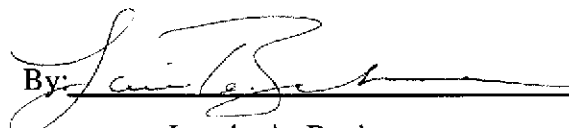


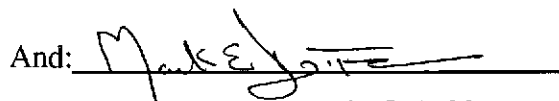


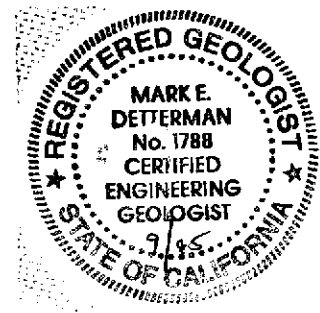
## Limitations

Services performed by Blymyer Engineers, Inc. have been provided in accordance with generally accepted professional practices for the nature and conditions of similar work completed in the same or similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. This report was prepared for the sole use of Kawahara Nursery, Inc.

Blymyer Engineers, Inc.

By:   
Laurie A. Buckman  
Project Geologist

And:   
Mark Detterman, CEG 1788  
Senior Geologist



## Table of Contents

<b>1.0 Introduction</b> .....	1
<b>2.0 Data Collection</b> .....	4
2.1 Groundwater Sample Collection .....	4
2.2 Groundwater Analytical Methods .....	4
2.3 Groundwater Depth Measurements .....	5
<b>3.0 Data Interpretation</b> .....	6
3.1 Discussion of Groundwater Sample Analytical Results .....	6
3.2 Groundwater Elevation and Gradient .....	6
<b>4.0 Summary and Conclusions</b> .....	8
<b>5.0 Recommendations</b> .....	9

### Tables

Table I:	Summary of Groundwater Sample Analytical Results
Table II:	Summary of Groundwater Elevation Measurements

### Figures

Figure 1:	Site Location Map
Figure 2:	Site Plan
Figure 3:	Groundwater Gradient, June 7, 1995

### Appendices

Appendix A:	Well Purging and Sampling Data, dated June 7, 1995
Appendix B:	GTEL Environmental Laboratories, Inc. Analytical Report, dated June 15, 1995

## 1.0 Introduction

On December 1, 1992, one steel 5,000-gallon diesel underground storage tank (UST) was removed from the property owned by Kawahara Nursery, located at 16550 Ashland Avenue, San Lorenzo, California, (Figure 1) by Tank Protect Engineering of Northern California. The UST was reported to be in good condition at the time of removal with no visible evidence of holes. The soil sample collected from the southeastern wall of the excavation contained 5,000 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons (TPH) as diesel. The composite soil sample collected from the soil excavated from the southeastern portion of the excavation contained 210 mg/kg of TPH as diesel.

The results of the UST closure were described in the *Underground Storage Tank Closure Report*, completed by Tank Protect Engineering and forwarded to the Alameda County Health Care Services Agency (ACHCSA) by Mr. Tom Kawahara. In a letter dated January 27, 1993, the ACHCSA requested that a preliminary subsurface investigation be completed at the site to ascertain the extent of soil and groundwater petroleum hydrocarbon contamination.

On June 10, 1993, Blymyer Engineers supervised the installation of three groundwater monitoring wells, MW-1, MW-2, and MW-3, at the site. Minor concentrations of petroleum hydrocarbons were detected in the soil samples collected from soil bores MW-1 and MW-2, with higher concentrations detected near the encountered water bearing zone in soil bore MW-3 during the installation of these soil bores. The groundwater sample collected from monitoring well MW-3, installed adjacent to an on-site irrigation well, contained 120,000 micrograms per liter ( $\mu\text{g/L}$ ) of TPH as gasoline, 170,000  $\mu\text{g/L}$  of TPH as diesel, 4,600  $\mu\text{g/L}$  of benzene, 8,400  $\mu\text{g/L}$  of toluene, 2,100  $\mu\text{g/L}$  of ethylbenzene, and 27,000  $\mu\text{g/L}$  of total xylenes.

In March 1994, Blymyer Engineers conducted a phased groundwater investigation at the site. The initial phases of the investigation included a review of records at the ACHCSA and the Regional Water Quality Control Board to determine if any toxic chemical or fuel leaks reported within a ¼-mile radius may have impacted the site, a review of historical aerial photographs, and

a review of all available information regarding the construction and pumping rates of the on-site irrigation well to determine the radius of influence of the well on the local groundwater flow.

Depth to groundwater measurements were collected from each of the three monitoring wells on March 24, 1994, prior to disengagement of the irrigation well pump. On March 28, 1994, after the pump had been disengaged for at least 72 hours, depth to groundwater measurements were again collected from the wells. Following the disengagement of the irrigation well pump, the groundwater elevation decreased less than 0.2 inch in each of the monitoring wells. Blymyer Engineers reactivated the well pump and collected groundwater samples from each of the three monitoring wells and the irrigation well on March 28, 1994. The construction log of the on-site irrigation well indicated that the well is screened from approximately 45 to 60 feet below grade surface (bgs). Based on the depth of the irrigation well screened interval and the minimal change in depth to shallow groundwater during pump operation and after pump disengagement, it was determined that the irrigation well pump does not appear to influence the shallow, impacted water-bearing zone.

No detectable concentrations of petroleum hydrocarbons were detected in the groundwater samples collected from the irrigation well or monitoring wells MW-1 and MW-2. The analytical results for the groundwater sample collected from monitoring well MW-3 in March 1994 indicated 23,000 µg/L of TPH as gasoline, 94,000 µg/L of TPH as diesel, 4,800 µg/L of benzene, 6,500 µg/L of toluene, 3,000 µg/L of ethylbenzene, and 15,000 µg/L of total xylenes.

A review of the areal photographs of the site and surrounding area indicated that the site was occupied by the nursery from the early 1920's to the present time. The area surrounding the site consisted of open farm land and residences.

A review of the local regulatory agency records indicated that an Army National Guard facility located approximately 300 feet downgradient (northwest) from the site has reported an unauthorized release of gasoline into the groundwater. However, the lateral extent of the reported release has not yet been determined. Do to the very low concentrations of petroleum

hydrocarbons detected in monitoring well MW-5 located between the National Guard facility and monitoring well MW-3, the potential of this site having impacted the subject property is minimal.

In response to Blymyer Engineers' *Preliminary Site Assessment, Phase I Subsurface Investigation* report and *Subsurface Investigation Status Report*, the ACHCSA, in a letter dated May 18, 1994, requested full delineation of the extent of petroleum hydrocarbons in the groundwater at the site and in the soil adjacent to the UST excavation. In a letter dated August 10, 1994, the ACHCSA approved the *Revised Subsurface Investigation Letter Workplan*, dated August 4, 1994, prepared by Blymyer Engineers, Inc.

In October and November 1994, Blymyer Engineers completed a subsurface investigation consisting of a 16-point soil gas survey and the installation of two additional groundwater monitoring wells (MW-4 and MW-5) at the site. The results of the soil gas survey indicated slightly elevated concentrations of petroleum hydrocarbons in the soil gas samples collected from the northeastern corner of the barn and the north-central portion of the property in the vicinity of the lath house and the on-site irrigation well. The analytical results of the groundwater samples collected from the newly-installed monitoring wells indicated that the extent of petroleum hydrocarbon-contaminated groundwater at the site was generally defined in the upgradient and downgradient directions from monitoring well MW-3 and that petroleum hydrocarbon-contaminated groundwater does not appear to have migrated off the site. A potential on- or off-site source of the petroleum hydrocarbon contamination detected in the groundwater samples collected from monitoring well MW-3 had not been determined. The procedures and results of the investigation are detailed in Blymyer Engineers' *Subsurface Investigation Letter Report*, dated December 16, 1994.

In a letter dated January 3, 1995, the ACHCSA directed Kawahara Nursery to begin quarterly groundwater monitoring of the five site monitoring wells. This report documents the second quarter 1995 (April through June) groundwater monitoring event.

## **2.0 Data Collection**

### **2.1 Groundwater Sample Collection**

A groundwater sample was collected from each of the five on-site groundwater monitoring wells, MW-1 through MW-5 (Figure 2), at the subject site by Blymyer Engineers on June 7, 1995. At least three well volumes of groundwater were removed from each monitoring well, using a disposable polyethylene bailer, prior to sampling. Temperature, pH, and conductivity were measured initially and after the removal of each well volume. Each well was sampled when these parameters were all within 15 percent of the previous measurement for three consecutive well volumes. Details of the well purging and sampling are presented in Appendix A. A slight sheen was noted on the water purged from monitoring well MW-3 during sample collection. The groundwater samples were placed in 40-milliliter glass vials preserved with hydrochloric acid and 1-liter unpreserved amber bottles, labeled, and placed on crushed ice in an insulated container for transportation to the analytical laboratory. The sample containers were provided by the laboratory. Proper chain-of-custody procedures were observed. All purge water was stored in labeled, Department of Transportation-approved, 55-gallon drums for disposal by Kawahara Nursery.

### **2.2 Groundwater Analytical Methods**

The groundwater samples were analyzed for TPH as gasoline and TPH as diesel by modified EPA Method 8015 and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020. The analyses were performed by GTEL Environmental Laboratories, Inc., a California-certified laboratory, on a standard 5-day turnaround. A summary of the current and past analytical results is presented in Table I. The laboratory analytical report for the current sampling event is presented as Appendix B.

### 2.3 Groundwater Depth Measurements

The depth from the top of the well casing to the top of the water surface in each monitoring well was measured on June 7, 1995, with an oil-water interface probe. All groundwater elevation measurements are summarized in Table II.



### **3.0 Data Interpretation**

#### **3.1 Discussion of Groundwater Sample Analytical Results**

Concentrations of TPH as gasoline, TPH as diesel, and BTEX have not been detected in concentrations above the analytical method reporting limits in the groundwater samples collected from monitoring wells MW-1 and MW-2 since the wells were installed in June 1993, and from monitoring well MW-4 since the well was installed in November 1994. TPH as diesel was only detected in the groundwater sample collected from monitoring well MW-5 during the March 1995 sampling event, at 64 µg/L. Concentrations of TPH as gasoline and BTEX have not been detected in MW-5 in concentrations above analytical method reporting limits since the well was installed in November 1994.

The analytical results for the groundwater sample collected from monitoring well MW-3 indicated 20,000 µg/L of TPH as gasoline, 1,700 µg/L of benzene, 1,400 µg/L of toluene, 750 µg/L of ethylbenzene, and 6,800 µg/L of total xylenes. Concentrations of TPH as diesel were not detected above the analytical method reporting limit in well MW-3 during the last two sampling events. However, the March 1995 laboratory analytical report for the groundwater sample collected from monitoring well MW-3 and analyzed for concentrations of TPH as diesel indicated the presence of lighter petroleum hydrocarbons, such as gasoline, and displayed a chromatograph pattern uncharacteristic of diesel fuel.

#### **3.2 Groundwater Elevation and Gradient**

The elevations of the tops of the monitoring well casings of monitoring wells MW-1 through MW-5 were surveyed to an on-site, fixed common arbitrary datum point on November 22, 1994. Depth to groundwater was measured in all five wells, on June 7, 1995. Table II summarizes the top-of-casing elevations and the groundwater elevation data. The depth to groundwater measurements collected during the June 1995 sampling event indicated a general decline in groundwater elevations across the site of approximately 1.5 feet. The decline in groundwater

elevations at the site is probably due to the decrease in precipitation.

The groundwater flow direction on June 7, 1995, was approximately northwest with an average gradient of 0.004 feet/foot, as shown on Figure 3.

#### 4.0 Summary and Conclusions

- TPH gasoline, TPH as diesel, and BTEX have not been detected, above the analytical method reporting limits in the groundwater samples collected from monitoring wells MW-1, MW-2, and MW-4 since the wells were installed.
- TPH as diesel was only detected in the groundwater sample collected from monitoring well MW-5 during the March 1995 sampling event, at 64 µg/L. Concentrations of TPH as gasoline and BTEX have not been detected in MW-5 in concentrations above analytical method reporting limits since the well was installed in November 1994.
- The analytical results for the groundwater sample collected from monitoring well MW-3 indicated 20,000 µg/L of TPH as gasoline, 1,700 µg/L of benzene, 1,400 µg/L of toluene, 750 µg/L of ethylbenzene, and 6,800 µg/L of total xylenes. The laboratory analytical results and the presences of a sheen on the purge water are consistent with appearance and analytical results for the groundwater samples collected from well MW-3 during previous sampling events at the site.
- Concentrations of TPH as diesel above the analytical method reporting limit have not been detected in monitoring well MW-3 during the last two sampling events. However, the March 1995 laboratory analytical report of the sample analyzed for TPH as diesel indicated the presence of lighter petroleum hydrocarbons such as gasoline, and displayed a chromatograph pattern uncharacteristic of diesel fuel.
- The groundwater elevation at the site has decreased approximately 1.5 feet which is probably the result of a decrease in precipitation. The groundwater gradient at the site was approximately northwest with an average gradient of 0.004 feet/foot.

## 5.0 Recommendations

- Blymyer Engineers recommends that quarterly groundwater sampling continue at the site through 1995.
- Blymyer Engineers recommends that the laboratory analytical results of the groundwater samples collected during future sampling events from monitoring well MW-5 be closely monitored for the continued presence of detectable concentrations of petroleum hydrocarbon compounds.
- Blymyer Engineers recommends that the groundwater recovered from monitoring well MW-3 during future well purging and sampling events be closely monitored for visual evidence of free-phase petroleum hydrocarbons.
- Blymyer Engineers recommends a reduction in sampling frequency for monitoring wells MW-1, MW-2, and MW-4 from quarterly to semi-annually, following the completion of four consecutive quarterly sampling events at the site.
- A copy of this report should be forwarded to:

Ms. Amy Leech  
Alameda County Health Care Services Agency  
Environmental Protection Division  
1131 Harbor Bay Parkway, Room 250  
Alameda, CA 94502-6577

**Table 1. Summary of Groundwater Sample Analytical Results**  
**BEI Job No. 94015, Kawahara Nursery**  
**16550 Ashland Avenue, San Lorenzo, California**

Sample ID	Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 (µg/L)			
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-1	6/16/93	<50	<50	<0.5	<0.5	<0.5	<0.5
	3/28/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	11/8/94	NS	NS	NS	NS	NS	NS
	3/29/95	<50	<50	<0.5	<0.5	<0.5	<0.5
	6/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-2	6/16/93	<50	<50	<0.5	<0.5	<0.5	<0.5
	3/28/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	11/8/94	NS	NS	NS	NS	NS	NS
	3/29/95	<50	<50	<0.5	<0.5	<0.5	<0.5
	6/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-3	6/16/93	120,000	170,000	4,600	8,400	2,100	27,000
	3/28/94	23,000	94,000	4,800	6,500	3,000	15,000
	11/8/94	35,000	27,000	3,600	4,100	2,700	18,000
	3/29/95	18,000	<50*	1,600	1,400	780	6,200
	6/7/95	20,000	<50	1,700	1,400	750	6,800
MW-4	6/16/93	NS	NS	NS	NS	NS	NS
	3/28/94	NS	NS	NS	NS	NS	NS
	11/8/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	3/29/95	<50	<50	<0.5	<0.5	<0.5	<0.5
	6/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-5	6/16/93	NS	NS	NS	NS	NS	NS
	3/28/94	NS	NS	NS	NS	NS	NS
	11/8/94	<50	<50	<0.5	<0.5	<0.5	<0.5
	3/29/95	<50	64	<0.5	<0.5	<0.5	<0.5
	6/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5

Notes:

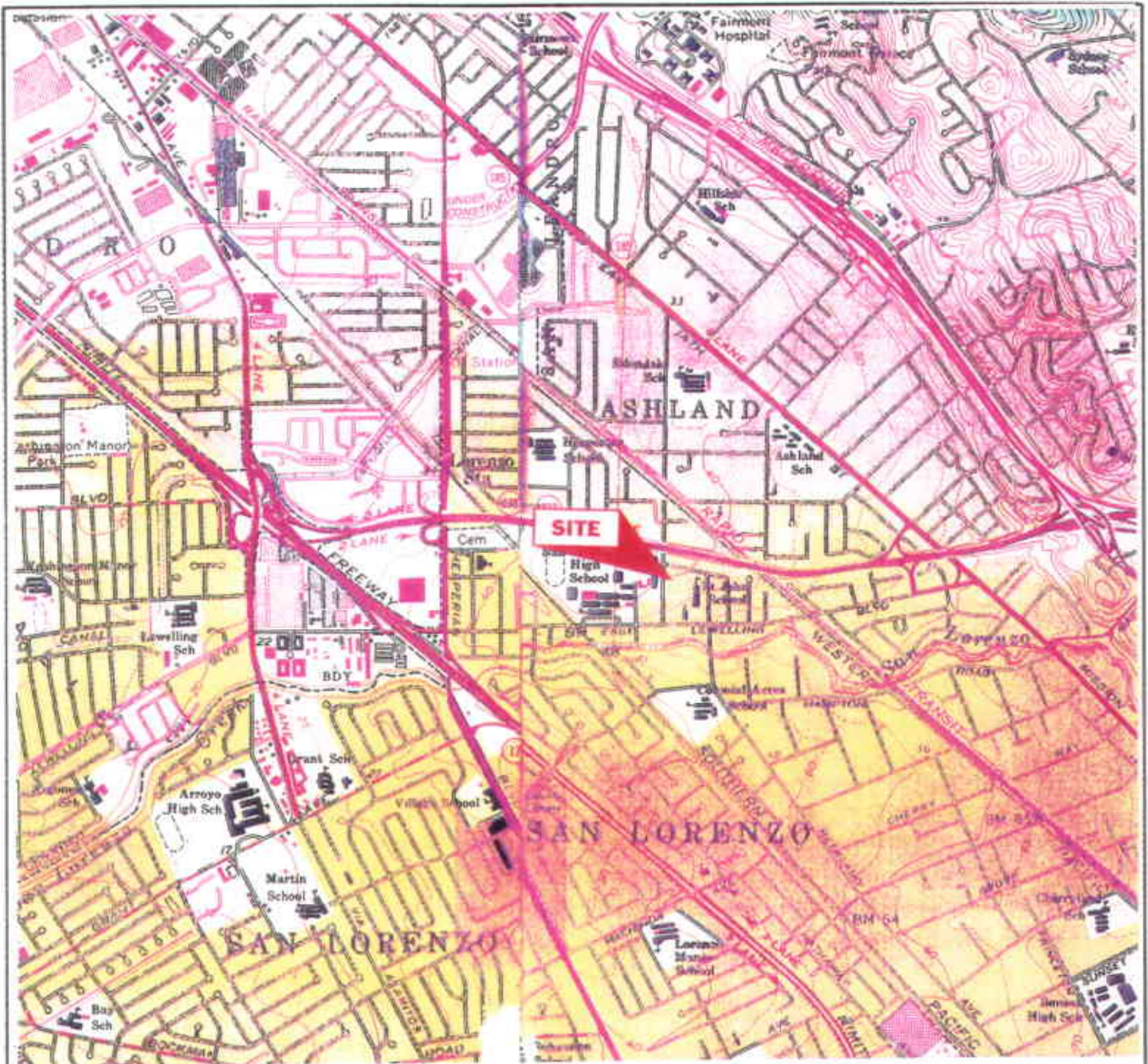
- |     |   |   |      |   |                              |
|-----|---|---|------|---|------------------------------|
| NS  | = | not sampled   | µg/L | = | microgram per Liter          |
| <x  | = | less than the analytical detection limit (x)  | TPH  | = | Total Petroleum Hydrocarbons |
| EPA | = | Environmental Protection Agency   |      |   |                              |
| *   | = | laboratory reported the presence of petroleum hydrocarbons with a chromatograph pattern uncharacteristic of diesel fuel |      |   |                              |

**Table II, Groundwater Elevation Measurements  
BEI Job No. 94015, Kawahara Nursery, Inc.  
16550 Ashland Avenue, San Lorenzo, California**

Sample ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-1	6/16/93	100	10.7	89.3
	3/24/94		11.11	88.89
	3/28/94		11.26	88.74
	11/22/94		12.04	87.96
	3/29/95		7.26	92.74
	6/7/95		8.67	91.33
MW-2	6/16/93	99.27	10.24	89.03
	3/24/94		10.65	88.62
	3/28/94		10.79	88.48
	11/22/94		11.58	87.69
	3/29/95		6.93	92.34
	6/7/95		8.36	90.91
MW-3	6/16/93	99.52	10.46	89.06
	3/24/94		10.81	88.71
	3/28/94		10.96	88.56
	11/22/94		11.68	87.84
	3/29/95		6.95	92.57
	6/7/95		8.48	91.04
MW-4	11/22/94	100.46	12.34	88.12
	3/29/95		7.49	92.97
	6/7/95		8.95	91.51
MW-5	11/22/94	98.14	10.42	87.72
	3/29/95		5.76	92.38
	6/7/95		7.33	90.81

Note:

TOC = Top of casing  
Elevations in feet above mean sea level

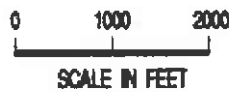


UNITED STATES GEOLOGICAL SURVEY 7.5 QUADS. "SAN LEANDRO, CA" AND "OAKLAND EAST, CA" BOTH PHOTOREVISED 1980.



BE JOB NO. 94015

DATE 12/13/84



**SITE LOCATION MAP**  
 KAWAHARA NURSERY  
 16550 ASHLAND AVE.  
 SAN LORENZO, CA

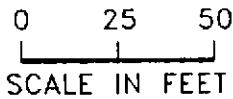
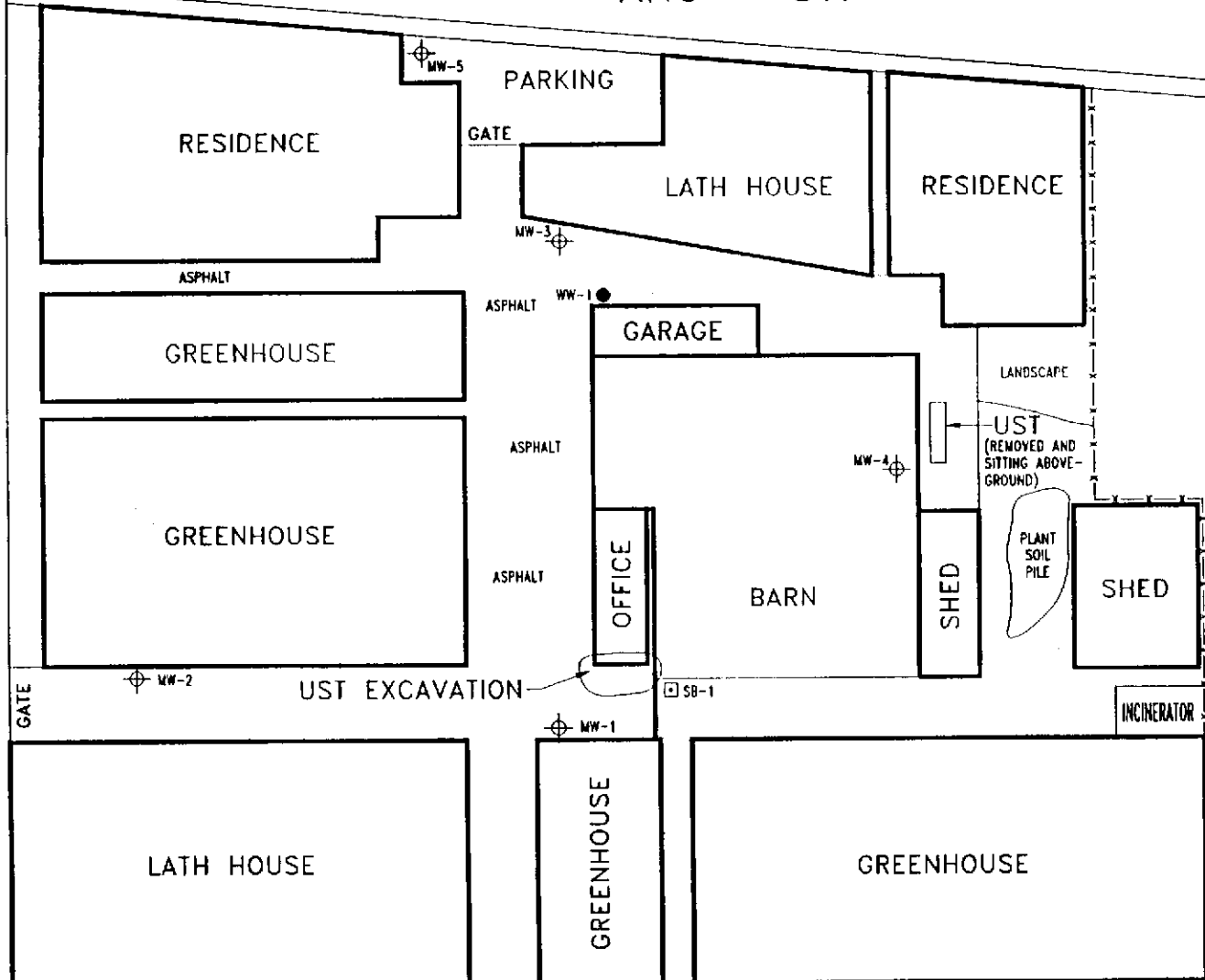
FIGURE  
**1**


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ASHLAND AVENUE

ANO ST.



 **BLYMYER**  
ENGINEERS, INC.

BEI JOB NO. 94015	DATE 11/15/94
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LEGEND

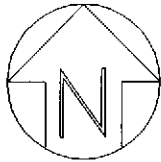
- ⊕ MONITORING WELL
- WATER WELL
- ▣ UST UNDERGROUND STORAGE TANK
- SOIL BORE

SITE PLAN  
KAWAHARA NURSERY  
SAN LORENZO, CA

FIGURE  
**2**

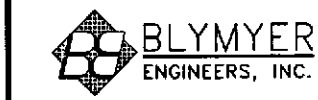
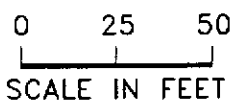
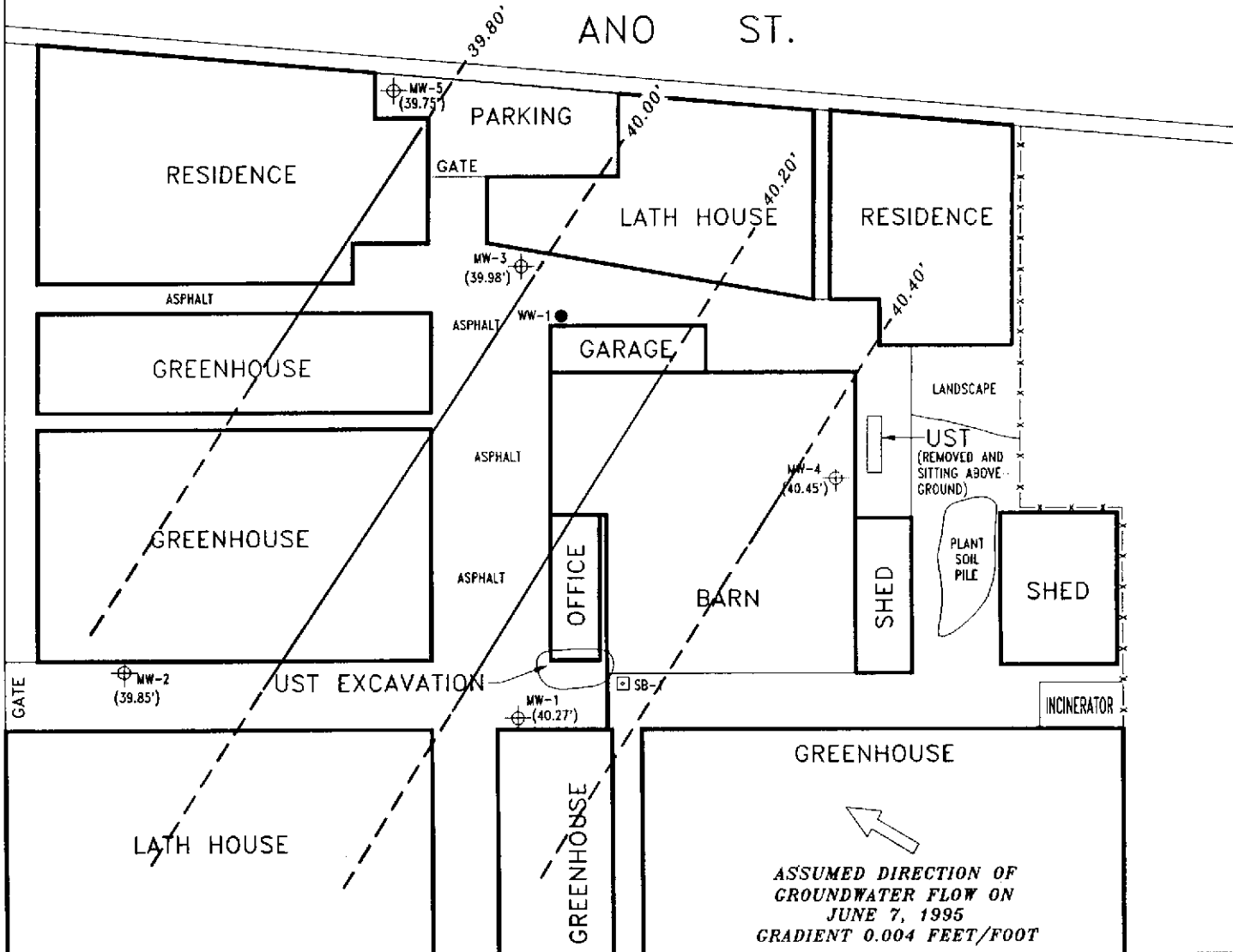


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ASHLAND AVENUE

ANO ST.



BEI JOB NO. 94015  
DATE 6/20/95

- LEGEND
- ⊕ MONITORING WELL
  - WATER WELL
  - UNDERGROUND STORAGE TANK
  - SOIL BORE
  - (90.91') GROUNDWATER ELEVATION
  - GROUNDWATER CONTOUR

GROUNDWATER GRADIENT  
JUNE 7, 1995  
KAWAHARA NURSERY  
SAN LORENZO, CA

FIGURE  
3

Appendix A: Well Purging and Sampling Data,  
dated June 7, 1995

## Well Purging and Sampling Data

Date	6/7/95	Project Number	94015	Project Name	Kawahara Nursery
Well Number	MW-1	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well	Volume to be Removed
Depth to product	N/A
Depth to water	8.67 ft.
Total depth of well	19.50 ft.
Column of water	10.83 ft.
	Gallons per foot of casing = 0.17 gal/ft.
	Column of water x 10.83 ft.
	Volume of casing = 1.84 gal.
	No. of volumes to remove x 3
	Total volume to remove = 5.52 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Teflon bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, brown color, no odor
Final	Very silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	09:28	09:31	09:37	09:41
Temperature (F)	62.6	62.6	63.0	63.1
Conductivity (us/cm)	1120	1120	1080	1110
pH	7.27	7.18	7.19	7.16
Method of measurement	Hydac meter			
Total volume purged	6.0 gal.			
Comments				

Sample Number	Amount of Sample
MW-1	3-40ml VOAs w/ HCl
	2-1L amber bottles

Signed/Sampler	<i>Stephan Mone</i>	Date	6/7/95
Signed/Reviewer	<i>Janet S. [Signature]</i>	Date	6/19/95

## Well Purging and Sampling Data

Date	6/7/95	Project Number	94015	Project Name	Kawahara Nursery
Well Number	MW-2	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	8.36 ft.	Column of water	x 10.97 ft.
Total depth of well	19.33 ft.	Volume of casing	= 1.86 ft.
Column of water	10.97 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 5.58 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Teflon bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, brown color, no odor
Final	Silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	08:23	08:27	08:32	08:38
Temperature (F)	63.5	62.8	62.7	62.8
Conductivity (us/cm)	1000	1080	1100	1090
pH	6.91	7.07	7.16	7.20
Method of measurement	Hydac meter			
Total volume purged	6.0 gal.			
Comments				

Sample Number	Amount of Sample
MW-2	3-40ml VOAs w/ HCl
	2-1L amber bottles

Signed/Sampler	<i>Stephen W. Moore</i>
Signed/Reviewer	<i>Jan [Signature]</i>
Date	6/7/95
Date	6/19/95

## Well Purging and Sampling Data

Date	6/7/95	Project Number	94015	Project Name	Kawahara Nursery
Well Number	MW-3	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17gal/ft.
Depth to water	8.48 ft.	Column of water	x 10.77 ft.
Total depth of well	19.25 ft.	Volume of casing	= 1.83 gal.
Column of water	10.77 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 5.49 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Disposable polyethylene bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, strong unidentifiable odor, sheen in purge bucket
During	Silty, gray color, strong unidentifiable odor, sheen in purge bucket
Final	Very silty, gray color, strong unidentifiable odor, sheen in purge bucket

Field Analysis	Initial	During		Final
Time	12:39	12:45	12:52	12:59
Temperature (F)	65.3	64.3	64.7	64.4
Conductivity (us/cm)	1740	1640	1570	1460
pH	6.70	6.74	6.71	6.72
Method of measurement	Hydac meter			
Total volume purged	6.0 gal.			
Comments	Sampled with disposable polyethylene bailer			

Sample Number	Amount of Sample
MW-3	3-40ml VOAs w/ HCl
	2-1L amber bottles

Signed/Sampler	Date
<i>Stephen W. Wilson</i>	6/7/95
Signed/Reviewer	Date
<i>[Signature]</i>	6/19/95

## Well Purging and Sampling Data

Date	6/7/95	Project Number	94015	Project Name	Kawahara Nursery
Well Number	MW-4	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	8.95 ft.	Column of water	x 10.80 ft.
Total depth of well	19.75 ft.	Volume of casing	= 1.84 gal.
Column of water	10.80 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 5.52 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Teflon bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, brown color, no odor
Final	Silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	10:35	10:38	10:43	10:47
Temperature (F)	61.5	61.4	61.6	61.5
Conductivity (us/cm)	1070	1040	1080	1100
pH	7.21	7.03	7.10	7.02
Method of measurement	Hydac meter			
Total volume purged	6.0 gal.			
Comments				

Sample Number	Amount of Sample
MW-4	3-40ml VOAs w/ HCl
	2-1L amber bottles

Signed/Sampler	<i>Stephen W. Wilson</i>	Date	6/7/95
Signed/Reviewer	<i>[Signature]</i>	Date	6/19/95

## Well Purging and Sampling Data

Date	6/7/95	Project Number	94015	Project Name	Kawahara Nursery
Well Number	MW-5	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	7.33 ft.	Column of water	x 12.67 ft.
Total depth of well	20.00 ft.	Volume of casing	= 2.15 gal.
Column of water	12.67 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 6.45 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Disposable polyethylene bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, brown color, no odor
Final	Silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	11:35	11:40	11:47	11:54
Temperature (F)	64.9	64.5	64.7	64.8
Conductivity (us/cm)	1050	1050	1050	1060
pH	7.26	7.13	7.11	7.08
Method of measurement	Hydac meter			
Total volume purged	6.75 gal.			
Comments	Sampled with disposable polyethylene bailer			

Sample Number	Amount of Sample
MW-5	3-40ml VOAs w/ HCl
	2-1L amber bottles

Signed/Sampler	Date
<i>Steph W Moore</i>	6/7/95
Signed/Reviewer	Date
<i>John [Signature]</i>	6/19/95

Appendix B: GTEL Environmental Laboratories, Inc.

dated June 15, 1995





# GTEL

ENVIRONMENTAL  
LABORATORIES, INC.

4080 Pike Lane  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
(800) 423-7143 Outside CA  
(510) 825-0720 FAX



June 15, 1995

Laurie Buckman  
Blymyer Engineers, Inc.  
1829 Clement Ave.  
Alameda, CA 94501-1396

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RE: GTEL Client ID:	BEI01BEI01
Login Number:	C5060085
Project ID (number):	94015
Project ID (name):	Kawahara Nursery/San Lorenzo, CA

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Dear Laurie Buckman:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 06/08/95.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is accredited by the state of Alaska to perform analysis for drinking water and hazardous waste materials.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,  
GTEL Environmental Laboratories, Inc.

  
Rashmi Shah  
Laboratory Director

GTEL Client ID: BEI01BEI01  
 Login Number: C5060085  
 Project ID (number): 94015  
 Project ID (name): Kawahara Nursery/San Lorenzo, CA

ANALYTICAL RESULTS

Volatile Organics  
 Method: EPA8020/15  
 Matrix: Aqueous

GTEL Sample Number	C5060085-02	C5060085-03	C5060085-04	C5060085-05
Client ID	MW-2	MW-1	MW-4	MW-5
Date Sampled	06/07/95	06/07/95	06/07/95	06/07/95
Date Analyzed	06/13/95	06/13/95	06/13/95	06/13/95
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
TPH as GAS	50.	ug/L	< 50.	< 50.	< 50.	< 50.
BFB (Surrogate)	--	%	108.	95.8	95.4	96.2

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Gasoline Range Hydrocarbons (TPH) quantitated by GC/FID with purge and trap. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

GTEL Concord, CA  
 C5060085:1



GTEL Client ID: BEI01BEI01  
 Login Number: C5060085  
 Project ID (number): 94015  
 Project ID (name): Kawahara Nursery/San Lorenzo, CA

ANALYTICAL RESULTS

Volatile Organics  
 Method: EPA8020/15  
 Matrix: Aqueous

GTEL Sample Number	C5060085-06	--	--	--
Client ID	MW-3	--	--	--
Date Sampled	06/07/95	--	--	--
Date Analyzed	06/14/95	--	--	--
Dilution Factor	50.0	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.5	ug/L	1700	--	--	--
Toluene	0.5	ug/L	1400	--	--	--
Ethylbenzene	0.5	ug/L	750	--	--	--
Xylenes (total)	0.5	ug/L	6800	--	--	--
TPH as GAS	50.	ug/L	20000	--	--	--
BFB (Surrogate)	--	%	107.	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Gasoline Range Hydrocarbons (TPH) quantitated by GC/FID with purge and trap. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

GTEL Concord, CA  
 C5060085:2



GTEL Client ID: BEI01BEI01  
Login Number: C5060085  
Project ID (number): 94015  
Project ID (name): Kawahara Nursery/San Lorenzo, CA

QUALITY CONTROL RESULTS

Volatile Organics  
Method: EPA8020/15  
Matrix: Aqueous

Method Blank Results

QC Batch No: M061395-1  
Date Analyzed: 13-JUN-95

Analyte	Method: EPA8020/15	Concentration: ug/L
Benzene	< 0.30	
Toluene	< 0.30	
Ethylbenzene	< 0.30	
Xylenes (Total)	< 0.50	
TPH as Gasoline	< 50.0	

Notes:

# BLMYER

ENGINEERS, INC.

1829 Clement Avenue

Alameda, CA 94501 (510) 521-3773

FAX (510) 865-2594



## CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

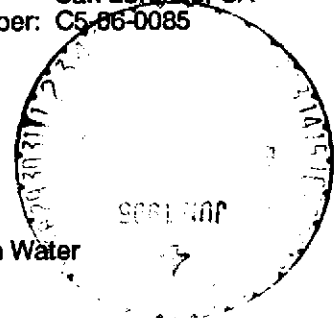
JOB #		PROJECT NAME/LOCATION					# OF CONTAINERS	TPH AS GASOLINE + BTX (MOD EPA 8015/8020)	TPH AS DIESEL (MOD EPA 8015)	VOC (EPA 624/8240)	SEMIVOC (EPA 625/8270)	TRPH (EPA 418.1)	BTX (EPA 8020/602)	HOLD	TURNAROUND TIME: <u>Standard</u> DAY(S)
SAMPLERS (SIGNATURE)															REMARKS:
DATE	TIME	COMP	GRAB	SAMPLE NAME/LOCATION	LAB NO										
94015	Kawahava Nursery / San Lorenzo CA														
Steph W. Moore															
6/7/95	0805		X	BB-1	01	5							X	1°C	
6/7/95	0855		X	MW-2	02	5	X	X						2°C	
6/7/95	1005		X	MW-1	03	5	X	X						3°C	
6/7/95	1110		X	MW-4	04	5	X	X						3°C	
6/7/95	1215		X	MW-5	05	5	X	X						4°C	
6/7/95	1320		X	MW-3	06	5	X	X						5°C	
* NOT RUN SAMPLE 01 PER M. ALEXANDER U/B/AS															
														6°C	
														C5060085	
REQUESTED BY: Laurie Buckman						RESULTS AND INVOICE TO: Blymyer Engineers, Inc									
RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED BY: (SIGNATURE)		RELINQUISHED BY: (SIGNATURE)			DATE / TIME		RECEIVED BY: (SIGNATURE)				
Steph W. Moore		6/8/95 10:50		John Weber											
RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE / TIME		REMARKS:							
John Weber		6/8/95 11:30		Komal C. Jensen		6/8/95 11:30		GTCL							

WHITE: Accompany Sample

YELLOW: BEI, After Lab Signs

PINK: Original Sampler

Client Number: BEI01BEI01  
 Project ID: Kawagara  
 San Lorenzo, CA  
 Login Number: C5-86-0085



**ANALYTICAL RESULTS**

**Total Petroleum Hydrocarbons as Diesel in Water**

**Modified EPA Methods 3510/8015<sup>a</sup>**

GTEL Sample Number		02	03	04	05
Client Identification		MW-2	MW-1	MW-4	MW-5
Date Sampled		06/07/95	06/07/95	06/07/95	06/07/95
Date Extracted		06/09/95	06/09/95	06/09/95	06/09/95
Date Analyzed		06/13/95	06/13/95	06/13/95	06/13/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		122	135	122	121

GTEL Sample Number		6b	GCKF		
Client Identification		MW-3	METHOD BLANK		
Date Sampled		06/07/95	--		
Date Extracted		06/09/95	06/09/95		
Date Analyzed		06/13/95	06/13/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		106	110		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.
- b. Uncategorized compounds present not indicative of Diesel.