

RECEIVED

1:32 pm, Jan 06, 2009

Alameda County
Environmental Health

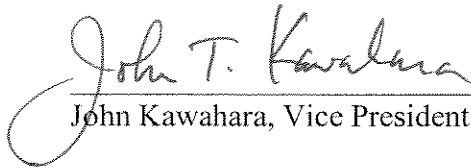
Dec. 8, 2008

Mr. Steven Plunkett
Alameda County Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Perjury Statement
Kawahara Nursery, 16550 Ashland Avenue, San Lorenzo, California; RO-291

Dear Mr Plunkett,

"I declare under penalty of perjury, that the information and / or recommendations contained in the attached proposal or report is true and correct to the best of my knowledge."



John Kawahara, Vice President

**Semiannual Groundwater Monitoring Report
Fall 2008**

Kawahara Nursery
16550 Ashland Avenue
San Lorenzo, California
ACEHD Fuel Leak Case No. RO0000291

December 5, 2008 BEI Job No. 94015

Prepared by:

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

Client:

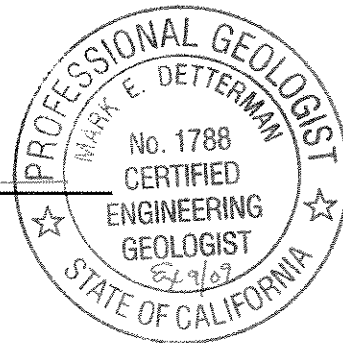
Kawahara Nursery, Inc.
16550 Ashland Avenue
San Lorenzo, CA 94508

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: Mark E. Detterman
Mark E. Detterman C.E.G.
Senior Geologist



And: Michael S. Lewis
Michael S. Lewis
Vice President, Technical Services

Table of Contents

1.0 Introduction	1
1.1 Underground Storage Tank Removal	1
1.2 Phase I Site Investigation	1
1.3 Phase II Site Investigation	1
1.4 Additional Investigations	4
2.0 Data	8
2.1 Groundwater Gauging	8
2.2 Groundwater Sampling and Analysis	8
3.0 Results	9
3.1 Groundwater Elevations and Gradient	9
3.2 Groundwater Sample Analytical Results	9
4.0 Conclusions and Recommendations	12

Tables

Table I:	Summary of Groundwater Elevation Measurements
Table II:	Summary of Groundwater Sample Hydrocarbon Analytical Results
Table III:	Summary of Groundwater Sample Natural Attenuation Analytical Results
Table IV:	Summary of Groundwater Sample Fuel Oxygenate Analytical Results

Figures

Figure 1:	Site Location Map
Figure 2:	Site Plan and Groundwater Gradient, November 19, 2008

Appendices

Appendix A:	<i>Standard Operating Procedures</i> , Blaine Tech Services, Inc.
Appendix B:	<i>SPH or Purge Water Drum Log, Wellhead Inspection Checklist, Well Gauging Data, and Well Monitoring Data Sheets</i> , Blaine Tech Services, Inc., Dated November 19, 2008
Appendix C:	Analytical Laboratory Report, McCampbell Analytical, Inc, Dated November 26, 2008

1.0 Introduction

1.1 Underground Storage Tank Removal

On December 1, 1992, one steel 5,000-gallon underground storage tank (UST) was removed from the property owned by Kawahara Nursery, located at 16550 Ashland Avenue, San Lorenzo, California, (Figure 1). The UST, used to store diesel, was reported to be in good condition at the time of removal with no visible evidence of holes. However, soil samples collected from the UST excavation contained Total Petroleum Hydrocarbons (TPH) as diesel, suggesting that a release had occurred. The results of the UST closure were described in the *Underground Storage Tank Closure Report*, prepared by Tank Protect Engineering.

According to information obtained from Kawahara Nursery, a 1,000-gallon gasoline UST was previously located in the vicinity of the lath house on the north side of the property (Figure 2). The UST was reportedly removed from the site shortly after Kawahara Nursery occupied the property in 1954.

1.2 Phase I Site Investigation

In a letter dated January 27, 1993, Alameda County Environmental Health Department (ACEHD) requested that a preliminary subsurface investigation be completed to ascertain the extent of soil and groundwater contamination at the site. On June 10, 1993, Blymyer Engineers supervised the installation of three groundwater monitoring wells (MW-1, MW-2, and MW-3) and one soil bore (SB-1). Minor concentrations of petroleum hydrocarbons were detected in the soil samples collected from soil bores MW-1 and MW-2, and higher concentrations were detected in the samples collected near the water-bearing zone in soil bore MW-3. The groundwater sample collected from monitoring well MW-3, located adjacent to an on-site irrigation well, contained TPH as gasoline and benzene, toluene, ethylbenzene, and xylenes (BTEX).

1.3 Phase II Site Investigation

In response to Blymyer Engineers' *Preliminary Site Assessment, Phase I Subsurface Investigation* report and *Subsurface Investigation Status Report*, the ACEHD requested full delineation of the extent of petroleum hydrocarbons in groundwater at the site and in the soil adjacent to the diesel

UST excavation. In 1994, Blymyer Engineers conducted a second phase of investigation at the site consisting of:

- A review of records at the ACEHD 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
- Field tests to assess whether pumping of the on-site irrigation well would influence the shallow water-bearing zone
- A 16-point soil gas survey
- Installation of two additional groundwater monitoring wells (MW-4 and MW-5)
- Collection of groundwater samples from all five monitoring wells during the first three quarters of 1995

Results of the second phase of investigation were presented in Blymyer Engineers' *Subsurface Investigation Letter Report*, dated December 16, 1994, and in quarterly groundwater monitoring reports submitted in 1995.

No potential upgradient sources of contamination were identified during the review of the local regulatory agency records and aerial photographs. On the basis of the limited field tests, pumping of the irrigation well did not have a significant influence on shallow groundwater beneath the site. Furthermore, petroleum hydrocarbons were not detected in the groundwater samples collected from the irrigation well, which is apparently screened from 45 to 60 feet below ground surface (bgs).

Slightly elevated concentrations of petroleum hydrocarbons were detected in the soil gas samples collected from the northeastern corner of the barn and near the northernmost lath house. Groundwater samples from MW-3, located between the lath house and the barn, contained up to 120,000 micrograms per liter ($\mu\text{g/L}$) TPH as gasoline, 4,800 $\mu\text{g/L}$ of benzene, 8,400 $\mu\text{g/L}$ of toluene, 3,000 $\mu\text{g/L}$ of ethylbenzene, and 27,000 $\mu\text{g/L}$ of total xylenes. The presence of TPH as gasoline in groundwater samples from MW-3 suggested that there was another source of petroleum hydrocarbons at the site, in addition to the diesel UST that was removed in 1992.

TPH as diesel was detected in the MW-5 groundwater sample only during the March 1995 sampling event. TPH as gasoline, TPH as diesel, and BTEX were not detected in groundwater samples collected from monitoring wells MW-1, MW-2, or MW-4. The direction of groundwater flow in September 1995 was estimated to be northwest with an average gradient of 0.004 feet/foot.

On the basis of the *Subsurface Investigation Letter Report* and quarterly groundwater monitoring reports, the ACEHD requested in a letter dated May 31, 1995 that additional work be conducted at the site. Specifically, the submittal of a workplan to identify the source and extent of contamination in soil and groundwater in the vicinity of monitoring well MW-3 was requested.

On June 3, 1997, Blymyer Engineers submitted the *Workplan for Additional Site Characterization and Site Risk Classification* (Workplan) to the ACEHD. In a letter dated June 6, 1997, the ACEHD requested that several additional tasks be included in the Workplan. On June 12, 1997, Blymyer Engineers submitted the *Revised Workplan for Additional Site Characterization* (Revised Workplan), which addressed the additional ACEHD requirements.

The Revised Workplan included the following tasks:

- Resume quarterly groundwater monitoring and sampling of MW-3, MW-4, and MW-5
- Generate a geophysical survey in an attempt to locate the gasoline UST or its former basin in the vicinity of the lath house on the north side of the site
- Perform an additional investigation in the vicinity of the former gasoline UST by advancing approximately 6 direct-push soil bores
- Decommission monitoring wells MW-1 and MW-2, as approved by the ACEHD
- Analyze soil and groundwater samples to evaluate the potential for natural attenuation (aerobic and anaerobic biodegradation)
- Determine if the site can be classified in the "low risk groundwater" category as defined by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB)
- If appropriate, evaluate the risk to human health and the environment

On March 4, 1999, Blymyer Engineers resumed quarterly groundwater monitoring and sampling of MW-3, MW-4, and MW-5, and submitted the *Quarterly Groundwater Monitoring Report, First Quarter 1999 (January through March)*, dated April 13, 1999.

In June 1999, prior to implementation of the Revised Workplan, Mr. Amir Gholami of the ACEHD requested (June 2, 1999) the addition of the following tasks to the above scope of work (see Blymyer Engineers' *Proposed Soil Bore Locations*, dated June 21, 1999):

- Drill two additional soil bores on the west side and east side of monitoring well MW-3
- Drill additional soil bores around the perimeter of the former diesel UST and in the vicinity of geophysical anomalies
- Collect soil samples at 5-foot intervals and collect one grab groundwater sample from each soil bore

1.4 Additional Investigations

On September 2, 1999, Blymyer Engineers submitted the *Results of Additional Subsurface Investigation and Quarterly Groundwater Monitoring, Second Quarter 1999*. This report presented the results the geophysical survey, additional soil bore sampling, well decommissioning, and groundwater monitoring for the second quarter, 1999. In addition to decommissioning monitoring wells MW-1 and MW-2, as approved by the ACEHD, the following conclusions were made:

- The direction of groundwater flow is toward the northwest
- On the basis of the geophysical survey, buried metal objects appear to be present in two locations near the west end of the lath house
- Soil and grab groundwater samples collected from SB-4 and SB-5, located downgradient of one magnetic anomaly, contained very high concentrations of petroleum hydrocarbons
- A petroleum sheen was observed on SB-4 and SB-5 water samples, and free product was observed in the soil samples
- Groundwater samples from MW-3, located between the barn and the northernmost lath house, contained significant concentrations of TPH as gasoline and benzene

- The soil samples and grab groundwater sample collected downgradient of the former diesel UST (removed in 1992) indicated that this area is not a significant source of groundwater contamination

On the basis of the investigation, it appears that there may be free product present in soil and groundwater in the vicinity of the lath house (downgradient of one magnetic anomaly). The site could not, therefore, be classified as “low risk groundwater”.

Furthermore, the concentrations of benzene were compared to the Tier 1 table of Risk-Based Screening Levels (RBSLs) as described in the ASTM E 1739-95 *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (RBCA). A California-modified toxicity and exposure table was used. Benzene concentrations in groundwater samples from SB-4, SB-5, and MW-3 exceed the target levels for an exposure pathway of groundwater volatilization to indoor residential air. Because there is a residence immediately downgradient of the apparent gasoline source, closure of this site could not be recommended on the basis of a low risk to human health.

Blymyer Engineers recommended that a Tier 2 RBCA evaluation be generated to evaluate site-specific target levels (SSTLs) for both soil and groundwater. When the SSTLs are generated, it was recommended that the remaining petroleum hydrocarbon sources be removed from the site, using the SSTLs as cleanup goals. Blymyer Engineers submitted the *Health Risk Assessment Workplan*, dated January 20, 2000, to the ACEHD. The workplan was approved by the ACEHD in a December 14, 2000 letter.

Due to the relative stability of the groundwater analytical data over an extended period of time, Blymyer Engineers recommended, and the ACEHD approved, that the site move to semi-annual groundwater monitoring.

A *Remedial Action Plan*, dated September 10, 2001, was forwarded to the ACEHD. In a letter dated September 18, 2001, the ACEHD accepted the proposed remedial actions.

In October 2002, the *ASTM RBCA Health Risk Assessment* report (Blymyer Engineers, October 11, 2002) was completed and forwarded to the ACEHD. The analysis indicated that, from a health risk perspective, only benzene in soil was of concern (the Calculated Representative Concentration [CRC] present at the site exceeded the SSTL). The CRCs for all other chemical components of petroleum hydrocarbons (TPH, toluene, ethylbenzene, and total xylenes) were found not to exceed

the SSTL in both soil and groundwater. However, from a nuisance perspective (odor and color), the SFRWQCB has set a lower threshold for TPH in soil than either the SSTL or the CRC. A similar situation was encountered for TPH in groundwater. The report recommended that the SFRWQCB nuisance threshold for soil and groundwater be followed for TPH, and that the SSTL for benzene in soil be used to guide remedial actions. The ACEHD accepted the risk assessment, in conjunction with the previously submitted Remedial Action Plan, in a letter entitled *Workplan Approval*, dated March 25, 2003.

In the Fall 2002 Groundwater Monitoring Report, Blymyer Engineers recommended that monitoring for Natural Attenuation parameters be stopped. The reasoning was based on the accumulation of data from 11 quarterly or semiannual groundwater monitoring events. It was judged that adequate data already existed to document microbial activity is present and contributing to the degradation of contaminants present in groundwater beneath the site. It was reasoned that the generation of additional data would not significantly increase our knowledge of degradation processes at the site.

On March 8, 2004, a letter entitled *Modification of Remedial Action Plan* was submitted to the ACEHD. The letter proposed a modification of the planned remedial excavation at the southern (former) diesel UST area. An apparently small wedge of soil had been documented to be impacted over the remedial goal of 100 milligrams per kilogram (or parts per million) at this location; however, due to the very likely possibility of undermining the adjacent pole barn, Blymyer Engineers proposed that a Soil Management Plan be developed and accompanied with a deed notification for the residual concentrations at this former UST location. It was proposed that appropriate additional actions could be taken at the time of property redevelopment. The modification was accepted by Ms. Eva Chu of the ACEHD in an email dated March 24, 2004. Due to financial constraints, Kawahara Nursery delayed remedial actions. On January 6, 2006, in response to an inquiry, the ACEHD notified Blymyer Engineers that the new case worker was Mr. Amir Gholami. More recently, Blymyer Engineers has been notified that the case has been transferred to Mr. Steven Plunkett at the ACEHD.

On November 14, 2006, CSS Environmental Services, Inc. resurveyed remaining wells at the site to GeoTracker standards. A copy of the survey is included in the *Semiannual Groundwater Monitoring Report Fall 2006*, dated December 11, 2006.

On March 13, 2008 a *Corrective Action Plan For Source Soil Excavation and Dewatering* was submitted to ACEHD. The Corrective Action Plan (CAP) provided additional details to implement corrective actions in order to remove hydrocarbon-impacted unsaturated and saturated soil, and to capture and treat impacted-groundwater as recommended in the *Remedial Action Plan* dated September 10, 2001. The added details had been verbally requested by Mr. Plunkett in a series of telephone conversations between February and April 2007.

On April 24, 2008, in a telephone conversation, Mr. Plunkett acknowledged receipt of the CAP and generally acknowledged the scope of work pending additional internal review. Blymyer Engineers noted that it would observe the 60-day period allowed for regulatory comment prior to proceeding. On May 16, 2008, Blymyer Engineers, on behalf of Kawahara Nursery, issued a Request for Proposal (RFP) to four remedial contractors in order to obtain estimates for the remedial excavation. On July 28, 2008, the ACEHD issued the letter entitled *Fuel Leak Case No RO000291* concurring with the RAP, and requesting additional information including a Site Conceptual Model due October 21, 2008, after completion of remedial actions. In early August 2008, a remedial contractor was notified that pending approval by the UST Cleanup Fund work would proceed. Remedial actions had been planned for mid-September 2008; however, these activities have been delayed due to recent significant changes in the general economy. A further attempt to conduct these activities is tentatively planed for mid-2009.

2.0 Data

On November 19, 2008, Blaine Tech Services, Inc. (Blaine) conducted groundwater gauging and sampling at the Kawahara Nursery under contract to Blymyer Engineers. The Blaine *Standard Operating Procedures* for groundwater gauging and sampling are included in Appendix A.

2.1 Groundwater Gauging

Blaine personnel measured the depth to groundwater in wells MW-3, MW-4, and MW-5 (Figure 2).

The groundwater was gauged with an accuracy of 0.01 feet from the top of casing using an oil-water interface probe. Groundwater measurements are presented in Table I and Figure 2, and are included on the Well Gauging and Well Monitoring Data Sheets presented in Appendix B.

2.2 Groundwater Sampling and Analysis

Blaine collected groundwater samples from wells MW-3, MW-4, and MW-5. Each well was purged; however, an apparent calculator malfunction appears to have resulted in the under purging of wells MW-3 and MW-4 by approximately one casing volume. In well MW-5, a full three well casing volumes of groundwater were removed. The temperature, pH, turbidity, and conductivity of the purge water were measured after each well volume had been removed. Except for turbidity in well MW-3, in each well these parameters stabilized, indicating sufficient groundwater was purged from the wells.

Groundwater samples were collected from each monitoring well, and then decanted into the appropriate containers. The samples were labeled and placed in a cooler with ice for transport to McCampbell Analytical, Inc, of Pacheco, California, under chain-of-custody documentation. A copy of the laboratory report is attached as Appendix C. All purged groundwater was placed in labeled, 55-gallon capacity, Department of Transportation-approved drums. The samples were analyzed for the following compounds:

- TPH as gasoline (EPA Method 8015M)
- BTEX and Methyl *tert*-butyl ether (MTBE; EPA Method 8021B)

Natural Attenuation parameter monitoring was ceased in May 2003 due to ample data documenting microbial degradation of hydrocarbons in groundwater beneath the site. Additional analytical data was unnecessary and would not contribute to knowledge of degradation processes at the site.

3.0 Results

3.1 Groundwater Elevations and Gradient

Table I and Figure 2 present groundwater gauging data collected on November 19, 2008. The depth to groundwater ranged from 10.09 feet below the top of casing (BTOC) in monitoring well MW-5 to 11.80 feet BTOC in MW-4. The depth to groundwater has increased an average of 1.52 feet since the previous monitoring event. The average groundwater gradient was 0.005 feet/foot. The direction of groundwater flow could not be conclusively determined based on the linear configuration of the wells. However, the gradient is likely to be directed toward the northwest based on the consistent historic flow direction documented at the site.

3.2 Groundwater Sample Analytical Results

Only groundwater from MW-3 contained concentrations of petroleum hydrocarbon related compounds this quarter. The concentration of TPH as gasoline in groundwater from MW-3 decreased to 330 µg/L from 550 µg/L. Benzene has not been detected since the May 2006 event, and was again not detected during the current event. Toluene, ethylbenzene and total xylenes were detected at slightly lower concentrations than the previous sampling event (Table II). The concentrations of toluene, ethylbenzene, and total xylenes were all below their respective MCL and San Francisco Bay Region, Regional Water Quality Control Board Environmental Screening Levels (ESLs); however, TPH as gasoline was again over the ESL. All compounds continue to have significant decreases from the November 2002 sampling event, which was the first sampling event to document increased contaminant trends in two years (since the November 2000 event). Since the November 2002 event, groundwater concentrations in well MW-3 have been generally low and relatively consistent with slight seasonal fluctuations.

The results of groundwater analyses are found in Appendix C, and are summarized in Tables II through Table IV.

Previous graphs of TPH as gasoline and benzene concentrations versus time and groundwater elevation have yielded a generalized inverse relationship between groundwater levels and concentrations (concentrations go up with decreasing groundwater elevations, and concentrations go down with increasing elevations). In general terms, this tends to suggest drainage of contaminants from isolated soil pores upon declines in groundwater elevations. However, as seen in the previous

event, this relationship did not hold for the current event; groundwater concentrations and the groundwater elevation have both decreased. The consistent decline and the associated asymptotic concentration curve in concentrations of TPH as gasoline and benzene over time suggests contamination at this location is largely associated with a near surface soil source in the vadose zone. This supports the selected remedial action plan, source excavation.

Like the previous laboratory (Curtis & Tompkins), McCampbell Analytical has included a note that hydrocarbons in the groundwater sample from MW-3 are in the gasoline range rather than diesel range. Curtis & Tompkins had previously verbally confirmed that the TPH as diesel detected was overlap from the TPH as gasoline chromatogram, that the chromatogram suggested that a single hydrocarbon pattern was present, and that the data likely indicated aged gasoline was present, and that a second source of diesel was not present. Because TPH as diesel is not present as a separate release in the northern portion of the site, Blymyer Engineers recommended for some time that analysis for TPH as diesel be eliminated for future monitoring events, while the ACEHD continued requests for TPH as diesel analysis. In light of two analytical laboratories producing similar comments and analytical results, Blymyer Engineers has eliminated TPH as diesel from the analytical suite.

During the August 2000 monitoring event, MTBE and all other fuel oxygenates (*tert*-Butyl Alcohol [TBE], Isopropyl Ether [DIPE], Ethyl *tert*-Butyl Ether [ETBE], and Methyl *tert*-Amyl Ether [TAME]) were not detected in well MW-3 at the site using EPA Method 8260 (run on a one-time basis). EPA Methods 8020 or 8021B can give false MTBE positives as MTBE will coelute with 3-methyl-pentane, another gasoline compound. EPA Method 8260 is a GC/MS method and is capable of distinguishing between 3-methyl-pentane and MTBE. As a consequence of the results of the analytical testing with EPA Method 8260, all detections of MTBE at the site are considered to be 3-methyl-pentane and not MTBE. During this sampling event, MTBE (3-methyl-pentane) was not detected at the site (Table II).

Although again not collected during this monitoring event, Table III presents the analytical results of all previously collected remediation by natural attenuation (RNA) indicator parameters. In general, microbial use of petroleum hydrocarbons as a food source is affected by the concentration of a number of chemical compounds dissolved in groundwater at a site. RNA monitoring parameters were established by research conducted by the Air Force Center for Environmental Excellence. The

research results were used to develop a technical protocol for documenting RNA in groundwater at petroleum hydrocarbon release sites (Wiedemeier, Patrick Haas, 1995, *Technical Protocol for Implementing the Intrinsic Remediation with Long Term Monitoring for Natural Attenuation of Fuel Contamination Dissolved in Groundwater, Volumes I and II*, U.S. Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas). The protocol focuses on documenting both aerobic and anaerobic degradation processes whereby indigenous subsurface bacteria use various dissolved electron acceptors to degrade dissolved petroleum hydrocarbons.

In the order of preference, the following electron acceptors and metabolic by-products are used and generated, respectively, by the subsurface microbes to degrade petroleum hydrocarbons: oxygen to carbon dioxide, nitrate to nitrogen and carbon dioxide, manganese (Mn^{4+} to Mn^{2+}), ferric iron (Fe^{3+}) to ferrous iron (Fe^{2+}), sulfate to hydrogen sulfide, and carbon dioxide to methane. With the exception of oxygen, the use of all other electron acceptor pathways indicates anaerobic degradation.

Investigation of each of these electron acceptor pathways, with the exception of the manganese and carbon dioxide to methane pathways, has previously been conducted at the site as part of the evaluation of RNA chemical parameters. RNA parameters were not collected during this event due to the ample documentation of microbial activity beneath the site, as well as their contribution to the hydrocarbon degradation process at the site. For further information on these data at the site, please consult previous groundwater sampling reports for the site.

4.0 Conclusions and Recommendations

The following conclusions and recommendations can be made from the on-going groundwater monitoring events:

- Contaminant concentrations in well MW-3 decreased since the previous event, and are within the general seasonal range of concentrations. Only well MW-3 has detectable concentrations. Except TPH as gasoline, all compounds are below the generic RWQCB ESL goals for a drinking water source, and all compounds are below MCLs (TPH as gasoline does not have an MCL). The analytical results for all compounds are representative of seasonal groundwater concentration fluctuations.
- Since the May 2003 monitoring and sampling event, contaminant concentrations have been fluctuating at or below the lower edge of the historic range of concentrations. In general, excluding the November 2002 groundwater monitoring event, decreasing seasonally consistent contaminant concentrations have generally been present at this site since the November 2000 sampling event. Groundwater concentrations rose significantly during the November 2002 sampling event.
- Previous analysis of contaminant trends over time indicates a likely generalized inverse relationship between groundwater levels and contaminant concentrations. This suggests drainage of contaminants from soil pores upon declines in groundwater elevations. The consistent decline and the associated asymptotic concentration curve in concentrations of TPH as gasoline and benzene from June 1993 suggest contamination at this location is associated with a near surface vadose zone soil source. This supports the selected remedial action plan, source excavation.
- A previous one-time analysis for fuel oxygenates by EPA Method 8260 found no fuel oxygenates in groundwater collected from well MW-3. Specifically, MTBE was not detected by this method. Thus, all reported concentrations of MTBE are considered to be 3-methyl-pentane.
- The direction of groundwater flow is likely to the northwest based on previously generated data.
- Previous evaluations of RNA chemical parameters present at the site appear to indicate that the site is largely under aerobic conditions; however, anaerobic conditions are present in the core of

the contaminant plume, and are seasonally present over a larger area at the site. In general, aerobic conditions appear to undergo reestablishment prior to flow of the groundwater beneath the onsite residential dwelling.

- As approved by the ACEHD, the site will continue with semiannual (twice a year) monitoring and sampling. The next monitoring event is scheduled for May 2009.
- A copy of this report has been forwarded to:

Mr. Steven Plunkett
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Tables

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

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-1	6/16/1993	100.00 *	10.7	89.3
	3/24/1994		11.11	88.89
	3/28/1994		11.26	88.74
	11/22/1994		12.04	87.96
	3/29/1995		7.26	92.74
	6/7/1995		8.67	91.33
	9/7/1995		10.56	89.44
	3/4/1999		Not Measured	Not Measured
	6/29/1999		8.81	91.19
	11/15/1999		Destroyed	Destroyed
	5/22/2000		Destroyed	Destroyed
	8/16/2000		Destroyed	Destroyed
	11/16/2000		Destroyed	Destroyed
	2/21/2001		Destroyed	Destroyed
MW-2	6/16/1993	99.27 *	10.24	89.03
	3/24/1994		10.65	88.62
	3/28/1994		10.79	88.48
	11/22/1994		11.58	87.69
	3/29/1995		6.93	92.34
	6/7/1995		8.36	90.91
	9/7/1995		10.18	89.09
	3/4/1999		6.95	92.32
	6/29/1999		8.52	90.75
	11/15/1999		Destroyed	Destroyed
	5/22/2000		Destroyed	Destroyed
	8/16/2000		Destroyed	Destroyed
	11/16/2000		Destroyed	Destroyed
	2/21/2001		Destroyed	Destroyed

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

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-3	6/16/1993	99.52 *	10.46	89.06
	3/24/1994		10.81	88.71
	3/28/1994		10.96	88.56
	11/22/1994		11.68	87.84
	3/29/1995		6.95	92.57
	6/7/1995		8.48	91.04
	9/7/1995		10.3	89.22
	3/4/1999		7.98	91.54
	6/29/1999		8.49	91.03
	11/15/1999		10.35	89.17
	5/22/2000		7.65	91.87
	8/16/2000		9.44	90.08
	11/16/2000		9.86	89.66
	2/21/2001		8.65	90.87
	5/31/2001		9.56	89.96
	11/28/2001		11.04	88.48
	5/28/2002		9.17	90.35
	11/14/2002		10.23	89.29
	5/23/2003		8.73	90.79
	11/24/2003		11.05	88.47
	5/13/2004		9.11	90.41
	11/23/2004		10.28	89.24
	5/17/2005	8.19	91.33	
11/16/2005	10.20	89.32		
5/23/2006	7.08	92.44		
11/15/2006	42.86 **	9.40	33.46	
5/31/2007		9.52	33.34	
11/28/2007		10.85	32.01	
5/29/2008		9.74	33.12	
11/19/2008		11.30	31.56	

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

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-4	11/22/1994	100.46 *	12.34	88.12
	3/29/1995		7.49	92.97
	6/7/1995		8.95	91.51
	9/7/1995		10.88	89.58
	3/4/1999		8.03	92.43
	6/29/1999		9.04	91.42
	11/15/1999		11.00	89.46
	5/22/2000		8.28	92.18
	8/16/2000		10.04	90.42
	11/16/2000		10.50	89.96
	2/21/2001		9.42	91.04
	5/31/2001		10.20	90.26
	11/28/2001		11.67	88.79
	5/28/2002		9.68	90.78
	11/14/2002		10.92	89.54
	5/23/2003		9.10	91.36
	11/24/2003		11.57	88.89
	5/13/2004		9.63	90.83
	11/23/2004		10.94	89.52
	5/17/2005		8.07	92.39
	11/16/2005	10.62	89.84	
	5/23/2006	7.28	93.18	
	11/15/2006	43.82 **	9.96	33.86
	5/31/2007		10.04	33.78
	11/28/2007		11.45	32.37
	5/29/2008		10.24	33.58
11/19/2008	11.80		32.02	

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

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-5	3/29/1995	98.14 *	5.76	92.38
	6/7/1995		7.33	90.81
	9/7/1995		9.11	89.03
	3/4/1999		6.63	91.51
	6/29/1999		7.41	90.73
	11/15/1999		9.18	88.96
	5/22/2000		6.68	91.46
	8/16/2000		8.27	89.87
	11/16/2000		8.68	89.46
	2/21/2001		7.51	90.63
	5/31/2001		8.40	89.74
	11/28/2001		9.79	88.35
	5/28/2002		8.05	90.09
	11/14/2002		9.03	89.11
	5/23/2003		7.90	90.24
	11/24/2003		9.94	88.20
	5/13/2004		8.05	90.09
	11/23/2004		8.90	89.24
	5/17/2005		6.80	91.34
	11/16/2005		9.00	89.14
	5/23/2006	6.27	91.87	
	11/15/2006	41.49 **	8.26	33.23
	5/31/2007		8.41	33.08
11/28/2007	9.70		31.79	
5/29/2008	8.65		32.84	
11/19/2008	10.09		31.40	

Notes: TOC = Top of Casing
* = Surveyed to an onsite datum established at MW-1.
** = Resurveyed by CSS Environmental Services, Inc. on November 14, 2006.
Elevations in feet above mean sea level

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

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 or 8021B (µg/L)					EPA Method 8260 (µg/L)
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	MTBE
MCL		N/A	N/A	1	150	700	1,750	13	13
TABLE A. Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water		100	100	1	40	30	20	5	5
MW-1	6/16/1993	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/28/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	11/8/1994	NS	NS	NS	NS	NS	NS	NS	NS
	3/29/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	6/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	9/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/4/1999	NS	NS	NS	NS	NS	NS	NS	NS
	6/29/1999	NS	NS	NS	NS	NS	NS	NS	NS
	11/15/1999	NS	NS	NS	NS	NS	NS	NS	NS
	5/22/2000	NS	NS	NS	NS	NS	NS	NS	NS
	8/16/2000	NS	NS	NS	NS	NS	NS	NS	NS
	11/16/2000	NS	NS	NS	NS	NS	NS	NS	NS
2/21/2001	NS	NS	NS	NS	NS	NS	NS	NS	
MW-2	6/16/1993	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/28/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	11/8/1994	NS	NS	NS	NS	NS	NS	NS	NS
	3/29/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	5/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	9/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/4/1999	NS	NS	NS	NS	NS	NS	NS	NS
	6/29/1999	NS	NS	NS	NS	NS	NS	NS	NS
	11/15/1999	NS	NS	NS	NS	NS	NS	NS	NS
	5/22/2000	NS	NS	NS	NS	NS	NS	NS	NS
	8/16/2000	NS	NS	NS	NS	NS	NS	NS	NS
	11/16/2000	NS	NS	NS	NS	NS	NS	NS	NS
2/21/2001	NS	NS	NS	NS	NS	NS	NS	NS	

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

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 or 8021B (µg/L)					EPA Method 8260 (µg/L)
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	MTBE
MCL		N/A	N/A	1	150	700	1,750	13	13
TABLE A. Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water		100	100	1	40	30	20	5	5
MW-3	6/16/1993	120,000	170,000	4,600	8,400	2,100	27,000	NS	NS
	3/28/1994	23,000	94,000	4,800	6,500	3,000	15,000	NS	NS
	11/8/1994	35,000	27,000	3,600	4,100	2,700	18,000	NS	NS
	3/29/1995	18,000	<50*	1,600	1,400	780	6,200	NS	NS
	6/7/1995	20,000	<50	1,700	1,400	750	6,800	NS	NS
	9/7/1995	17,000	<50	1,100	800	570	4,800	NS	NS
	3/4/1999	1,300	<50	33	<0.5	1.2	17	5.3 ^e	NS
	6/29/1999	8,000	<1,000	98	34	3.7	1,200	37 ^e	NS
	11/15/1999	4,200	2,000 ^a	63	25	65	590	33 ^e	NS
	5/22/2000	5,800	1,480	53	29	58	490	4.9 ^e	NS
	8/16/2000	2,400	530 ^{c,*}	18	5.8 ^b	18	182	12 ^{b,e}	ND ^c
	11/16/2000	9,000	3,700 ^{c,*}	35	27	88	719	<10 ^e	NS
	2/21/2001	2,400	880 ^{c,*}	28	12	46	276	<2.0	NS
	5/31/2001	2,900	680 ^{c,*}	5.3	33 ^b	17	144	<2.0	NS
	11/28/2001	1,700	430 ^{c,*}	23	3	37	184	4.2 ^e	NS
	5/28/2002	870	570 ^{c,*}	6.3	2.2	12	70	2.3 ^e	NS
	11/14/2002	3,300 ^{f,g}	910 ^{c,g}	27	3.6	52	206	<2.0 ^e	NS
	5/23/2003	760 ^f	360 ^{c,g}	3	1	5.2	30	<2.0 ^e	NS
	11/24/2003	<50	170	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/13/2004	830 ^{f,g}	330 ^{c,g}	1.6	0.54	6.5	41.2	2.3 ^e	NS
	11/23/2004	840	190 ^{c,*}	2.7	1	7.7	39.8	<2.0 ^e	NS
	5/17/2005	730 ^f	340 ^{c,g}	0.85	<0.5	4.1	28.5	<2.0 ^e	NS
	11/16/2005	240	200 ^{c,g}	<0.5	<0.5	1.9	11.3	<2.0 ^e	NS
	5/23/2006	320 ⁱ	260 ^j	0.69	1.4	3.6	22	<2.0 ^e	NS
11/15/2006	480 ^k	NS	<0.5	2.2	5.8	30	<5.0 ^e	NS	
5/31/2007	510 ^l	NS	<0.5	2.8	4.7	23	<5.0 ^e	NS	
11/28/2007	78 ^l	NS	<0.5	<0.5	1.1	4.2	<5.0 ^e	NS	
5/29/2008	500 ^{l,m}	NA	<0.5	3.0	7.0	33	<5.0 ^e	NS	
11/19/2008	330 ^l	NA	<0.5	1.7	4.3	15	<5.0	NS	

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

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 or 8021B (µg/L)					EPA Method 8260 (µg/L)
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	MTBE
MCL		N/A	N/A	1	150	700	1,750	13	13
TABLE A. Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water		100	100	1	40	30	20	5	5
MW-4	6/16/1993	NS	NS	NS	NS	NS	NS	NS	NS
	3/28/1994	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/29/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	6/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	9/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/4/1999	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	6/29/1999	130	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	11/15/1999	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	5/22/2000	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	8/16/2000	<50	56 *^d	<0.5	<0.5	<0.5	0.51	2.3^e	NS
	11/16/2000	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	2/21/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	2.6^e	NS
	5/31/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/28/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/28/2002	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/14/2002	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/23/2003	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/24/2003	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/13/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/23/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/17/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/16/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/23/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
11/15/2006	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
5/31/2007	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
11/28/2007	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
5/29/2008	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
11/19/2008	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	

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

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 or 8021B (µg/L)					EPA Method 8260 (µg/L)
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	MTBE
MCL		N/A	N/A	1	150	700	1,750	13	13
TABLE A. Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water		100	100	1	40	30	20	5	5
MW-5	6/16/1993	NS	NS	NS	NS	NS	NS	NS	NS
	3/28/1994	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/1994	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/29/1995	<50	64	<0.5	<0.5	<0.5	<0.5	NS	NS
	6/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	9/7/1995	<50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS
	3/4/1999	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	6/29/1999	160	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	11/15/1999	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS
	5/22/2000	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	8/16/2000	<50	<50	<0.5	<0.5	<0.5	<0.5	3.5^e	NS
	11/16/2000	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	2/21/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/31/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	2.8^e	NS
	11/28/2001	<50	<50	<0.5	<0.5	<0.5	<0.5	4.2^e	NS
	5/28/2002	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/14/2002	<50	<50	<0.5	<0.5	<0.5	<0.5	3.1^e	NS
	5/23/2003	<50	<50	<0.5	<0.5	<0.5	<0.5	2.4^e	NS
	11/24/2003	<50	<50	<0.5	<0.5	<0.5	<0.5	2.2^e	NS
	5/13/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/23/2004	<50	<58 ^h	<0.5	<0.5	<0.5	<0.5	3.9^e	NS
	5/17/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	11/16/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
	5/23/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0 ^e	NS
11/15/2006	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
5/31/2007	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
11/28/2007	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
5/29/2008	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	
11/19/2008	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0 ^e	NS	

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 94015, Kawahara Nursery 16550 Ashland Avenue, San Lorenzo, California									
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)		EPA Method 8020 or 8021B (µg/L)					EPA Method 8260 (µg/L)
		TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	MTBE
MCL		N/A	N/A	1	150	700	1,750	13	13
TABLE A. Environmental Screening Levels (ESLs); Groundwater IS a Current or Potential Source of Drinking Water		100	100	1	40	30	20	5	5

Notes: ug/L = micrograms per liter

TPH = Total Petroleum Hydrocarbons

EPA = Environmental Protection Agency

MTBE = Methyl *tert*-Butyl Ether

RWQCB = California Regional Water Quality Control Board, San Francisco Bay Region

ESL = Environmental Screening Level

N/A = Not applicable

NS = Not sampled

ESL = Environmental Screening Level

<*x* = Analyte not detected at reporting limit *x*

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

^a = Laboratory note indicates the result is within the quantitation range, but that the chromatographic pattern is not typical of fuel.

^b = Laboratory note indicates that confirmation of the result differed by more than a factor of two.

^c = Laboratory note indicates lighter hydrocarbons contributed to the quantification.

^d = Laboratory note indicates the sample has an unknown single peak or peaks.

^e = Detection of MTBE by EPA Method 8021B is regarded as erroneous; likely chemical detected is 3-methyl-pentane. See text and Table IV.

^f = Laboratory notes that heavier hydrocarbons contributed to the quantitation.

^g = Laboratory notes that the sample exhibits a fuel pattern that does not resemble the standard.

^h = Initially reported at 7,900 µg/L by laboratory; re-extracted 3 days outside of 14-day hold period yielding this revised result.

ⁱ = Laboratory notes that unmodified or weakly modified gasoline is significant.

^j = Laboratory notes that gasoline range compounds are significant.

^k = Laboratory note indicates that heavier gasoline range compounds are significant and may indicate aged gasoline.

^l = Laboratory notes heavier gasoline range compounds are significant (aged gasoline?).

^m = Laboratory notes no recognized pattern.

Bold results indicate detectable analyte concentrations.

Note: Shaded cell indicates that detected concentration exceeds ESL

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

Well ID	Date Sampled	Field Meter	EPA Method 310.1	EPA Method 353.3	Method AM20GAX	SM 3500	EPA Method 310.1	EPA Method 375.4
		Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Nitrate/Nitrogen (mg/L)	Methane (ug /L)	Ferrous Iron (mg/L)	Alkalinity (mg/L)	Sulfate (mg/L)
MW-1	3/4/1999	NS	NS	NS	NS	NS	NS	NS
	6/29/1999	NS	NS	NS	NS	NS	NS	NS
	11/15/1999	NS	NS	NS	NS	NS	NS	NS
	5/22/2000	NS	NS	NS	NS	NS	NS	NS
	8/16/2000	NS	NS	NS	NS	NS	NS	NS
	11/16/2000	NS	NS	NS	NS	NS	NS	NS
	2/21/2001	NS	NS	NS	NS	NS	NS	NS
MW-2	3/4/1999	NS	NS	NS	NS	NS	NS	NS
	6/29/1999	NS	NS	NS	NS	NS	NS	NS
	11/15/1999	NS	NS	NS	NS	NS	NS	NS
	5/22/2000	NS	NS	NS	NS	NS	NS	NS
	8/16/2000	NS	NS	NS	NS	NS	NS	NS
	11/16/2000	NS	NS	NS	NS	NS	NS	NS
	2/21/2001	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Sampled	Field Meter	EPA Method 310.1	EPA Method 353.3	Method AM20GAX	SM 3500	EPA Method 310.1	EPA Method 375.4
		Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Nitrate/Nitrogen (mg/L)	Methane (ug /L)	Ferrous Iron (mg/L)	Alkalinity (mg/L)	Sulfate (mg/L)
MW-3	3/4/99 & 3/8/1999	1.2	4.4	26.0	NS	<0.01	520	1,000
	6/29/1999	0.4	3.5	10.0	NS	<0.10	500	73
	11/15/1999	0.5	48.0	5.7	NS	<0.01	530	110
	5/22/2000	0.0	63.3	18.0	NS	<0.10	460	63
	8/16/2000	1.0	59.8	13.0	NS	0.5	450	62
	11/16/2000	1.2	63.5	8.9	NS	2.2	470	52
	2/21/2001	1.2	63.0	12.0	NS	0.4	430	50
	5/31/2001	1.8	50.0	14.0	NS	0.5	410	49
	11/28/2001	0.8	47.0	7.7	2.9	0.5	450	43
	5/28/2002	0.7	63.0	11.0	NS	<0.10	440	50
	11/14/2002	0.6	75.0	4.1	NS	1.2	540	41
	5/23/2003	NS	NS	NS	NS	NS	NS	NS
MW-4	3/4/99 & 3/8/1999	2.1	2.3	13.0	NS	<0.01	320	390
	6/29/1999	1.2	21.0	12.0	NS	<0.10	360	46
	11/15/1999	1.4	22.0	8.9	NS	<0.01	370	140
	5/22/2000	1.6	35.6	19.0	NS	<0.10	340	49
	8/16/2000	2.9	42.2	14.0	NS	0.1	350	51
	11/16/2000	3.7	34.4	12.0	NS	<0.10	390	53
	2/21/2001	1.9	40	13.0	NS	0.2	310	55
	5/31/2001	1.4	32.0	14.0	NS	<0.10	350	56
	11/28/2001	4.2	36.0	13.0	2.0	<0.10	370	60
	5/28/2002	0.8	34.0	12.0	NS	<0.10	380	70
	11/14/2002	0.7	51.0	15.0	NS	<0.10	370	66
	5/23/2003	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Sampled	Field Meter	EPA Method 310.1	EPA Method 353.3	Method AM20GAX	SM 3500	EPA Method 310.1	EPA Method 375.4
		Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Nitrate/Nitrogen (mg/L)	Methane (ug /L)	Ferrous Iron (mg/L)	Alkalinity (mg/L)	Sulfate (mg/L)
MW-5	3/4/99 & 3/8/1999	1.8	2.1	140	NS	<0.01	370	500
	6/29/1999	0.9	7	14	NS	<0.10	360	46
	11/15/1999	0.9	6	11	NS	<0.01	370	150
	5/22/2000	0.4	35.1*	11	NS	<0.10	360	50
	8/16/2000	0.8	38.25*	12	NS	0.13	360	47
	11/16/2000	2.4	34.3	12	NS	<0.10	380	48
	2/21/2001	2.7	38	11	NS	0.23	350	49
	5/31/2001	2.1	30	11	NS	<0.10	360	48
	11/28/2001	3.5	32	12	2	<0.10	360	47
	5/28/2002	0.8	30	12	NS	<0.10	370	47
	11/14/2002	0.7	42	14	NS	<0.10	340	45
	5/23/2003	NS	NS	NS	NS	NS	NS	NS

Notes: NS = Not sampled
Field = Field instruments used for measurement of parameter.
mg/L = Milligrams per liter
* = Average value

Table IV, Summary of Groundwater Sample Fuel Oxygenate Analytical Results BEI Job No. 94015, Kawahara Nursery 16550 Ashland Avenue, San Lorenzo, California						
Well ID	Sample Date	EPA Method 8260B (ug/L)				
		TAME	TBA	DIPE	ETBE	MTBE
RWQCB Groundwater ESLs Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water source)		NV	12	NV	NV	5.0
MW-3	8/16/2000	<0.50	<20	<0.50	<0.50	<0.50

Notes: TAME = Methyl tert-Amyl Ether
TBA = tert-Butyl Alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
(µg/L) = Micrograms per liter
NV = No value

Bold results indicate detectable analyte concentrations.

Note: Shaded cell indicates that detected concentration exceeds ESL

Figures

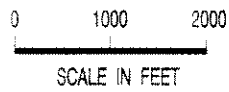


UNITED STATES GEOLOGICAL SURVEY 7.5 QUADS. "SAN LEANDRO, CA" AND "HAYWARD, CA" BOTH ED. 1959. PHOTOREVISED 1980.



BLMYER
ENGINEERS, INC.

BEI JOB NO. 94015 DATE 4-9-99



SITE LOCATION MAP

KAWAHARA NURSERY
16550 ASHLAND AVE.
SAN LORENZO, CA

FIGURE

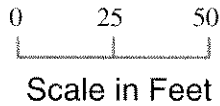
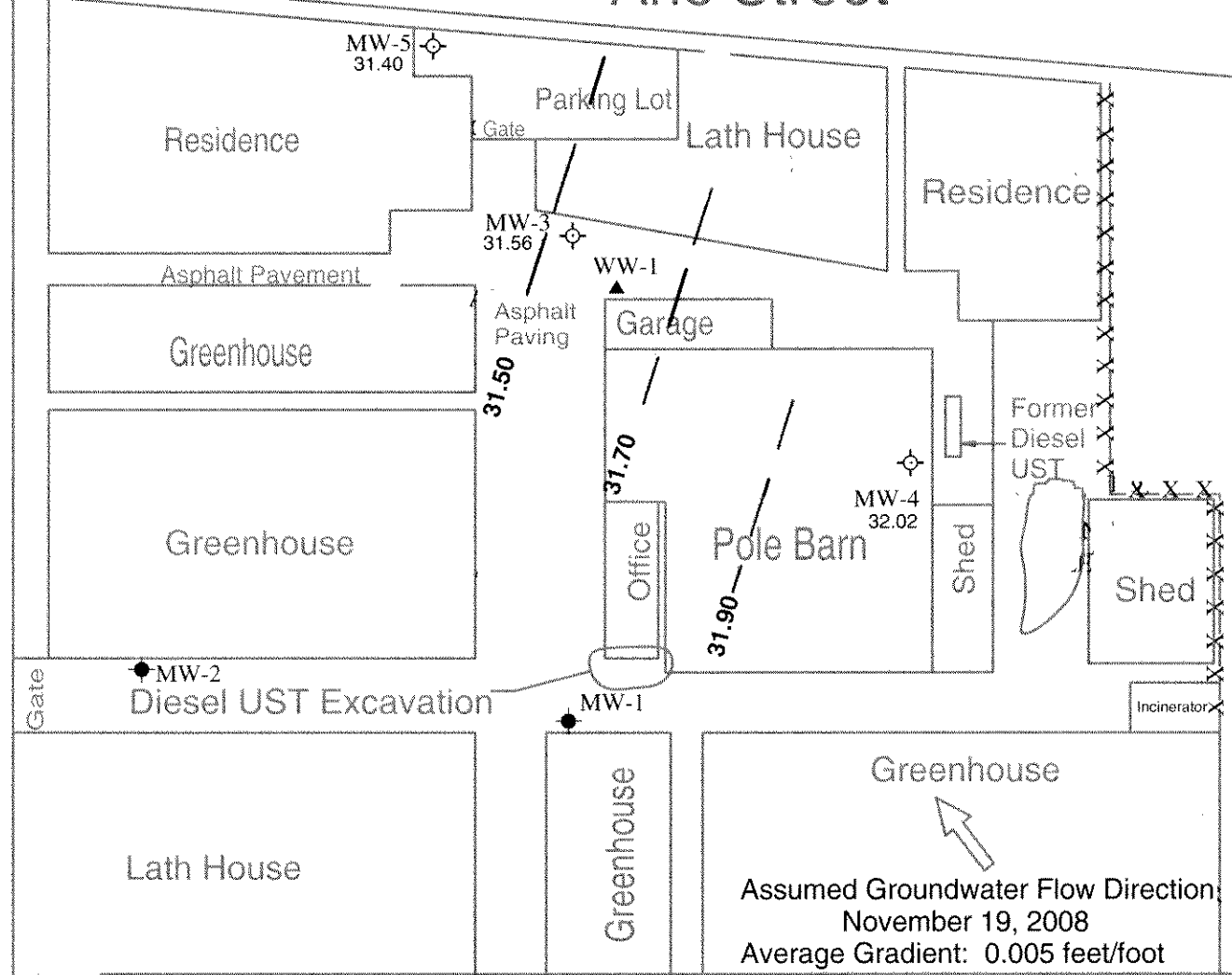
1

THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE PREPARED. REUSE, REPRODUCTION, OR PUBLICATION, IN WHOLE OR IN PART, IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF BLYMYER ENGINEERS, INC.



Ashland Avenue

Ano Street



		LEGEND ◊ Monitoring Well ◆ Abandoned Well ▲ Water Supply Well UST - Underground Storage Tank 33.3 - Groundwater Elevation	Groundwater Gradient November 19, 2008 Kawahara Nursery San Lorenzo, California	Figure 2
BEI Job No. 94015	Date: December 3, 2008			

Appendix A

Standard Operating Procedures

Blaine Tech Services, Inc.

Blaine Tech Services, Inc.
Standard Operating Procedure

WATER LEVEL, SEPARATE PHASE LEVEL AND TOTAL WELL DEPTH MEASUREMENTS (GAUGING)

Routine Water Level Measurements

1. Establish that water or debris will not enter the well box upon removal of the cover.
2. Remove the cover using the appropriate tools.
3. Inspect the wellhead (see Wellhead Inspections).
4. Establish that water or debris will not enter the well upon removal of the well cap.
5. Unlock and remove the well cap lock (if applicable). If lock is not functional cut it off.
6. Loosen and remove the well cap. **CAUTION: DO NOT PLACE YOUR FACE OR HEAD DIRECTLY OVER WELLHEAD WHEN REMOVING THE WELL CAP. WELL CAP MAY BE UNDER PRESSURE AND/OR MAY RELEASE ACCUMULATED AND POTENTIALLY HARMFUL VAPORS.**
7. Verify and identify survey point as written on S.O.W.
TOC: If survey point is listed as Top of Casing (TOC), look for the exact survey point in the form of a notch or mark on the top of the casing. If no mark is present, use the north side of the casing as the measuring point.
TOB: If survey point is listed as Top of Box (TOB), the measuring point will be established manually. Place the inverted wellbox lid halfway across the wellbox opening and directly over the casing. The lower edge of the inverted cover directly over the casing will be the measuring point.
8. Put new Latex or Nitrile gloves on your hands.
9. Slowly lower the Water Level Meter probe into the well until it signals contact with water with a tone and/or flashing a light.
10. Gently raise the probe tip slightly above the water and hold it there. Wait momentarily to see if the meter emits a tone, signaling rising water in the casing. Gently lower the probe tip slightly below the water. Wait momentarily to see if the meter stops emitting a tone, signaling dropping water in the casing. Continue process until water level stabilizes indicating that the well has equilibrated.
11. While holding the probe at first contact with water and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Water column.
12. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable)

Water Level and Separate Phase Thickness Measurements in Wells Suspected of Containing Separate Phase

1. Establish that water or debris will not enter the well box upon removal of the cover.
2. Remove the cover using the appropriate tools.
3. Inspect the wellhead (see Wellhead Inspections).
4. Establish that water or debris will not enter the well upon removal of the well cap.

5. Unlock and remove the well cap lock (if applicable). If lock is not functional cut it off.
6. Loosen and remove the well cap. CAUTION: DO NOT PLACE YOUR FACE OR HEAD DIRECTLY OVER WELLHEAD WHEN REMOVING THE WELL CAP. WELL CAP MAY BE UNDER PRESSURE AND/OR MAY RELEASE ACCUMULATED AND POTENTIALLY HARMFULL VAPORS.
7. Verify and identify survey point as written on S.O.W.
 - TOC: If survey point is listed as Top of Casing (TOC), look for the exact survey point in the form of a notch or mark on the top of the casing. If no mark is present, use the north side of the casing as the measuring point.
 - TOB: If survey point is listed as Top of Box (TOB), the measuring point will be established manually. Place the inverted well box lid halfway across the well box opening and directly over the casing. The lower edge of the inverted cover directly over the casing will be the measuring point.
8. Put new Nitrile gloves on your hands.
9. Slowly lower the tip of the Interface Probe into the well until it emits either a solid or broken tone.
 - BROKEN TONE: Separate phase layer is not present. Go to Step 8 of Routine Water Level Measurements shown above to complete gauging process using the Interface probe as you would a Water Level Meter.
 - SOLID TONE: Separate phase layer is present. Go to the next step.
10. Gently raise the probe tip slightly above the separate phase layer and hold it there. Wait momentarily to see if the meter emits a tone, signaling rising water in the casing. Gently lower the probe tip slightly below the separate phase layer. Wait momentarily to see if the meter stops emitting a tone, signaling dropping water in the casing. Continue process until water level stabilizes indicating that the well has equilibrated.
11. While holding the probe at first contact with the separate phase layer and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Product column.
12. Gently lower the probe tip until it emits a broken tone signifying contact with water. While holding the probe at first contact with water and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Water column.
13. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable).

Routine Total Well Depth Measurements

1. Lower the Water Level Meter probe into the well until it lightens in your hands, indicating that the probe is resting at the bottom of well.
2. Gently raise the tape until the weight of the probe increases, indicating that the probe has lifted off the well bottom.
3. While holding the probe at first contact with the well bottom and the tape against the well measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Total Well Depth column.

4. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable).

Blaine Tech Services, Inc.
Standard Operating Procedure

WELL WATER EVACUATION (PURGING)

Purpose

Evacuation of a predetermined minimum volume of water from a well (purging) while *simultaneously* measuring water quality parameters is typically required prior to sampling. Purging a minimum volume guarantees that actual formation water is drawn into the well. Measuring water quality parameters either verifies that the water is stable and suitable for sampling or shows that the water remains unstable, indicating the need for continued purging. Both the minimum volume and the stable parameter qualifications need to be met prior to sampling. This assures that the subsequent sample will be representative of the formation water surrounding the well screen and not of the water standing in the well.

Defining Casing Volumes

The predetermined minimum quantity of water to be purged is based on the wells' casing volume. A casing volume is the volume of water presently standing within the casing of the well. This is calculated as follows:

$$\text{Casing Volume} = (\text{TD} - \text{DTW}) \text{ VCF}$$

1. Subtract the wells' depth to water (DTW) measurement from its total depth (TD) measurement. This is the height of the water column in feet.
2. Determine the well casings' volume conversion factor (VCF). The VCF is based on the diameter of the well casing and represents the volume, in gallons, that is contained in one (1) foot of a particular diameter of well casing. The common VCF's are listed on our Well Purge Data Sheets.
3. Multiply the VCF by the calculated height of the water column. This is the casing volume, the amount of water in gallons standing in the well.

Remove Three to Five Casing Volumes

Prior to sampling, an attempt will be made to purge all wells of a minimum of three casing volumes and a maximum of five casing volumes except where regulations mandate the minimum removal of four casing volumes.

Choose the Appropriate Evacuation Device Based on Efficiency

In the absence of instructions on the SOW to the contrary, selection of evacuation device will be based on efficiency.

Measure Water Quality Parameters at Each Casing Volume

At a minimum, water quality measurements include pH, temperature and electrical conductivity (EC). Measurements are made and recorded at least once every casing volume. They are considered stable when all parameters are within 10% of their previous measurement.

Note: The following instructions assume that well has already been properly located, accessed, inspected and gauged.

Prior to Purging a Well

1. Confirm that the well is to be purged and sampled per the SOW.
2. Confirm that the well is suitable based on the conditions set by the client relative to separate phase.
3. Calculate the wells' casing volume.
4. Put new Latex or Nitrile gloves on your hands.

Purging With a Bailer (Stainless Steel, Teflon or Disposable)

1. Attach bailer cord or string to bailer. Leave other end attached to spool.
2. Gently lower empty bailer into well until well bottom is reached.
3. Cut cord from spool. Tie end of cord to hand.
4. Gently raise full bailer out of well and clear of well head. Do not let the bailer or cord touch the ground.
5. Pour contents into graduated 5-gallon bucket or other graduated receptacle.
6. Repeat purging process.
7. Upon removal of first casing volume, fill clean parameter cup with purgewater, empty the remainder of the purgewater into the bucket, lower the bailer back into the well and secure the cord on the Sampling Vehicle.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.
10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.
12. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.

Purging With a Pneumatic Pump

1. Position Pneumatic pump hose reel over the top of the well.
2. Gently unreel and lower the pump into the well. Do not contact the well bottom.
3. Secure the hose reel.
4. Begin purging into graduated 5-gallon bucket or other graduated receptacle.
5. Adjust water recharge duration and air pulse duration for maximum efficiency.
6. Upon removal of first casing volume, fill clean parameter cup with water.
7. Use the water in the cup to collect and record parameter measurements.
8. Continue purging until second casing volume is removed.

9. Collect parameter measurements.
10. Continue purging until third casing volume is removed.
11. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.
12. Upon completion of purging, gently recover the pump and secure the reel.

Purging With a Fixed Speed Electric Submersible Pump

1. Position Electric Submersible hose reel over the top of the well.
2. Gently unreel and lower the pump to the well bottom.
3. Raise the pump 5 feet off the bottom.
4. Secure the hose reel.
5. Begin purging.
6. Verify pump rate with flow meter or graduated 5-gallon bucket
7. Upon removal of first casing volume, fill clean parameter cup with water.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.
10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.
12. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.
13. Upon completion of purging, gently recover the pump and secure the reel.

Blaine Tech Services, Inc.
Standard Operating Procedure

**SAMPLE COLLECTION
FROM GROUNDWATER WELLS USING BAILERS**

Sampling with a Bailer (Stainless Steel, Teflon or Disposable)

1. Put new Latex or Nitrile gloves on your hands.
2. Determine required bottle set.
3. Fill out sample labels completely and attach to bottles.
4. Arrange bottles in filling order and loosen caps (see Determine Collection Order below).
5. Attach bailer cord or string to bailer. Leave other end attached to spool.
6. Gently lower empty bailer into well until water is reached.
7. As bailer fills, cut cord from spool and tie end of cord to hand.
8. Gently raise full bailer out of well and clear of well head. Do not let the bailer or cord touch the ground. If a set of parameter measurements is required, go to step 9. If no additional measurements are required, go to step 11.
9. Fill a clean parameter cup, empty the remainder contained in the bailer into the sink, lower the bailer back into the well and secure the cord on the Sampling Vehicle. Use the water in the cup to collect and record parameter measurements.
10. Fill bailer again and carefully remove it from the well.
11. Slowly fill and cap sample bottles. Fill and cap volatile compounds first, then semi-volatile, then inorganic. Return to the well as needed for additional sample material.

Fill 40-milliliter vials for volatile compounds as follows: Slowly pour water down the inside on the vial. Carefully pour the last drops creating a convex or positive meniscus on the surface. Gently screw the cap on eliminating any air space in the vial. Turn the vial over, tap several times and check for trapped bubbles. If bubbles are present, repeat process.

Fill 1 liter amber bottles for semi-volatile compounds as follows: Slowly pour water into the bottle. Leave approximately 1 inch of headspace in the bottle. Cap bottle.

Field filtering of inorganic samples using a stainless steel bailer is performed as follows: Attach filter connector to top of full stainless steel bailer. Attach 0.45 micron filter to connector. Flip bailer over and let water gravity feed through the filter and into the sample bottle. If high turbidity level of water clogs filter, repeat process with new filter until bottle is filled. Leave headspace in the bottle. Cap bottle.

Field filtering of inorganic samples using a disposable bailer is performed as follows: Attach 0.45 micron filter to connector plug. Attach connector plug to bottom of full disposable bailer. Water will gravity feed through the filter and into the sample bottle. If high turbidity level of water clogs filter, repeat process with new filter until bottle is filled. Leave headspace in the bottle. Cap bottle.

12. Bag samples and place in ice chest.
13. Note sample collection details on well data sheet and Chain of Custody.

Appendix B

***SPH or Purge Water Drum Log, Calibration Log,
Wellhead Inspection Checklist, Well Gauging Data, and
Well Monitoring Data Sheets,
Blaine Tech Services, Inc,
Dated November 19, 2008***

WELL MONITORING DATA SHEET

Project #: 08119-102	Client: Polymer engineers
Sampler: S	Date: 11/19/08
Well I.D.: MW-3	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 18.70	Depth to Water (DTW): 12.30
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.78	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
--	--	---

.74 (Gals.) X 3 = 2.22 Gals. 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1450	64.8	7.15	971	37	.74	odor
1451	64.8	7.15	967	80	1.98	
1452	64.9	7.16	966	97	2.22	

Did well dewater? Yes No Gallons actually evacuated: 2.22

Sampling Date: 11/19/08 Sampling Time: 1458 Depth to Water: 12.13

Sample I.D.: MW-3 Laboratory: Kiff CalScience Other: McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: see col

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 081119-SD2	Client: Rymeges Engineers
Sampler: SD	Date: 11/19/08
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 _____
Total Well Depth (TD): 19.80	Depth to Water (DTW): 10.09
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.05	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
--	--	---

1.5 (Gals.) X 3 = 4.5 Gals. Case Volume Specified Volumes Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1430	64.8	7.39	941.	41	1.5	
1432	64.7	7.33	949.	67	3.0	
1436	64.6	7.30	942	68	4.5	

Did well dewater? Yes No Gallons actually evacuated: 4.5

Sampling Date: 11/19/08 Sampling Time: 1440 Depth to Water: 11.89

Sample I.D.: MW-5 Laboratory: Kiff CalScience Other: McCampbell

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
------------------	------------	------	-------------	------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

SPH or Purge Water Drum Log

Client: BLYMYER @ Kawahara Nursery
 Site Address: 16550 Ashland Ave, San Lorenzo

STATUS OF DRUM(S) UPON ARRIVAL				
Date	11/28/07	5-29-08	11/19/08	
Number of drum(s) empty:		7	7	
Number of drum(s) 1/4 full:				
Number of drum(s) 1/2 full:			1	
Number of drum(s) 3/4 full:	1			
Number of drum(s) full:	20	5	0	
Total drum(s) on site:	21	12	8	
Are the drum(s) properly labeled?	Y	Y	Y	
Drum ID & Contents:	Purge H ₂ O	H ₂ O/soil	Purge H ₂ O	
If any drum(s) are partially or totally filled, what is the first use date:				

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE				
Date	11/23/07	5-29-08	11/19/08	
Number of drums empty:	0	6	7	
Number of drum(s) 1/4 full:				
Number of drum(s) 1/2 full:		1	1	
Number of drum(s) 3/4 full:	1			
Number of drum(s) full:	20	5	0	
Total drum(s) on site:	21	12	8	
Are the drum(s) properly labeled?	Y	Y	Y	
Drum ID & Contents:	Groundwater	H ₂ O/soil	Purge/H ₂ O	

LOCATION OF DRUM(S)
 Describe location of drum(s): East side of Barn close to MW-3

FINAL STATUS				
Number of new drum(s) left on site this event	0	0	0	
Date of inspection:	11/28/07	5-29-08	11/19/08	
Drum(s) labelled properly:	Y	Y	Y	
Logged by BTS Field Tech:	KR	DW	JB	
Office reviewed by:	KR		JB	

Appendix C

Certified Laboratory Analytical Report

Dated November 26, 2008

McC Campbell Analytical, Inc.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Blymyer Engineers, Inc. 1829 Clement Avenue Alameda, CA 94501-1395	Client Project ID: #081119-S02; Kawahara Nursery, 16550 Ashland Ave	Date Sampled: 11/19/08
	Client Contact: Mark Detterman	Date Received: 11/20/08
	Client P.O.:	Date Reported: 11/26/08
		Date Completed: 11/24/08

WorkOrder: 0811668

November 26, 2008

Dear Mark:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#081119-S02; Kawahara Nursery,16**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
 Pittsburg, CA 94565-1701
 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811668

ClientCode: BEIA

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Mark Detterman
 Blymyer Engineers, Inc.
 1829 Clement Avenue
 Alameda, CA 94501-1395

Email: MDetterman@blymyer.com
 cc:
 PO:
 ProjectNo: #081119-S02; Kawahara
 Nursery,16550 Ashland Ave

(510) 521-3773 FAX (510) 865-2594

Bill to:

Accounts Payable
 Blymyer Engineers, Inc.
 1829 Clement Avenue
 Alameda, CA 94501-1395

Requested TAT: 5 days

Date Received: 11/20/2008

Date Printed: 11/20/2008

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0811668-001	MW-3	Water	11/19/2008 14:58	<input type="checkbox"/>	A	A											
0811668-002	MW-4	Water	11/19/2008 14:20	<input type="checkbox"/>	A												
0811668-003	MW-5	Water	11/19/2008 14:40	<input type="checkbox"/>	A												

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
 Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **Blymyer Engineers, Inc.** Date and Time Received: **11/20/08 6:15:54 PM**
Project Name: **#081119-S02; Kawahara Nursery, 16550 Ashland** Checklist completed and reviewed by: **Ana Venegas**
WorkOrder N°: **0811668** Matrix Water Carrier: Derik Cartan (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
Chain of custody signed when relinquished and received? Yes No
Chain of custody agrees with sample labels? Yes No
Sample IDs noted by Client on COC? Yes No
Date and Time of collection noted by Client on COC? Yes No
Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
Shipping container/cooler in good condition? Yes No
Samples in proper containers/bottles? Yes No
Sample containers intact? Yes No
Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
Container/Temp Blank temperature Cooler Temp: 6.6°C NA
Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
Sample labels checked for correct preservation? Yes No
TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
Samples Received on Ice? Yes No

(Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

Client contacted: Date contacted: Contacted by:

Comments:



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 39813

WorkOrder: 0811668

EPA Method: SW8021B/8015Cm		Extraction: SW5030B							Spiked Sample ID: 0811668-002A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	94.8	104	9.66	91	96.2	5.56	70 - 130	20	70 - 130	20
MTBE	ND	10	104	112	7.69	94.3	111	16.6	70 - 130	20	70 - 130	20
Benzene	ND	10	93.9	97.7	4.02	103	95	8.09	70 - 130	20	70 - 130	20
Toluene	ND	10	93.7	98.5	5.07	114	105	8.44	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	97.3	101	4.21	114	103	9.71	70 - 130	20	70 - 130	20
Xylenes	ND	30	107	112	4.68	115	111	3.32	70 - 130	20	70 - 130	20
%SS:	97	10	94	97	3.20	108	99	8.60	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 39813 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811668-001A	11/19/08 2:58 PM	11/22/08	11/22/08 4:43 AM	0811668-002A	11/19/08 2:20 PM	11/23/08	11/23/08 12:10 AM
0811668-003A	11/19/08 2:40 PM	11/22/08	11/22/08 11:37 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.