dup</u>										
		<u>9040075-MSD2</u>	<u>P904044-01</u>							
Cadmium	4/8/99	4.72	ND	4.32	mg/kg	75.0-125	91.5	20.0		
Lead	"	47.2	8.26	48.1	"	75.0-125	84.4	20.0		
Zinc	"	47.2	23.5	64.3	"	75.0-125	86.4	20.0		



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040089</b>		<b>Date Prepared: 4/5/99</b>			<b>Extraction Method: EPA 5030 soils MeOH</b>					
<b>Blank</b>		<b>9040089-BLK1</b>								
Bromodichloromethane	4/2/99			ND	ug/kg	50.0				
Bromoform	"			ND	"	50.0				
Bromomethane	"			ND	"	50.0				
Carbon tetrachloride	"			ND	"	50.0				
Chlorobenzene	"			ND	"	50.0				
Chloroethane	"			ND	"	50.0				
2-Chloroethylvinyl ether	"			ND	"	500				
Chloroform	"			ND	"	50.0				
Chloromethane	"			ND	"	50.0				
Dibromochloromethane	"			ND	"	50.0				
1,2-Dibromoethane (EDB)	"			ND	"	50.0				
1,2-Dichlorobenzene	"			ND	"	50.0				
1,3-Dichlorobenzene	"			ND	"	50.0				
1,4-Dichlorobenzene	"			ND	"	50.0				
Dichlorodifluoromethane	"			ND	"	50.0				
1,1-Dichloroethane	"			ND	"	50.0				
1,2-Dichloroethane	"			ND	"	50.0				
1,1-Dichloroethene	"			ND	"	50.0				
cis-1,2-Dichloroethene	"			ND	"	50.0				
trans-1,2-Dichloroethene	"			ND	"	50.0				
1,2-Dichloropropane	"			ND	"	50.0				
cis-1,3-Dichloropropene	"			ND	"	50.0				
trans-1,3-Dichloropropene	"			ND	"	50.0				
Freon 113	"			ND	"	50.0				
Methylene chloride	"			76.7	"	50.0				
1,1,2,2-Tetrachloroethane	"			ND	"	50.0				
Tetrachloroethene	"			ND	"	50.0				
1,1,2-Trichloroethane	"			ND	"	50.0				
1,1,1-Trichloroethane	"			ND	"	50.0				
Trichloroethene	"			ND	"	50.0				
Trichlorofluoromethane	"			ND	"	50.0				
Vinyl chloride	"			ND	"	50.0				
Surrogate: Bromochloromethane	"	3000		3010	"	65.0-135	100			
Surrogate: 1,4-Dichlorobutane	"	3000		3140	"	65.0-135	105			
<b>Blank</b>		<b>9040089-BLK2</b>								
Bromodichloromethane	4/5/99			ND	ug/kg	50.0				
Bromoform	"			ND	"	50.0				
Bromomethane	"			ND	"	50.0				
Carbon tetrachloride	"			ND	"	50.0				



Erler & Kainowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<b>Blank (continued)</b>										
<u>9040089-BLK2</u>										
Chlorobenzene	4/5/99			ND	ug/kg	50.0				
Chloroethane	"			ND	"	50.0				
2-Chloroethylvinyl ether	"			ND	"	500				
Chloroform	"			ND	"	50.0				
Chloromethane	"			ND	"	50.0				
Dibromochloromethane	"			ND	"	50.0				
1,2-Dibromoethane (EDB)	"			ND	"	50.0				
1,2-Dichlorobenzene	"			ND	"	50.0				
1,3-Dichlorobenzene	"			ND	"	50.0				
1,4-Dichlorobenzene	"			ND	"	50.0				
Dichlorodifluoromethane	"			ND	"	50.0				
1,1-Dichloroethane	"			ND	"	50.0				
1,2-Dichloroethane	"			ND	"	50.0				
1,1-Dichloroethene	"			ND	"	50.0				
cis-1,2-Dichloroethene	"			ND	"	50.0				
trans-1,2-Dichloroethene	"			ND	"	50.0				
1,2-Dichloropropane	"			ND	"	50.0				
cis-1,3-Dichloropropene	"			ND	"	50.0				
trans-1,3-Dichloropropene	"			ND	"	50.0				
Freon 113	"			ND	"	50.0				
Methylene chloride	"			ND	"	50.0				
1,1,1,2-Tetrachloroethane	"			ND	"	50.0				
Tetrachloroethene	"			ND	"	50.0				
1,1,2-Trichloroethane	"			ND	"	50.0				
1,1,1-Trichloroethane	"			ND	"	50.0				
Trichloroethene	"			ND	"	50.0				
Trichlorofluoromethane	"			ND	"	50.0				
Vinyl chloride	"			ND	"	50.0				
Surrogate: Bromochloromethane	"	3000		2920	"	65.0-135	97.3			
Surrogate: 1,4-Dichlorobutane	"	3000		3020	"	65.0-135	101			
<b>LCS</b>										
<u>9040089-BS1</u>										
Chlorobenzene	4/2/99	1000		1080	ug/kg	50.0-150	108			
1,1-Dichloroethene	"	1000		897	"	50.0-150	89.7			
Trichloroethene	"	1000		867	"	50.0-150	86.7			
Surrogate: Bromochloromethane	"	3000		2750	"	65.0-135	91.7			
Surrogate: 1,4-Dichlorobutane	"	3000		2760	"	65.0-135	92.0			
<b>LCS</b>										
<u>9040089-BS2</u>										
Chlorobenzene	4/5/99	1000		1010	ug/kg	50.0-150	101			
1,1-Dichloroethene	"	1000		910	"	50.0-150	91.0			



Erier & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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**Volatile Organic Compounds by EPA Method 8010B/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>LCS (continued)</b>		<b>9040089-BS2</b>								
Trichloroethene	4/5/99	1000		860	ug/kg	50.0-150	86.0			
Surrogate: Bromochloromethane	"	3000		2720	"	65.0-135	90.7			
Surrogate: 1,4-Dichlorobutane	"	3000		2590	"	65.0-135	86.3			
<b>Matrix Spike</b>		<b>9040089-MS1</b>	<b>P904029-21</b>							
Chlorobenzene	4/5/99	1000	ND	1150	ug/kg		115			
1,1-Dichloroethene	"	1000	ND	981	"		98.1			
Trichloroethene	"	1000	ND	948	"		94.8			
Surrogate: Bromochloromethane	"	3000		2860	"	65.0-135	95.3			
Surrogate: 1,4-Dichlorobutane	"	3000		2930	"	65.0-135	97.7			
<b>Matrix Spike Dup</b>		<b>9040089-MSD1</b>	<b>P904029-21</b>							
Chlorobenzene	4/5/99	1000	ND	1150	ug/kg		115		0	
1,1-Dichloroethene	"	1000	ND	994	"		99.4		1.32	
Trichloroethene	"	1000	ND	911	"		91.1		3.98	
Surrogate: Bromochloromethane	"	3000		2750	"	65.0-135	91.7			
Surrogate: 1,4-Dichlorobutane	"	3000		2800	"	65.0-135	93.3			



Erler & Kalinowski, Inc (EKI) 1730 S. Amphlett, Suite 320 San Mateo, CA 94402	Project: Emeryville - South Bayfront Project Number: EKI 970003.15 Project Manager: Logan Hansen	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/29/99
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Notes and Definitions

#	Note
1	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to <i>analyte concentration</i> at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
2	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
3	This analyte is a common laboratory contaminant.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 970003.15

Page of

Date Sampled: 3/31/99

Project Name: Emeryville- South Bayfront

Sampled By: Logan Hansen

Source of Samples: UST Pit

Report Results To: Logan Hansen- EKI

Location: Emeryville, CA

Phone Number: (650) 578-1172, FAX: (650) 578-9131

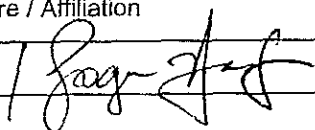
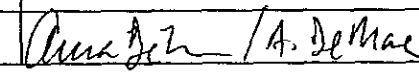
Lab Sample ID	Field Sample ID	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
19040 53-d	W-4.5-5	Soil	One 6-inch Stainless Steel Liner	12:30	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
↓ -03	S-3.5-4	Soil	One 6-inch Stainless Steel Liner	12:45	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
↓ -03	N-4-4.5	Soil	One 6-inch Stainless Steel Liner	12:55	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
↓ -04	E-4-4.5	Soil	One 6-inch Stainless Steel Liner	13:00	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
		Soil	One 6-inch Stainless Steel Liner		TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard

Relinquished By:  
Name / Signature / Affiliation

Date Time

Received By:  COOLER CUSTODY SEALS INTACT  NOT INTACT

COOLER TEMPERATURE 6 °C

Logan Hansen		/EKI	3/31/99	16:42	
					 / A. DeMaie / Sequoia

3/31/99

1642





Sequoia  
Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063	(650) 364-9600	FAX (650) 364-9233
Walnut Creek, CA 94598	(925) 988-9600	FAX (925) 988-9673
Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-0100
Petaluma, CA 94954	(707) 792-1865	FAX (707) 792-0342
San Carlos, CA 94070-4111	(650) 232-9600	FAX (650) 232-9612

April 28, 1999

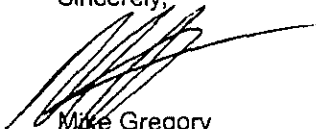
Logan Hanson  
Erler & Kalinowski, Inc.  
1730 South Amplett, Suite 320  
San Mateo, CA 94402

RE: EKII/L904030

Dear Logan Hanson:

Enclosed are the results of analyses for sample(s) received by the laboratory on April 1, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Gregory  
Project Manager D.M.

RECEIVED

MAY 07 1999

ERLER & KALINOWSKI, INC.



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954  
San Carlos, CA 94070-4111

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(925) 988-9600  
(916) 921-9600  
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(650) 232-9600

FAX (650) 364-9233  
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Erler & Kalinowski, Inc.  
1730 South Amplett, Suite 320  
San Mateo, CA 94402

Project: EKI  
Project Number: 970003.15, Emeryville-South Bayfront  
Project Manager: Logan Hanson

Sampled: 3/31/99  
Received: 4/1/99  
Reported: 4/28/99

**ANALYTICAL REPORT FOR L904030**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
UST-W	L904030-01	Water	3/31/99



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/28/99
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Sample Description: **UST-W**  
Laboratory Sample Number: **L904030-01**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes
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**Sequoia Analytical - San Carlos**

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT**

Purgeable Hydrocarbons as Gasoline	9040056	4/12/99	4/12/99		50.0	165	ug/l	1
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	1.19	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		92.2	%	

**Volatile Organic Compounds by EPA Method 8010B**

Bromodichloromethane	9030150	4/5/99	4/5/99		0.500	ND	ug/l	
Bromoform	"	"	"		0.500	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		0.500	ND	"	
Chlorobenzene	"	"	"		0.500	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
2-Chloroethylvinyl ether	"	"	"		1.00	ND	"	
Chloroform	"	"	"		0.500	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		0.500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.500	ND	"	
1,1-Dichloroethane	"	"	"		0.500	ND	"	
1,2-Dichloroethane	"	"	"		0.500	ND	"	
1,1-Dichloroethene	"	"	"		0.500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.500	0.665	"	
trans-1,2-Dichloroethene	"	"	"		0.500	ND	"	
1,2-Dichloropropane	"	"	"		0.500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.500	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"		0.500	ND	"	
Tetrachloroethene	"	"	"		0.500	ND	"	
1,1,1-Trichloroethane	"	"	"		0.500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.500	ND	"	
Trichloroethene	"	"	"		0.500	ND	"	
Trichlorofluoromethane	"	"	"		0.500	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB	"	"	"	70.0-130		88.0	%	



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
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Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
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San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/28/99
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## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040056</b>			<b>Date Prepared: 4/12/99</b>			<b>Extraction Method: EPA 5030B (P/T)</b>				
<b>Blank</b>			<b>9040056-BLK1</b>							
Purgeable Hydrocarbons as Gasoline	4/12/99			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		11.7	"	70.0-130	117			
<b>LCS</b>			<b>9040056-BS1</b>							
Benzene	4/12/99	10.0		10.3	ug/l	70.0-130	103			
Toluene	"	10.0		10.0	"	70.0-130	100			
Ethylbenzene	"	10.0		10.6	"	70.0-130	106			
Xylenes (total)	"	30.0		30.4	"	70.0-130	101			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.7	"	70.0-130	107			
<b>Matrix Spike</b>			<b>9040056-MS1</b>		<b>L904026-01</b>					
Benzene	4/12/99	10.0	0.677	10.6	ug/l	60.0-140	99.2			
Toluene	"	10.0	ND	10.1	"	60.0-140	101			
Ethylbenzene	"	10.0	ND	10.6	"	60.0-140	106			
Xylenes (total)	"	30.0	ND	30.7	"	60.0-140	102			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.44	"	70.0-130	94.4			
<b>Matrix Spike Dup</b>			<b>9040056-MSD1</b>		<b>L904026-01</b>					
Benzene	4/12/99	10.0	0.677	11.1	ug/l	60.0-140	104	25.0	4.72	
Toluene	"	10.0	ND	10.1	"	60.0-140	101	25.0	0	
Ethylbenzene	"	10.0	ND	10.2	"	60.0-140	102	25.0	3.85	
Xylenes (total)	"	30.0	ND	29.9	"	60.0-140	99.7	25.0	2.28	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.92	"	70.0-130	99.2			



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/28/99
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## Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9030150</b>	<b>Date Prepared: 3/31/99</b>			<b>Extraction Method: EPA 5030B (P/T)</b>						
<b>Blank</b>	<b>9030150-BLK1</b>									
Trichlorotrifluoroethane	3/31/99			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,1,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	1.00				
Surrogate: 4-BFB	"	10.0		10.7	"	70.0-130	107			

<b>Blank</b>	<b>9030150-BLK3</b>									
Bromodichloromethane	4/2/99			ND	ug/l	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				



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Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/28/99
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## Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD % Notes
<b>Blank (continued)</b>									
<b>9030150-BLK3</b>									
Chloroform	4/2/99			ND	ug/l	0.500			
Chloromethane	"			ND	"	1.00			
Dibromochloromethane	"			ND	"	0.500			
1,3-Dichlorobenzene	"			ND	"	0.500			
1,4-Dichlorobenzene	"			ND	"	0.500			
1,2-Dichlorobenzene	"			ND	"	0.500			
1,1-Dichloroethane	"			ND	"	0.500			
1,2-Dichloroethane	"			ND	"	0.500			
1,1-Dichloroethene	"			ND	"	0.500			
cis-1,2-Dichloroethene	"			ND	"	0.500			
trans-1,2-Dichloroethene	"			ND	"	0.500			
1,2-Dichloropropane	"			ND	"	0.500			
cis-1,3-Dichloropropene	"			ND	"	0.500			
trans-1,3-Dichloropropene	"			ND	"	0.500			
Methylene chloride	"			ND	"	5.00			
1,1,1,2-Tetrachloroethane	"			ND	"	0.500			
Tetrachloroethene	"			ND	"	0.500			
1,1,1-Trichloroethane	"			ND	"	0.500			
1,1,2-Trichloroethane	"			ND	"	0.500			
Trichloroethene	"			ND	"	0.500			
Trichlorofluoromethane	"			ND	"	0.500			
Vinyl chloride	"			ND	"	1.00			
Surrogate: 4-BFB	"	10.0		7.22	"	70.0-130	72.2		
<b>Blank</b>									
<b>9030150-BLK4</b>									
Bromodichloromethane	4/5/99			ND	ug/l	0.500			
Bromoform	"			ND	"	0.500			
Bromomethane	"			ND	"	1.00			
Carbon tetrachloride	"			ND	"	0.500			
Chlorobenzene	"			ND	"	0.500			
Chloroethane	"			ND	"	1.00			
2-Chloroethylvinyl ether	"			ND	"	1.00			
Chloroform	"			ND	"	0.500			
Chloromethane	"			ND	"	1.00			
Dibromochloromethane	"			ND	"	0.500			
1,3-Dichlorobenzene	"			ND	"	0.500			
1,4-Dichlorobenzene	"			ND	"	0.500			
1,2-Dichlorobenzene	"			ND	"	0.500			
1,1-Dichloroethane	"			ND	"	0.500			
1,2-Dichloroethane	"			ND	"	0.500			
1,1-Dichloroethene	"			ND	"	0.500			



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Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954  
San Carlos, CA 94070-4111

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865  
(650) 232-9600

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342  
FAX (650) 232-9612

Erler & Kalinowski, Inc.  
1730 South Amplett, Suite 320  
San Mateo, CA 94402

Project: EKI  
Project Number: 970003.15, Emeryville-South Bayfront  
Project Manager: Logan Hanson

Sampled: 3/31/99  
Received: 4/1/99  
Reported: 4/28/99

## Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Blank (continued)</b>										
<b>9030150-BLK4</b>										
cis-1,2-Dichloroethene	4/5/99			ND	ug/l	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,1,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	1.00				
Surrogate: 4-BFB	"	10.0		7.81	"	70.0-130	78.1			
<b>LCS</b>										
<b>9030150-BS1</b>										
Chlorobenzene	3/31/99	10.0		9.32	ug/l	70.0-130	93.2			
1,1-Dichloroethene	"	10.0		10.3	"	65.0-135	103			
Trichloroethene	"	10.0		10.7	"	70.0-130	107			
Surrogate: 4-BFB	"	10.0		7.59	"	70.0-130	75.9			
<b>LCS</b>										
<b>9030150-BS3</b>										
Chlorobenzene	4/2/99	10.0		11.2	ug/l	70.0-130	112			
1,1-Dichloroethene	"	10.0		11.4	"	65.0-135	114			
Trichloroethene	"	10.0		12.7	"	70.0-130	127			
Surrogate: 4-BFB	"	10.0		8.56	"	70.0-130	85.6			
<b>LCS</b>										
<b>9030150-BS4</b>										
Chlorobenzene	4/5/99	10.0		9.41	ug/l	70.0-130	94.1			
1,1-Dichloroethene	"	10.0		9.73	"	65.0-135	97.3			
Trichloroethene	"	10.0		10.5	"	70.0-130	105			
Surrogate: 4-BFB	"	10.0		7.02	"	70.0-130	70.2			
<b>Matrix Spike</b>										
<b>9030150-MS1 L903191-01</b>										
Chlorobenzene	3/31/99	10.0	ND	10.0	ug/l	60.0-140	100			
1,1-Dichloroethene	"	10.0	ND	11.9	"	60.0-140	119			
Trichloroethene	"	10.0	ND	12.1	"	60.0-140	121			
Surrogate: 4-BFB	"	10.0		8.65	"	70.0-130	86.5			
<b>Matrix Spike Dup</b>										
<b>9030150-MSD1 L903191-01</b>										
Chlorobenzene	3/31/99	10.0	ND	11.3	ug/l	60.0-140	113	25.0	12.2	

Sequoia Analytical - San Carlos

\*Refer to end of report for text of notes and definition



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680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954  
San Carlos, CA 94070-4111

(650) 364-9600  
(925) 988-9600  
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FAX (707) 792-0342  
FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/28/99
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**Volatile Organic Compounds by EPA Method 8010B/Quality Control**  
**Sequoia Analytical - San Carlos**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<u>Matrix Spike Dup (continued)</u>	<u>9030150-MSD1</u>		<u>L903191-01</u>							
1,1-Dichloroethene	3/31/99	10.0	ND	9.86	ug/l	60.0-140	98.6	25.0	18.8	
Trichloroethene	"	10.0	ND	12.6	"	60.0-140	126	25.0	4.05	
Surrogate: 4-BFB	"	10.0		9.45	"	70.0-130	94.5			





# Sequoia Analytical

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1455 McDowell Blvd. North, Ste.  
Petaluma, CA 9495  
(707) 792-186  
FAX (707) 792-034

May 3, 1999

Mike Gregory  
Sequoia San Carlos  
1551 Industrial Blvd.  
San Carlos, CA 94070

RE: Subbed in/P904081

Dear Mike Gregory

Enclosed are the results of analyses for sample(s) received by the laboratory on April 2, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matt Sakai  
Project Manager

CA ELAP Certificate Number 2245



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904030 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 5/3/99
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**ANALYTICAL REPORT FOR P904081**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
UST-W/L904030-01	P904081-01	Water	3/31/99



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904030 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 5/3/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>UST-W/L904030-01</u>				<u>P904081-01</u>			<u>Water</u>	
Diesel	9040332	4/14/99	4/25/99		0.0500	1.94	mg/l	1
Motor Oil	"	"	"		0.250	ND	"	
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		80.0	%	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904030 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 5/3/99
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**Dissolved Metals by EPA 200 Series Methods  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>UST-W/L904030-01</u>				<u>P904081-01</u>			<u>Water</u>	
Cadmium	9040213	4/9/99	4/11/99	EPA 200.7	10.0	ND	ug/l	
Chromium	"	"	"	EPA 200.7	10.0	ND	"	
Lead	"	"	"	EPA 200.7	75.0	ND	"	
Nickel	"	"	"	EPA 200.7	30.0	ND	"	
Zinc	"	"	"	EPA 200.7	20.0	24.5	"	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904030 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 5/3/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040332</b>			<b>Date Prepared: 4/14/99</b>			<b>Extraction Method: EPA 3520B</b>				
<b>Blank</b>										
<b>9040332-BLK1</b>										
Diesel	4/25/99			ND	mg/l	0.0500				
Motor Oil	"			ND	"	0.250				
Surrogate: o-Terphenyl	"	0.100		0.112	"	50.0-150	112			
<b>LCS</b>										
<b>9040332-BS1</b>										
Diesel	4/25/99	1.00		0.795	mg/l	50.0-150	79.5			
Surrogate: o-Terphenyl	"	0.100		0.0990	"	50.0-150	99.0			
<b>LCS Dup</b>										
<b>9040332-BSD1</b>										
Diesel	4/25/99	1.00		0.962	mg/l	50.0-150	96.2	20.0	19.0	
Surrogate: o-Terphenyl	"	0.100		0.115	"	50.0-150	115			



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904030 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 5/3/99
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**Dissolved Metals by EPA 200 Series Methods/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<b>Batch: 9040213</b>			<b>Date Prepared: 4/9/99</b>			<b>Extraction Method: EPA 3010A</b>				
<b>Blank</b>			<b>9040213-BLK1</b>							
Cadmium	4/11/99			ND	ug/l	10.0				
Chromium	"			ND	"	10.0				
Lead	"			ND	"	75.0				
Nickel	"			ND	"	30.0				
Zinc	"			ND	"	20.0				
<b>LCS</b>			<b>9040213-BS1</b>							
Cadmium	4/11/99	50.0		44.3	ug/l	85.0-115	88.6			
Chromium	"	500		449	"	85.0-115	89.8			
Lead	"	500		472	"	85.0-115	94.4			
Nickel	"	500		449	"	85.0-115	89.8			
Zinc	"	500		471	"	85.0-115	94.2			
<b>Matrix Spike</b>			<b>9040213-MS1 P904138-01</b>							
Cadmium	4/11/99	50.0	ND	41.5	ug/l	75.0-125	83.0			
Chromium	"	500	ND	379	"	75.0-125	75.8			
Lead	"	500	ND	407	"	75.0-125	81.4			
Nickel	"	500	ND	383	"	75.0-125	76.6			
Zinc	"	500	26.7	428	"	75.0-125	80.3			
<b>Matrix Spike Dup</b>			<b>9040213-MSD1 P904138-01</b>							
Cadmium	4/11/99	50.0	ND	43.7	ug/l	75.0-125	87.4	20.0	5.16	
Chromium	"	500	ND	396	"	75.0-125	79.2	20.0	4.39	
Lead	"	500	ND	423	"	75.0-125	84.6	20.0	3.86	
Nickel	"	500	ND	396	"	75.0-125	79.2	20.0	3.34	
Zinc	"	500	26.7	457	"	75.0-125	86.1	20.0	6.97	



Sequoia San Carlos  
1551 Industrial Blvd.  
San Carlos, CA 94070

Project: Subbed in  
Project Number: L904030  
Project Manager: Mike Gregory

Sampled: 3/31/99  
Received: 4/2/99  
Reported: 5/3/99

**Notes and Definitions**

#	Note
1	Diesel and additional unknown hydrocarbons.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

**CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST**

Erler & Kalinowski, Inc.  
 Project Number: EKI 970003.15  
 Project Name: Emeryville- South Bayfront  
 Source of Samples: UST Pit  
 Location: Emeryville, CA

Page of

Analytical Laboratory: Sequoia Analytical  
 Date Sampled: 3/31/99  
 Sampled By: Logan Hansen  
 Report Results To: Logan Hansen- EKI  
 Phone Number: (650) 578-1172, FAX: (650) 578-9131

Lab Sample ID	Field Sample ID	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
01	UST-W	Water	4 Amber Liters, 6 VOAs, 1 Liter w/ HNO <sub>3</sub> to be Filtered *	9:30	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
	BTW-1	Water	5 Amber Liters, 6 VOAs, 1 Liter w/ HNO <sub>3</sub> to be Filtered *	14:00	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	3 DAY <del>Standard</del> TAT
		Water	Amber Liters, VOAs, 1 Liter w/ HNO <sub>3</sub>		TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard

\* Please Filter these samples prior to metals analysis

Relinquished By:  
 Name / Signature / Affiliation

Received By:  
 Name / Signature / Affiliation

Name / Signature / Affiliation	Date	Time	Name / Signature / Affiliation
Logan Hansen / <i>Log-Hansen</i> / EKI	4/1/99 3/31/99	1055	PHIL / <i>[Signature]</i> / SEQUOIA
			Greg Melton / <i>[Signature]</i> / 4/1/99 16:15





**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954  
San Carlos, CA 94070-4111

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865  
(650) 232-9600

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342  
FAX (650) 232-9612

Erlar & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402 Attention: Logan Hansen	Client Proj. ID: EKI 970003.15/Emeryville Lab Proj. ID: 9903D18	Received: 03/31/99 Reported: 04/09/99
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### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 18 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

**TPPH analysis note:**

This analysis was performed in the Petaluma laboratory, ELAP #2245.

**EPA 8010 analysis note:**

This analysis was performed in the Petaluma laboratory, ELAP #2245. The surrogates used for this analysis were bromochloromethane and 1,4-dichlorobutane.

Sample	Bromochloromethane Percent Recovery	1,4-Dichlorobutane Percent Recovery
UST-SP(1-4)	106	109
Method Blank 4/2	100	105
Method Blank 4/5	97.3	101

Control Limits:      65.0 - 135                      65.0 - 135

Two method blanks were associated with this analysis batch. Methylene chloride was detected in one of the method blanks. Methylene chloride was not detected in the sample, and was not detected in the second method blank.

**SEQUOIA ANALYTICAL**

*VMT Clark*

Vickie Tague Clark  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
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 819 Striker Avenue, Suite 8  
 1455 McDowell Blvd. North, Ste. D  
 1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
 Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
 Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
 San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612


Erler & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Lab Proj. ID: 9903D18	Sampled: 03/31/99 Received: 03/31/99 Analyzed: see below Reported: 04/09/99
Attention: Logan Hansen		

## LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9903D18-01				
Sample Desc : SOLID,UST-SP(1-4) composite				
Cadmium by ICP	mg/Kg	04/02/99	0.50	N.D.
Chromium by ICP	mg/Kg	04/02/99	0.50	9.9
Lead by ICP	mg/Kg	04/02/99	5.0	N.D.
Nickel by ICP	mg/Kg	04/02/99	2.5	27
Zinc by ICP	mg/Kg	04/02/99	0.50	14

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

  
 \_\_\_\_\_  
 Vickie Tague Clark  
 Project Manager



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FAX (650) 232-9612


Erier & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Lab Proj. ID: 9903D18	Sampled: Received: 03/31/99 Analyzed: see below Reported: 04/09/99
Attention: Logan Hansen		

## LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9903D18-02 Sample Desc : SOLID,Method Blank				
Cadmium by ICP	mg/Kg	04/02/99	0.50	N.D.
Chromium by ICP	mg/Kg	04/02/99	0.50	N.D.
Lead by ICP	mg/Kg	04/02/99	5.0	N.D.
Nickel by ICP	mg/Kg	04/02/99	2.5	N.D.
Zinc by ICP	mg/Kg	04/02/99	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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1551 Industrial Road

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Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
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San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Eler & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: UST-SP(1-4) composite Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9903D18-01	Sampled: 03/31/99 Received: 03/31/99 Extracted: 04/01/99 Analyzed: 04/05/99 Reported: 04/09/99
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QC Batch Number: GC0401990HBPEXC  
Instrument ID: GCHP5B

## Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern: Weathered Diesel	50	840 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50                      150	% Recovery 145

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Vickie Tague Clark  
Project Manager



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Petaluma, CA 94954  
San Carlos, CA 94070-4111

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FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342  
FAX (650) 232-9612

Eler & Kallnowski, Inc.  
1730 South Amphlett, Ste 320  
San Mateo, CA 94402

Attention: Logan Hansen

Client Proj. ID: EKI 970003.15/Emeryville  
Sample Descript: UST-SP(1-4) composite  
Matrix: SOLID  
Analysis Method: EPA 8015 Mod  
Lab Number: 9903D18-01

Sampled: 03/31/99  
Received: 03/31/99  
Extracted: 04/01/99  
Analyzed: 04/05/99  
Reported: 04/09/99


QC Batch Number: GC0401990HBPEXC  
Instrument ID: GCHP5B

**Fuel Fingerprint : Motor Oil**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable HC as Motor Oil	500	520
Chromatogram Pattern: Unidentified HC		C16-C36
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	145

Analytes reported as N D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Vickie Tague Clark  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite B  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954  
San Carlos, CA 94070-4111

(650) 364-9600  
(925) 988-9600  
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(650) 232-9600

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FAX (925) 988-9673  
FAX (916) 921-0100  
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FAX (650) 232-9612


Erler & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: UST-SP(1-4) composite Matrix: SOLID Analysis Method: EPA 8010 Lab Number: 9903D18-01	Sampled: 03/31/99 Received: 03/31/99 Extracted: 04/05/99 Analyzed: 04/05/99 Reported: 04/09/99
Attention: Logan Hansen		
QC Batch Number: P9040089		

## Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	500	N.D.
Chloroform	50	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	50	N.D.
1,2-Dichlorobenzene	50	N.D.
1,3-Dichlorobenzene	50	N.D.
1,4-Dichlorobenzene	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	50	N.D.
trans-1,2-Dichloroethene	50	N.D.
1,2-Dichloropropane	50	N.D.
cis-1,3-Dichloropropene	50	N.D.
trans-1,3-Dichloropropene	50	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
1,1,2-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
Trichlorofluoromethane	50	N.D.
Vinyl chloride	50	N.D.
Freon 113	50	N.D.
Ethylene Dibromide (EDB)	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	60	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

  
 \_\_\_\_\_  
 Vickie Tague Clark  
 Project Manager



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Analytical**

680 Chesapeake Drive  
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819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612


Erier & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: UST-SP(1-4) composite Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9903D18-01	Sampled: 03/31/99 Received: 03/31/99 Extracted: 04/02/99 Analyzed: 04/02/99 Reported: 04/09/99
Attention: Logan Hansen		
QC Batch Number: P9040037		

**Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	2.0	N.D.
Methyl t-Butyl Ether	0.050	N.D.
Benzene	0.010	N.D.
Toluene	0.010	N.D.
Ethyl Benzene	0.010	N.D.
Xylenes (Total)	0.020	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70	130
4-Bromofluorobenzene	60	140
		99.7
		90.0

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Vickie Tague Clark  
Project Manager



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680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
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San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612


Erler & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: Method Blank Matrix: SOLID Analysis Method: EPA 8010 Lab Number: 9903D18-02	Sampled: Received: 03/31/99  Analyzed: 04/02/99 Reported: 04/09/99
Attention: Logan Hansen		
QC Batch Number: P9040089		

## Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg	
Bromodichloromethane	50	N.D.	
Bromoform	50	N.D.	
Bromomethane	50	N.D.	
Carbon Tetrachloride	50	N.D.	
Chlorobenzene	50	N.D.	
Chloroethane	50	N.D.	
2-Chloroethylvinyl ether	500	N.D.	
Chloroform	50	N.D.	
Chloromethane	50	N.D.	
Dibromochloromethane	50	N.D.	
1,2-Dichlorobenzene	50	N.D.	
1,3-Dichlorobenzene	50	N.D.	
1,4-Dichlorobenzene	50	N.D.	
1,1-Dichloroethane	50	N.D.	
1,2-Dichloroethane	50	N.D.	
1,1-Dichloroethene	50	N.D.	
cis-1,2-Dichloroethene	50	N.D.	
trans-1,2-Dichloroethene	50	N.D.	
1,2-Dichloropropane	50	N.D.	
cis-1,3-Dichloropropene	50	N.D.	
trans-1,3-Dichloropropene	50	N.D.	
<b>Methylene chloride</b>	<b>50</b>	<b>76.7</b>	
1,1,2,2-Tetrachloroethane	50	N.D.	
Tetrachloroethene	50	N.D.	
1,1,1-Trichloroethane	50	N.D.	
1,1,2-Trichloroethane	50	N.D.	
Trichloroethene	50	N.D.	
Trichlorofluoromethane	50	N.D.	
Vinyl chloride	50	N.D.	
Freon 113	50	N.D.	
Ethylene Dibromide (EDB)	50	N.D.	
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>	
1-Chloro-2-fluorobenzene	60	130	Q
4-Bromofluorobenzene	60	140	Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

  
Vickie Tague Clark  
Project Manager





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1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100  
Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612


Eriar & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: Method Blank Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9903D18-02	Sampled: Received: 03/31/99 Analyzed: 04/02/99 Reported: 04/09/99
Attention: Logan Hansen		
QC Batch Number: P9040037		

**Purgeable Total Petroleum Hydrocarbons as Gasoline/BTEX/MTBE**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	91.3
4-Bromofluorobenzene	60 140	94.0

Analytes reported as N.D. were not present above the stated limit of detection.

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Project Manager



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Erier & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: Method Blank Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9903D18-02	Sampled: Received: 03/31/99 Extracted: 04/01/99 Analyzed: 04/05/99 Reported: 04/09/99
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QC Batch Number: GC0401990HBPEXC  
Instrument ID: GCHP5B

**Total Extractable Petroleum Hydrocarbons (TEPH)**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	94

Analytes reported as N.D. were not present above the stated limit of detection.

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Vickie Tague Clark  
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Erlar & Kalinowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: Method Blank Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9903D18-02	Sampled: Received: 03/31/99 Extracted: 04/01/99 Analyzed: 04/05/99 Reported: 04/09/99
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QC Batch Number: GC0401990HBPEXC  
Instrument ID: GCHP5B

**Fuel Fingerprint : Motor Oil**

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable HC as Motor Oil Chromatogram Pattern:	10	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	94

Analytes reported as N.D. were not present above the stated limit of detection.

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\_\_\_\_\_  
Vickie Tague Clark  
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San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Eler & Kainowski, Inc. 1730 South Amphlett, Ste 320 San Mateo, CA 94402	Client Proj. ID: EKI 970003.15/Emeryville Sample Descript: Method Blank Matrix: SOLID Analysis Method: EPA 8010 Lab Number: 9903D18-03	Sampled: Received: 03/31/99  Analyzed: 04/05/99 Reported: 04/09/99
Attention: Logan Hansen		
QC Batch Number: P9040089		

## Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Carbon Tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	500	N.D.
Chloroform	50	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	50	N.D.
1,2-Dichlorobenzene	50	N.D.
1,3-Dichlorobenzene	50	N.D.
1,4-Dichlorobenzene	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	50	N.D.
trans-1,2-Dichloroethene	50	N.D.
1,2-Dichloropropane	50	N.D.
cis-1,3-Dichloropropene	50	N.D.
trans-1,3-Dichloropropene	50	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
1,1,2-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
Trichlorofluoromethane	50	N.D.
Vinyl chloride	50	N.D.
Freon 113	50	N.D.
Ethylene Dibromide (EDB)	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
1-Chloro-2-fluorobenzene	60	130
4-Bromofluorobenzene	60	140

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Vickie Tague Clark  
Project Manager



**Sequoia Analytical**

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819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

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Walnut Creek, CA 94598  
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Petaluma, CA 94954

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(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Erler & Kalinowski, Inc.  
1730 So. Amphlett Blvd., Suite 320  
San Mateo, CA 94402  
Attention: Logan Hansen

Client Project ID: EKI 970003.15/Emeryville  
Matrix: SOLID  
Sample Descript.: UST-SP(1-4) Composite  
Work Order #: 9903D18 -01

Reported: Apr 9, 1999

**QUALITY CONTROL DATA REPORT**

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0401996010MDE	ME0401996010MDE	ME0401996010MDE	ME0401996010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	M. Vu	M. Vu	M. Vu	M. Vu
MS/MSD #:	9903D18-01-MSD	9903D18-01-MSD	9903D18-01-MSD	9903D18-01-MSD
Sample Conc.:	N.D.	N.D.	9.9	27
Prepared Date:	04/01/99	04/01/99	04/01/99	04/01/99
Analyzed Date:	04/02/99	04/02/99	04/02/99	04/02/99
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg

Result:	44	44	58	68
MS % Recovery:	88	88	96	82
Dup. Result:	44	44	58	69
MSD % Recov.:	88	88	96	84
RPD:	0.0	0.0	0.0	1.5
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS040199-LCS	LCS040199-LCS	LCS040199-LCS	LCS040199-LCS
Prepared Date:	04/01/99	04/01/99	04/01/99	04/01/99
Analyzed Date:	04/02/99	04/02/99	04/02/99	04/02/99
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	48	47	49	49
LCS % Recov.:	96	94	98	98

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*Vickie Tague Clark*

Vickie Tague Clark  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9903D18.ERL <1>



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
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FAX (707) 792-0342

Erler & Kalinowski, Inc.  
1730 So. Amphlett Blvd., Suite 320  
San Mateo, CA 94402  
Attention: Logan Hansen

Client Project ID: EKI 970003.15/Emeryville  
Matrix: SOLID  
Sample Descript.: XSD  
Work Order #: 9903D18-01-04

Reported: Apr 9, 1999

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	9040037	9040037	9040037	9040037
Analy. Method:	EPA 8015M/8020	EPA 8015M/8020	EPA 8015M/8020	EPA 8015M/8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	-	-	-	-
MS/MSD #:	9040037-MS1-XSD	9040037-MS1-XSD	9040037-MS1-XSD	9040037-MS1-XSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	04/02/99	04/02/99	04/02/99	04/02/99
Analyzed Date:	04/02/99	04/02/99	04/02/99	04/02/99
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	200 µg/Kg	200 µg/Kg	200 µg/Kg	600 µg/Kg
Result:	178	175	172	521
MS % Recovery:	89	87.5	86	86.8
Dup. Result:	180	176	173	522
MSD % Recov.:	90	88	86.5	87
RPD:	1.12	0.57	0.58	0.19
RPD Limit:	0-35	0-35	0-35	0-35

LCS #:	LCS040299-LCS	LCS040299-LCS	LCS040299-LCS	LCS040299-LCS
Prepared Date:	04/02/99	04/02/99	04/02/99	04/02/99
Analyzed Date:	04/02/99	04/02/99	04/02/99	04/02/99
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	200 µg/Kg	200 µg/Kg	200 µg/Kg	600 µg/Kg
LCS Result:	188	184	181	549
LCS % Recov.:	94	92	90.5	91.5

MS/MSD	65-135	65-135	65-135	65-135
LCS	65-135	65-135	65-135	65-135
Control Limits				

SEQUOIA ANALYTICAL  
Elap #2245

*MT Clark*

Vickie Tague Clark  
Project Manager

**Please Note:**

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\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9903D18.ERL <2>



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
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Erler & Kallnowski, Inc.  
1730 So. Amphlett Blvd., Suite 320  
San Mateo, CA 94402  
Attention: Logan Hansen

Client Project ID: EK1 970003.15/Emeryville  
Matrix: SOLID  
Sample Descript.: XSD  
Work Order #: 9903D18-01-04

Reported: Apr 9, 1999

**QUALITY CONTROL DATA REPORT**

Analyte:	Chloro- Benzene	1,1-Dichloro- ethene	Trichloro- ethene
QC Batch#:	9040089	9040089	9040089
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	N.A.	N.A.	N.A.

Analyst:	-	-	-
MS/MSD #:	P904029-21-XSD	P904029-21-XSD	P904029-21-XSD
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	04/05/99	04/05/99	04/05/99
Analyzed Date:	04/05/99	04/05/99	04/05/99
Instrument I.D.#:	-	-	-
Conc. Spiked:	1000 µg/Kg	1000 µg/Kg	1000 µg/Kg
Result:	1150	981	948
MS % Recovery:	115	98.1	94.8
Dup. Result:	1150	994	911
MSD % Recov.:	115	99.4	91.1
RPD:	0.0	1.32	3.98
RPD Limit:	0-25	0-25	0-25

LCS #:	LCS040299-LCS	LCS040299-LCS	LCS040299-LCS
Prepared Date:	04/05/99	04/05/99	04/05/99
Analyzed Date:	04/05/99	04/05/99	04/05/99
Instrument I.D.#:	-	-	-
Conc. Spiked:	1000 µg/Kg	1000 µg/Kg	1000 µg/Kg
LCS Result:	1080	897	867
LCS % Recov.:	108	89.7	86.7

MS/MSD	65-135	65-135	65-135
LCS	50-150	50-150	50-150
Control Limits			

**Please Note:**

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\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL

*WTC Clark*

Vickie Tague Clark  
Project Manager



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
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Erler & Kalinowski, Inc.  
1730 So. Amphlett Blvd., Suite 320  
San Mateo, CA 94402  
Attention: Logan Hansen

Client Project ID: EKI 970003.15/Emeryville  
Matrix: SOLID  
Sample Descript.: XSD  
Work Order #: 9903D18-01-04

Reported: Apr 9, 1999

**QUALITY CONTROL DATA REPORT**

<b>Analyte:</b>	Chloro- Benzene	1,1-Dichloro- ethene	Trichloro- ethene
<b>QC Batch#:</b>	9040089	9040089	9040089
<b>Analy. Method:</b>	EPA 8010	EPA 8010	EPA 8010
<b>Prep. Method:</b>	N.A.	N.A.	N.A.

<b>Analyst:</b>	-	-	-
<b>MS/MSD #:</b>	P904029-21-XSD	P904029-21-XSD	P904029-21-XSD
<b>Sample Conc.:</b>	N.D.	N.D.	N.D.
<b>Prepared Date:</b>	04/05/99	04/05/99	04/05/99
<b>Analyzed Date:</b>	04/05/99	04/05/99	04/05/99
<b>Instrument I.D.#:</b>	-	-	-
<b>Conc. Spiked:</b>	1000 µg/Kg	1000 µg/Kg	1000 µg/Kg
<b>Result:</b>	1150	981	948
<b>MS % Recovery:</b>	115	98.1	94.8
<b>Dup. Result:</b>	1150	994	911
<b>MSD % Recov.:</b>	115	99.4	91.1
<b>RPD:</b>	0.0	1.32	3.98
<b>RPD Limit:</b>	0-25	0-25	0-25

<b>LCS #:</b>	LCS040299-LCS	LCS040299-LCS	LCS040299-LCS
<b>Prepared Date:</b>	04/05/99	04/05/99	04/05/99
<b>Analyzed Date:</b>	04/05/99	04/05/99	04/05/99
<b>Instrument I.D.#:</b>	-	-	-
<b>Conc. Spiked:</b>	1000 µg/Kg	1000 µg/Kg	1000 µg/Kg
<b>LCS Result:</b>	1010	910	860
<b>LCS % Recov.:</b>	101	91	86

<b>MS/MSD</b>	65-135	65-135	65-135
<b>LCS</b>	50-150	50-150	50-150
<b>Control Limits</b>			

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

**SEQUOIA ANALYTICAL**

*VTC/Clark*

Vickie Tague Clark  
Project Manager



Data File: /chem/70gov03.1/040299.b/fidf\_28.d

Date: 02-APR-1999 23:18

Client ID:

Instrument: 70gov03.i

Lab Sample ID: P904052-01

Client SDC: 040299

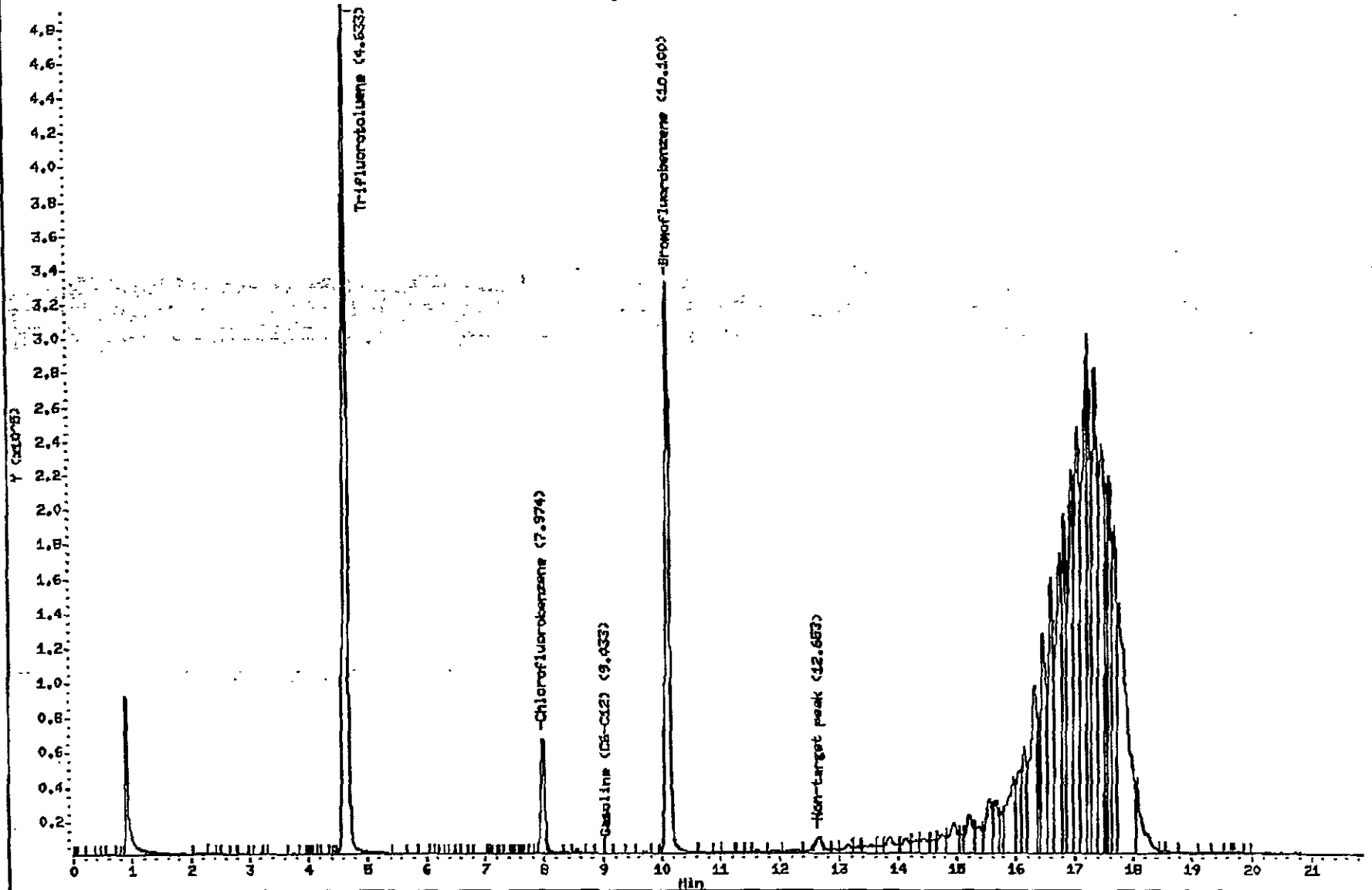
Operator: NPT/GBR

Column phase: HP-1

Column diameter: 0.53

/chem/70gov03.1/040299.b/fidf\_28.d

HPK. 0.1999 9:34AM 250000 1000000



## CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

9903018

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 970003.15

Page of

Date Sampled: 3/31/99

Project Name: Emeryville- South Bayfront

Sampled By: Logan Hansen

Source of Samples: UST Pit

Report Results To: Logan Hansen- EKI

Location: Emeryville, CA

Phone Number: (650) 578-1172, FAX: (650) 578-9131

Lab Sample ID	Field Sample ID	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
	UST-SP1	Soil	One 6-inch Stainless Steel Liner	13:30	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	24 Hr Standard
	UST-SP2	Soil	One 6-inch Stainless Steel Liner	13:40	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	24 Hr Standard
	UST-SP3	Soil	One 6-inch Stainless Steel Liner	13:50	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	24 Hr Standard
	UST-SP4	Soil	One 6-inch Stainless Steel Liner	14:30	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	24 Hr Standard
		<del>Soil</del>	<del>One 6-inch Stainless Steel Liner</del>		<del>TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn</del>	<del>Standard</del>

Composite Site

Composite

Composite UST-SP1 to SP4 into one sample analyze as above

Relinquished By:  
Name / Signature / Affiliation

Date Time

Received By:  
Name / Signature / Affiliation

Logan Hansen		EKI	3/31/99	16:42	
					A. DeMauro / Sequoia

3/31/99



# Sequoia Analytical

680 Chesapeake Drive  
404 N. W/iget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600  
Walnut Creek, CA 94598 (925) 988-9600  
Sacramento, CA 95834 (916) 921-9600  
Petaluma, CA 94954 (707) 792-1865  
San Carlos, CA 94070-4111 (650) 232-9600

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342  
FAX (650) 232-9612

April 19, 1999

Logan Hanson  
Erler & Kalinowski, Inc.  
1730 South Amplett, Suite 320  
San Mateo, CA 94402

RE: EKIL904029

Dear Logan Hanson:

Enclosed are the results of analyses for sample(s) received by the laboratory on April 1, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Gregory  
Project Manager D.M.



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
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FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Sequoia Analytical-San Carlos  
1551 Industrial Road  
San Carlos, CA 94070  
Attention: M. Gregory

Client Proj. ID: L904029/EKI 970003.15

Received: 04/02/99

Lab Proj. ID: 9904053

Reported: 04/12/99

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of \_\_\_\_\_ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

**SEQUOIA ANALYTICAL**

Project Manager

Page 1



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
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Petaluma, CA 94954 (707) 792-1865 FAX (707) 792-0342  
San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI	Sampled: 3/31/99
	Project Number: 970003.15, Emeryville-South Bayfront	Received: 4/1/99
	Project Manager: Logan Hanson	Reported: 4/19/99

## ANALYTICAL REPORT FOR L904029

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
BTW-1	L904029-01	Water	3/31/99



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D  
1551 Industrial Road

Redwood City, CA 94063 (650) 364-9600 FAX (650) 364-9233  
Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673  
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San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/19/99
--	---	---

Sample Description: **BTW-1**  
Laboratory Sample Number: **L904029-01**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes
<b>Sequoia Analytical - San Carlos</b>								
<b>Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT</b>								
Purgeable Hydrocarbons as Gasoline	9040042	4/8/99	4/8/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: <i>a,a,a-Trifluorotoluene</i>	"	"	"	70.0-130		97.4	%	



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Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/19/99
--	---	---

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes
<b>Batch: 9040042</b>		<b>Date Prepared: 4/8/99</b>			<b>Extraction Method: EPA 5030B [P/T]</b>					
<b>Blank</b>										
<b>9040042-BLK1</b>										
Purgeable Hydrocarbons as Gasoline	4/8/99			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.4	"	70.0-130	104			
<b>LCS</b>										
<b>9040042-BS1</b>										
Purgeable Hydrocarbons as Gasoline	4/8/99	250		263	ug/l	70.0-130	105			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.34	"	70.0-130	93.4			
<b>Matrix Spike</b>										
<b>9040042-MS1 L904008-02</b>										
Purgeable Hydrocarbons as Gasoline	4/8/99	250	ND	279	ug/l	60.0-140	112			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.88	"	70.0-130	98.8			
<b>Matrix Spike Dup</b>										
<b>9040042-MSD1 L904008-02</b>										
Purgeable Hydrocarbons as Gasoline	4/8/99	250	ND	267	ug/l	60.0-140	107	25.0	4.57	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.27	"	70.0-130	92.7			



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San Carlos, CA 94070-4111

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Erler & Kalinowski, Inc. 1730 South Amplett, Suite 320 San Mateo, CA 94402	Project: EKI Project Number: 970003.15, Emeryville-South Bayfront Project Manager: Logan Hanson	Sampled: 3/31/99 Received: 4/1/99 Reported: 4/19/99
--	---	---

## Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference
NOTE:	Metals, TPH-Diesel/Motor Oil were subcontracted to Sequoia Petaluma. Hard copy attached. 8010 was subcontracted to Sequoia Redwood City. Hard copy attached.





**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Sequoia Analytical-San Carlos 1551 Industrial Road San Carlos, CA 94070	Client Proj. ID: L904029/EKI 970003.15 Sample Descript: L904029-01/BTW-1 Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9904053-01	Sampled: 03/31/99 Received: 04/02/99 Analyzed: 04/05/99 Reported: 04/12/99
---	--	---

QC Batch Number: GC040599OVOA32A  
Instrument ID: GCHP32

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
4-Bromofluorobenzene	70                      130	104

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

Project Manager

Page:



**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
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FAX (916) 921-0100  
FAX (707) 792-0342

Sequoia Analytical-San Carlos  
1551 Industrial Road  
San Carlos, CA 94070

Client Proj. ID: L904029/EKI 970003.15  
Sample Descript: Method Blank  
Matrix: LIQUID  
Analysis Method: EPA 8010  
Lab Number: 9904053-02

Sampled:  
Received: 04/02/99  
Analyzed: 04/05/99  
Reported: 04/12/99

Attention: M. Gregory

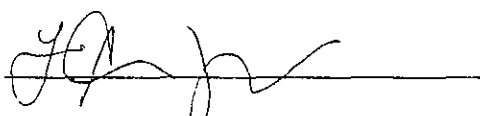
QC Batch Number: GC040599OVOA32A  
Instrument ID: GCHP32

**Halogenated Volatile Organics (EPA 8010)**

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
4-Bromofluorobenzene	70 130	81

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
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FAX (916) 921-0100  
FAX (707) 792-0342

Sequoia Analytical-San Carlos 1551 Industrial Road San Carlos, CA 94070 Attention: M. Gregory	Client Project ID: L904029/EKI 970003.15
QC Sample Group: 9904053 01-02	Reported: May 27, 1999

## QUALITY CONTROL DATA REPORT

<b>Matrix:</b> Liquid
<b>Method:</b> EPA 8010/601
<b>Analyst:</b> B. ALI
<b>ANALYTE</b> 1,1-DCE            TCE            Chlorobenzene

QC Batch #: GC0405990VOA32A

<b>Sample No.:</b> 9903D1701			
<b>Date Prepared:</b> 4/2/99	4/2/99	4/2/99	4/2/99
<b>Date Analyzed:</b> 4/2/99	4/2/99	4/2/99	4/2/99
<b>Instrument I.D.#:</b> GCHP32	GCHP32	GCHP32	GCHP32
<b>Sample Conc., ug/L:</b> N.D.	200	N.D.	
<b>Conc. Spiked, ug/L:</b> 250	250	250	
<b>Matrix Spike, ug/L:</b> 210	430	230	
<b>% Recovery:</b> 84	92	92	
<b>Matrix Spike Duplicate, ug/L:</b> 200	400	230	
<b>% Recovery:</b> 80	80	92	
<b>Relative % Difference:</b> 4.9	14	0.0	
<b>RPD Control Limits:</b> 0-50	0-50	0-50	

LCS Batch#: VWLCS040599A

<b>Date Prepared:</b> 4/5/99	4/5/99	4/5/99
<b>Date Analyzed:</b> 4/5/99	4/5/99	4/5/99
<b>Instrument I.D.#:</b> GCHP32	GCHP32	GCHP32
<b>Conc. Spiked, ug/L:</b> 25	25	25
<b>Recovery, ug/L:</b> 20	22	23
<b>LCS % Recovery:</b> 80	88	92

Percent Recovery Control Limits:

MS/MSD	70-140	70-140	70-140
LCS	65-135	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Lea-Ann Torres  
Project Manager

**Please Note:**

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



# Sequoia Analytical

1455 McDowell Blvd. North, Ste. I  
Petaluma, CA 94954  
(707) 792-1861  
FAX (707) 792-0344

April 14, 1999

Mike Gregory  
Sequoia San Carlos  
1551 Industrial Blvd.  
San Carlos, CA 94070

RE: Subbed in/P904069

Dear Mike Gregory

Enclosed are the results of analyses for sample(s) received by the laboratory on April 2, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matt Sakai  
Project Manager

CA ELAP Certificate Number 2245



# Sequoia Analytical

1455 McDowell Blvd. North, Ste. C  
Petaluma, CA 94954  
(707) 792-1865  
FAX (707) 792-0342

Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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## ANALYTICAL REPORT FOR P904069

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
BTW-1	P904069-01	Water	3/31/99



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes
<u>BTW-1</u>				<u>P904069-01</u>			<u>Water</u>	
Diesel	9040092	4/5/99	4/13/99		0.0500	0.869	mg/l	1
Motor Oil	"	"	"		0.250	0.292	"	2
Surrogate: <i>o</i> -Terphenyl	"	"	"	50.0-150		79.3	%	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Dissolved Metals by EPA 200 Series Methods  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes
<u>BTW-1</u>				<u>P904069-01</u>				<u>Water</u>
Cadmium	9040072	4/6/99	4/6/99	EPA 200.7	10.0	ND	ug/l	
Lead	"	"	"	EPA 200.7	75.0	ND	"	
Nickel	"	"	"	EPA 200.7	30.0	ND	"	
Zinc	"	"	"	EPA 200.7	20.0	ND	"	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Dissolved Metals by EPA 6000/7000 Series Methods  
Sequoia Analytical - Petaluma**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes
<u>BTW-1</u> Chromium	9040072	4/6/99	4/6/99	<u>P904069-01</u> EPA 6010A	10.0	ND	<u>Water</u> ug/l	





Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<b>Batch: 9040092</b>		<b>Date Prepared: 4/5/99</b>		<b>Extraction Method: EPA 3520B</b>						
<b>Blank</b>										
<b>9040092-BLK1</b>										
Diesel	4/13/99			ND	mg/l	0.0500				
Motor Oil	"			ND	"	0.250				
Surrogate: <i>o</i> -Terphenyl	"	0.100		0.105	"	50.0-150	105			
<b>LCS</b>										
<b>9040092-BS1</b>										
Diesel	4/13/99	1.00		0.826	mg/l	50.0-150	82.6			
Surrogate: <i>o</i> -Terphenyl	"	0.100		0.0931	"	50.0-150	93.1			
<b>LCS Dup</b>										
<b>9040092-BSD1</b>										
Diesel	4/13/99	1.00		0.757	mg/l	50.0-150	75.7	20.0	8.72	
Surrogate: <i>o</i> -Terphenyl	"	0.100		0.0866	"	50.0-150	86.6			



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Dissolved Metals by EPA 200 Series Methods/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<b>Batch: 9040072</b>		<b>Date Prepared: 4/6/99</b>			<b>Extraction Method: EPA 3005A</b>					
<b>Blank</b>										
<b>9040072-BLK1</b>										
Cadmium	4/6/99			ND	ug/l	10.0				
Lead	"			ND	"	75.0				
Nickel	"			ND	"	30.0				
Zinc	"			ND	"	20.0				
<b>LCS</b>										
<b>9040072-BS1</b>										
Cadmium	4/6/99	50.0		52.8	ug/l	85.0-115	106			
Lead	"	500		528	"	85.0-115	106			
Nickel	"	500		530	"	85.0-115	106			
Zinc	"	500		548	"	85.0-115	110			
<b>Matrix Spike</b>										
<b>9040072-MS1 P903780-01</b>										
Cadmium	4/6/99	50.0	ND	53.4	ug/l	75.0-125	107			
Lead	"	500	ND	511	"	75.0-125	102			
Nickel	"	500	ND	508	"	75.0-125	102			
Zinc	"	500	ND	536	"	75.0-125	107			
<b>Matrix Spike Dup</b>										
<b>9040072-MSD1 P903780-01</b>										
Cadmium	4/6/99	50.0	ND	56.4	ug/l	75.0-125	113	20.0	5.45	
Lead	"	500	ND	504	"	75.0-125	101	20.0	0.985	
Nickel	"	500	ND	487	"	75.0-125	97.4	20.0	4.61	
Zinc	"	500	ND	538	"	75.0-125	108	20.0	0.930	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Dissolved Metals by EPA 6000/7000 Series Methods/Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Note
<u>Batch: 9040072</u>		<u>Date Prepared: 4/6/99</u>		<u>Extraction Method: EPA 3005A</u>						
<u>Blank</u>		<u>9040072-BLK1</u>								
Chromium	4/6/99			ND	ug/l	10.0				
<u>LCS</u>		<u>9040072-BS1</u>								
Chromium	4/6/99	500		522	ug/l	80.0-120	104			
<u>Matrix Spike</u>		<u>9040072-MS1</u>		<u>P903780-01</u>						
Chromium	4/6/99	500	ND	505	ug/l	75.0-125	101			
<u>Matrix Spike Dup</u>		<u>9040072-MSD1</u>		<u>P903780-01</u>						
Chromium	4/6/99	500	ND	502	ug/l	75.0-125	100	20.0	0.995	



Sequoia San Carlos 1551 Industrial Blvd. San Carlos, CA 94070	Project: Subbed in Project Number: L904029 Project Manager: Mike Gregory	Sampled: 3/31/99 Received: 4/2/99 Reported: 4/14/99
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**Notes and Definitions**

#	Note
1	Hydrocarbon pattern present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
2	Non-motor oil hydrocarbons.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

1104029

Erler & Kalinowski, Inc.  
 Project Number: EKI 970003.15  
 Project Name: Emeryville- South Bayfront  
 Source of Samples: UST Pit  
 Location: Emeryville, CA

Analytical Laboratory: Sequoia Analytical  
 Date Sampled: 3/31/99  
 Sampled By: Logan Hansen  
 Report Results To: Logan Hansen- EKI  
 Phone Number: (650) 578-1172, FAX: (650) 578-9131

Lab Sample ID	Field Sample ID	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
	UST-W	Water	4 Amber Liters, 6 VOAs, 1 Liter <del>with HNO<sub>3</sub></del> to be Filtered *	9:30	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	Standard
01	BTW-1	Water	5 Amber Liters, 6 VOAs, 1 Liter <del>with HNO<sub>3</sub></del> to be Filtered *	14:00	TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn	3 DAY <del>Standard</del> TAT
		<del>Water</del>	<del>Amber Liters, VOAs, 1 Liter w/ HNO<sub>3</sub></del>		<del>TPH-Diesel, Motor Oil, Gas by EPA 8015M); BTEX, MTBE by EPA 8020; HVOCs by EPA 8010; Metals by ICP: Cd,Cr,Pb,Ni,Zn</del>	<del>Standard</del>

\* Please Filter these samples prior to metals analysis

Relinquished By:			Received By:		
Name / Signature / Affiliation	Date	Time	Name / Signature / Affiliation	Date	Time
Logan Hansen / <i>Logan Hansen</i> / EKI	4/1/99 <del>3/31/99</del>	1655	PHIL / <i>PHIL</i> / SEQUOIA	4/1/99	16:155
			Graig Medelmann	4/1/99	16:155