Quarterly Groundwater Monitoring Report
Third Quarter 1995 (July through September)

Kawahara Nursery
16550 Ashland Avenue
San Lorenzo, California

October 6, 1995 BEI Job No. 94015

Prepared by:

Blymyer Engineers, Inc.
1829 Clement Avenue
Alameda, CA 94501

Client:

Kawahara Nursery, Inc.
16550 Ashland Avenue
San Lorenzo, CA 94508

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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.

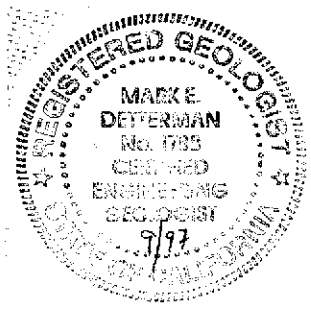
Blymyer Engineers, Inc.

By: _____

Laurie A. Buckman
Project Geologist

And: _____

Mark Detterman, CEG 1788
Senior Geologist



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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 (µg/L) of TPH as gasoline, 170,000 µg/L of TPH as diesel, 4,600 µg/L of benzene, 8,400 µg/L of toluene, 2,100 µg/L of ethylbenzene, and 27,000 µg/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. 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 aerial 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 prior to the 1920s.

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. Due to the very low concentrations of petroleum

hydrocarbons detected in monitoring well MW-5, which is 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. However, according to Ms. Jean Kawahara, the present property owner, prior to their acquisition of the property a gasoline UST may have been removed from the area to the north of MW-3. 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 third quarter 1995 (July through September) 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 September 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 September 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 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, or from monitoring well MW-4 since the well was installed in November 1994. TPH as diesel was detected in the groundwater sample collected from monitoring well MW-5 only 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 17,000 µg/L of TPH as gasoline, 1,100 µg/L of benzene, 800 µg/L of toluene, 570 µg/L of ethylbenzene, and 4,800 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 three 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 casings of monitoring wells MW-1 through MW-5 were surveyed to a city bench mark on November 22, 1994. Depth to groundwater was measured in all five wells on September 7, 1995. Table II summarizes the top-of-casing elevations and the groundwater elevation data. The depth-to-groundwater measurements collected during the September 1995 sampling event indicated a general decline in groundwater elevations across the site of approximately 1.85 feet. The decline in groundwater elevations at the site is probably due to a seasonal decrease in precipitation.

The groundwater flow direction on September 7, 1995, was approximately northwest with an average gradient of 0.004 feet/foot, as shown on Figure 2.

4.0 Summary and Conclusions

- TPH as gasoline, TPH as diesel, and BTEX have not been detected above the analytical method reporting limits in groundwater samples collected from monitoring wells MW-1, MW-2, and MW-4 since the wells were installed.

- TPH as diesel was detected in the groundwater sample collected from monitoring well MW-5 only 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 17,000 µg/L of TPH as gasoline, 1,100 µg/L of benzene, 800 µg/L of toluene, 570 µg/L of ethylbenzene, and 4,800 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 three 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 1.85 feet, which is probably the result of a seasonal 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 a reduction in sampling frequency for monitoring wells MW-4 and MW-5 from quarterly to semi-annually, and the elimination of sample collection from monitoring wells MW-1 and MW-2.

- Blymyer Engineers recommends that a Ground Penetrating Radar and GeoProbe® study be conducted at the site to determine the presences of either a gasoline UST or backfilled UST basin in the vicinity of monitoring well MW-3.

- 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
	9/7/95	<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
	5/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5
	9/7/95	<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**
	9/7/95	**17,000**	<50	**1,100**	**800**	**570**	**4,800**
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
	9/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5

Table I, 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-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
	9/7/95	<50	<50	<0.5	<0.5	<0.5	<0.5

Notes:

NS = not sampled

<x = less than the analytical detection limit (x)

µg/L = micrograms per Liter

TPH = Total Petroleum Hydrocarbons

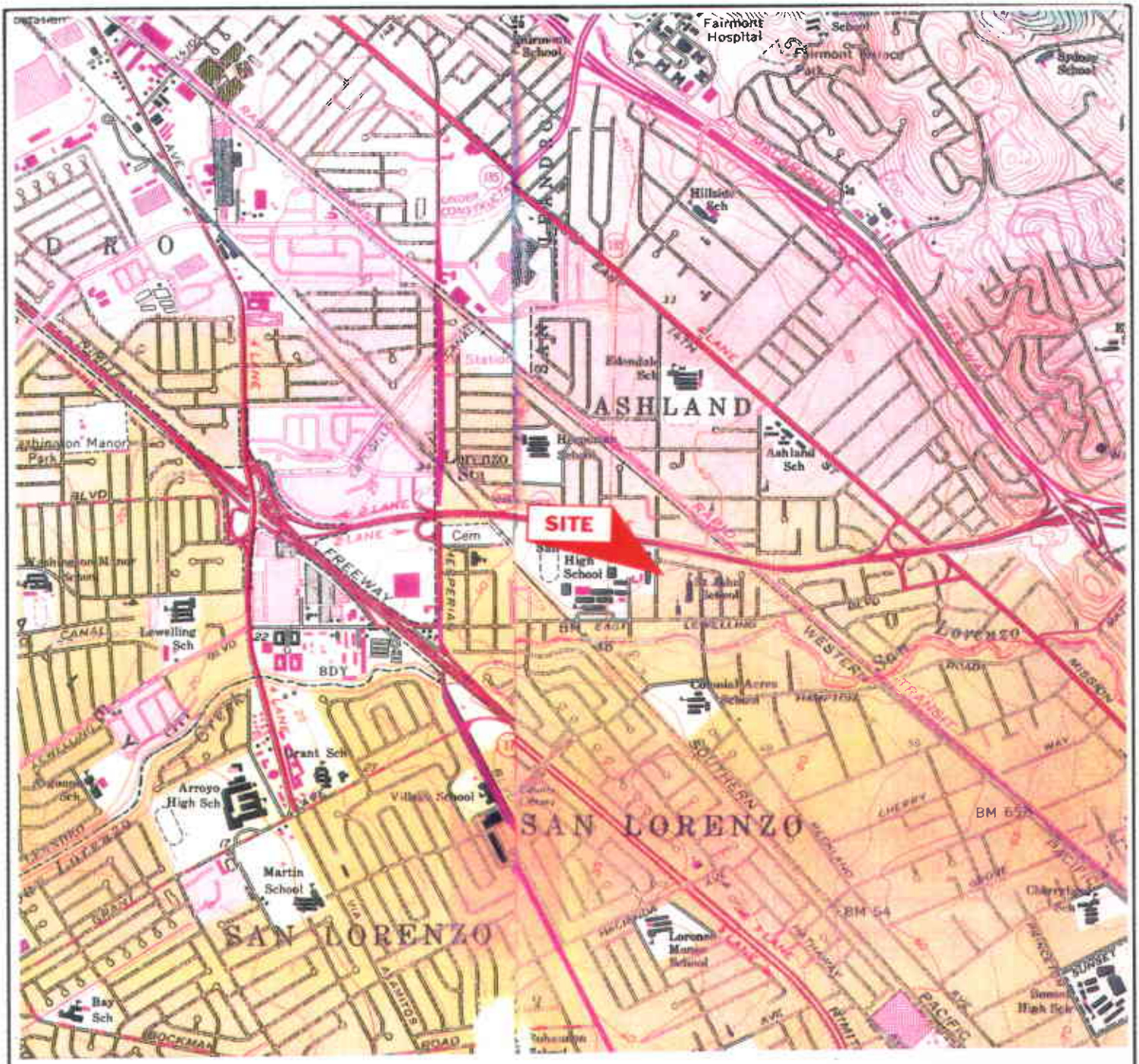
EPA = Environmental Protection Agency

* = laboratory reported the presence of petroleum hydrocarbons with a chromatograph pattern uncharacteristic of diesel fuel

Table II, Summary of 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
	9/7/95		10.56	89.44
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
	9/7/95		10.18	89.09
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
	9/7/95		10.30	89.22
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
	9/7/95		10.88	89.58
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
	9/7/95		9.11	89.03

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



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BLYMYER ENGINEERS INC.

BE JOB NO. 94015

DATE 12/13/94

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SCALE IN FEET

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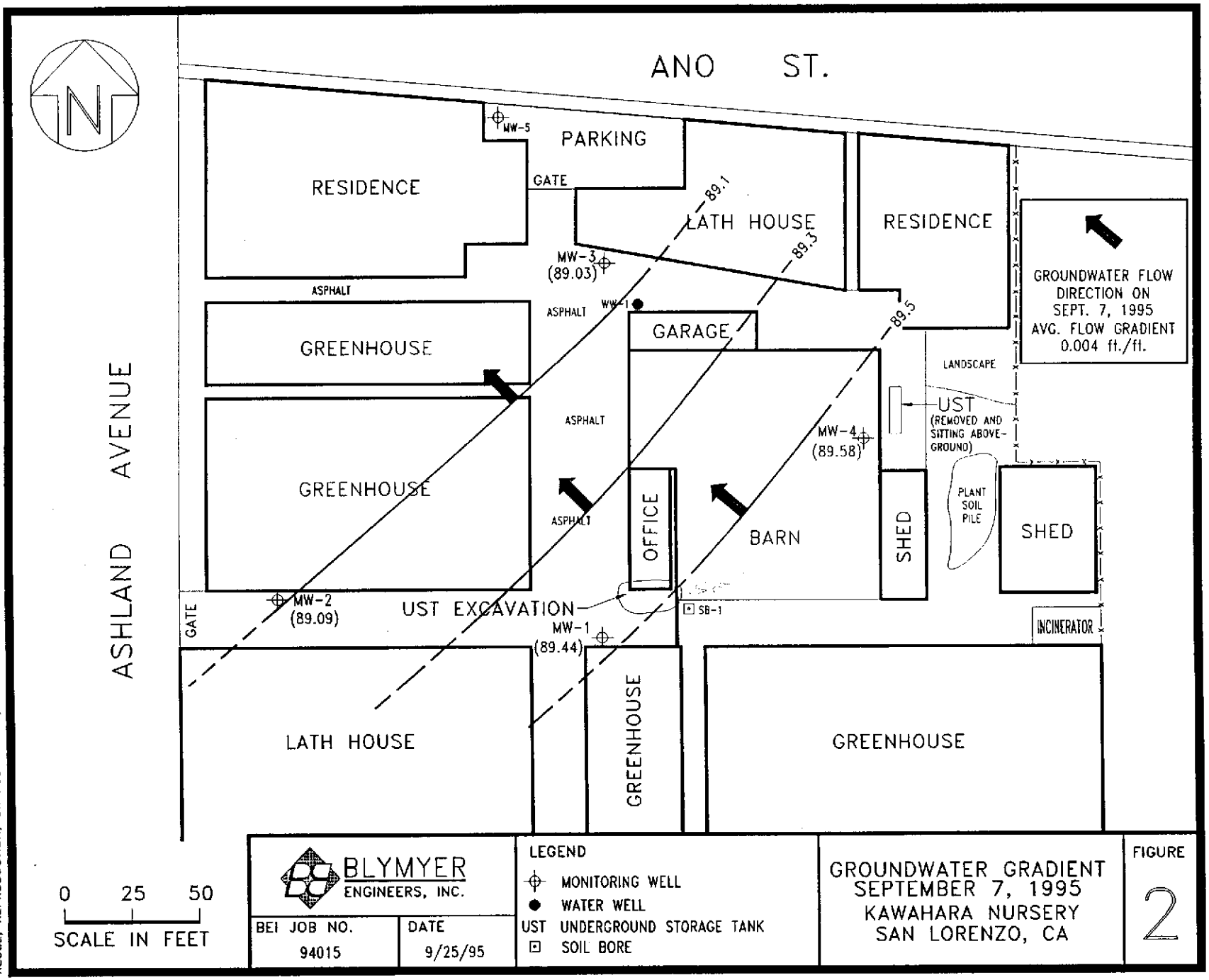
SITE LOCATION MAP

KAWAHARA NURSERY
16550 ASHLAND AVE.
SAN LORENZO, CA

FIGURE 1



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

Well Purging and Sampling Data

Date	9/7/95	Project Number	94015	Project Name	Kawahara
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	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	10.56 ft.	Column of water	x 8.94 ft.
Total depth of well	19.50 ft.	Volume of casing	= 1.52 gal.
Column of water	8.94 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 4.56 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	Slightly silty, tan color, no odor
During	Very silty, brown color, no odor
Final	Very silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	11:36	11:40	11:44	11:48
Temperature (F)	68.2	65.6	65.3	65.4
Conductivity (us/cm)	1070	1010	990	990
pH	7.30	7.38	7.29	7.22
Method of measurement	Hydac meter			
Total volume purged	5.25 gal.			
Comments	Sampled with teflon bailer			

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

Signed/Sampler		Date	9/7/95
Signed/Reviewer		Date	10/5/95

Well Purging and Sampling Data

Date	9/7/95	Project Number	94015	Project Name	Kawahara
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	10.18 ft.	Column of water	x 9.15 ft.
Total depth of well	19.33 ft.	Volume of casing	= 1.56 gal.
Column of water	9.15 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 4.68 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	Slightly silty, tan color, no odor
During	Very silty, tan color, no odor
Final	Very silty, tan color, no odor

Field Analysis	Initial	During		Final
Time	10:41	10:44	10:48	10:53
Temperature (F)	69.6	67.5	67.1	67.2
Conductivity (us/cm)	1030	980	955	968
pH	7.40	7.33	7.30	7.28
Method of measurement	Hydac meter			
Total volume purged	5.25 gal.			
Comments	Sampled with teflon bailer			

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

Signed/Sampler	Stephen W. Mann	Date	9/7/95
Signed/Reviewer	[illegible]	Date	10/5/95

Well Purging and Sampling Data

Date	9/7/95	Project Number	94015	Project Name	Kawahara
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	= 0.17 gal/ft.
Depth to water	10.30 ft.	Column of water	x 8.95 ft.
Total depth of well	19.25 ft.	Volume of casing	= 1.52 gal.
Column of water	8.95 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 4.56 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 fuel/sewage odor, sheen in purge bucket
During	Silty, dark gray color, strong fuel/sewage odor, sheen in purge bucket
Final	Silty, dark gray color, strong fuel/sewage odor, sheen in purge bucket

Field Analysis	Initial	During		Final
Time	14:28	14:35	14:39	14:44
Temperature (F)	73.0	70.5	69.3	69.5
Conductivity (us/cm)	1360	1290	1240	1220
pH	6.90	6.81	6.93	6.98
Method of measurement	Hydac meter			
Total volume purged	5.00 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	Stephen G. Mc...	Date	9/7/95
Signed/Reviewer	...	Date	10/6/95

Well Purging and Sampling Data

Date	9/7/95	Project Number	94015	Project Name	Kawahara
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	= 0.17gal/ft.
Depth to water	10.88 ft.	Column of water	x 8.87 ft.
Total depth of well	19.75 ft.	Volume of casing	= 1.51 gal.
Column of water	8.87 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 4.53 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	Slightly silty, tan color, no odor
Final	Silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	12:44	12:48	12:53	12:57
Temperature (F)	67.0	64.1	64.0	64.2
Conductivity (us/cm)	888	885	883	884
pH	7.50	7.28	7.33	7.30
Method of measurement	Hydac meter			
Total volume purged	5.00 gal.			
Comments	Sampled with teflon bailer			

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

Signed/Sampler	[signature]	Date	9/7/95
Signed/Reviewer	[signature]	Date	10/5/95

Well Purging and Sampling Data

Date	9/7/95	Project Number	94015	Project Name	Kawahara
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	9.11 ft.	Column of water	x 10.89 ft.
Total depth of well	20.00 ft.	Volume of casing	= 1.85 gal.
Column of water	10.89 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 5.55 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	Slightly silty, tan color, no odor
During	Slightly silty, tan color, no odor
Final	Silty, brown color, no odor

Field Analysis	Initial	During		Final
Time	13:38	13:42	13:47	13:53
Temperature (F)	73.5	68.8	68.3	68.2
Conductivity (us/cm)	997	959	958	961
pH	7.45	7.32	7.27	7.35
Method of measurement	Hydac meter			
Total volume purged	6.00 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	Stephen W Moore	Date	9/7/95
Signed/Reviewer		Date	10/5/95

Appendix B: GTEL Environmental Laboratories, Inc., Analytical Report,

dated September 15, 1995

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

September 15, 1995

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

RE: GTEL Client ID: BEI01BEI01
Login Number: C5090079
Project ID (number): 94015
Project ID (name): Kawahara Nursery/San Lorenzo, CA

Dear Laurie Buckman:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 09/08/95.

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 certified by the Department of Health Service under Certification Number E1075.

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.

William Sinkola
for
Chip Poalinelli
Laboratory Director

ANALYTICAL RESULTS
Volatile Organics

GTEL Client ID: BEI01BEI01
Login Number: C5090079
Project ID (number): 94015
Project ID (name): Kawahara Nursery/San Lorenzo, CA

Method: EPA8020/15
Matrix: Aqueous

	GTEL Sample Number	C5090079-02	C5090079-03	C5090079-04	C5090079-05
	Client ID	MW-2	MW-1	MW-4	MW-5
	Date Sampled	09/07/95	09/07/95	09/07/95	09/07/95
	Date Analyzed	09/12/95	09/12/95	09/13/95	09/13/95
	Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:			
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)	--	%	82.3	80.6	78.6	82.2

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 ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL RESULTS
Volatile Organics

GTEL Client ID: BEI01BEI01
Login Number: C5090079
Project ID (number): 94015
Project ID (name): Kawahara Nursery/San Lorenzo, CA

Method: EPA8020/15
Matrix: Aqueous

GTEL Sample Number	C5090079-06	--	--	--
Client ID	MW-3	--	--	--
Date Sampled	09/07/95	--	--	--
Date Analyzed	09/13/95	--	--	--
Dilution Factor	50.0	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.5	ug/L	1100	--	--	--
Toluene	0.5	ug/L	800	--	--	--
Ethylbenzene	0.5	ug/L	570	--	--	--
Xylenes (total)	0.5	ug/L	4800	--	--	--
TPH as GAS	50.	ug/L	17000	--	--	--
BFB (Surrogate)	--	%	80.0	--	--	--

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 ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: BEI01BEI01 QUALITY CONTROL RESULTS
Login Number: C5090079 Volatile Organics
Project ID (number): 94015 Method: EPA8020/15
Project ID (name): Kawahara Nursery/San Lorenzo, CA Matrix: Aqueous

Method Blank Results

QC Batch No: G091295-1
Date Analyzed: 12-SEP-95

Analyte	Method:EPA8020/15 Concentration: ug/L
Benzene	< 0.300
Toluene	< 0.300
Ethylbenzene	< 0.300
Xylenes (Total)	< 0.500
TPH as Gasoline	< 50.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

Client Number: BEI018EI01
Project ID: Kawahara Nursery/San Lorenzo
Work Order Number: C5-09-0079

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel in Water

Modified EPA Methods 3510/8015[a]

GTEL Sample Number		02	03	04	05
Client Identification		MW-2	MW-1	MW-4	MW-5
Date Sampled		09/07/95	09/07/95	09/07/95	09/07/95
Date Extracted		09/12/95	09/12/95	09/12/95	09/12/95
Date Analyzed		09/14/95	09/14/95	09/14/95	09/14/95
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		127	110	121	116

GTEL Sample Number		06	GC		
Client Identification		MW-3	METHOD BLANK		
Date Sampled		09/07/95	–		
Date Extracted		09/12/95	09/12/95		
Date Analyzed		09/14/95	09/14/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		112	–		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.

GTEL ENVIRONMENTAL LABORATORIES, INC.

BLYMYER
ENGINEERS, INC.
1829 Clement Avenue
Alameda, CA 94501 (510) 521-3773 FAX (510) 865-2594

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

JOB # 94015 | PROJECT NAME/LOCATION: Kawahara / San Lorenzo CA | TURNAROUND TIME: Standard 5 DAY(S)

SAMPLERS (SIGNATURE): Steph W Moore

	DATE	TIME	COMP	GRAB	SAMPLE NAME/LOCATION	LAB NO.	# OF CONTAINERS	TPH AS GASOLINE + BTXE (MOD EPA 8015/8020)	TPH AS DIESEL (MOD EPA 8015)	VOC (EPA 624/8240)	SEMI-VOC (EPA 625/8270)	TRPH (EPA 418.1)	BTXE (EPA 8020/602)					HOLD	REMARKS
ND	9/7/95	1005		X	BB-1	01	5											X	cooler at 2°C
ND	9/7/95	1110		X	MW-2	02	5	X	X										cooler at 4°C
ND	9/7/95	1215		X	MW-1	03	5	X	X										cooler at 3°C
ND	9/7/95	1315		X	MW-4	04	5	X	X										cooler at 4°C
ND	9/7/95	1410		X	MW-5	05	5	X	X										cooler at 4°C
X50	9/7/95	1500		X	MW-3	06	5	X	X										cooler at 4°C

MB 9/15/95

5°C

C5090079

REQUESTED BY: Laurie Buckman

RESULTS AND INVOICE TO: Blymyer Engineers, Inc

RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)
Steph W Moore	9/8/95 1520	Dan Weber
Dan Weber	9/8/95 18:45	

RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)

RECEIVED FOR LABORATORY BY: (SIGNATURE)

DATE / TIME

REMARKS: GTEL

WHITE: Accompany Sample YELLOW: BEI, After Lab Signs PINK: Original Sampler