

Alameda, California 94501-1396
(510) 521-3773 FAX: (510) 865-2594

LETTER OF TRANSMITTAL

DATE April 9, 2003	BEI Job No. 88288.1
ATTENTION:	Ms. Eva Chu
SUBJECT:	G.I. Trucking Facility
	San Leandro, California
	STID # 1373

ACHCSA

1131 Harbor Bay Parkway, 2nd Floor

Alameda, CA 94502-6577

Alameda County

APR 11 2003

Environmental Health

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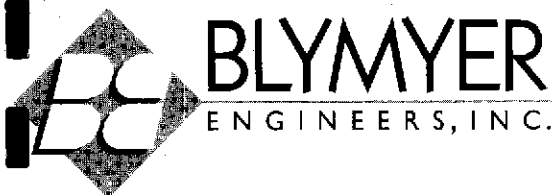
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Mr. Mike Bakaldin; San Leandro Fire Department

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BLYMYER

ENGINEERS, INC.

April 4, 2003
BEI Job No. 88288

Mr. Mike Rogers
Arkansas Best Corporation
3801 Old Greenwood Road
P.O. Box 10048
Fort Smith, AR 72917-0048

**Subject: 2003 Annual Groundwater Sampling Event
G.I. Trucking Facility
1750 Adams Avenue
San Leandro, California
STID 1373**

Alameda County
APR 11 2003
Environmental Health

Dear Mr. Rogers:

This letter documents the 2003 Annual Groundwater Monitoring Event at the subject site (Figure 1). The purpose of this work was to determine if free product remained in the former UST complex and to assess the changes in concentrations of dissolved hydrocarbons in groundwater surrounding the former UST complex.

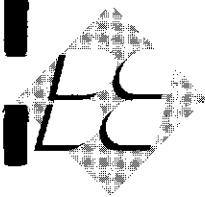
1.0 Introduction

1.1 Background

For a complete background please refer to previous monitoring reports by Blymyer Engineers, Inc., such as the monitoring report entitled *First Semi-Annual Groundwater Monitoring Event of 1998*, dated May 13, 1998. An abbreviated description of more recent events is covered in this background section.

On June 6, 1996, Blymyer Engineers installed a second free product recovery well, RW-2, in the southwestern corner of the UST complex and encountered a thin layer of relatively fresh free product in both recovery wells, along with a darker product layer. The discovery of an apparent diesel release was subsequently reported to the Alameda County Health Care Services Agency (ACHCSA).

As discussed in the Blymyer Engineers letter entitled *Unauthorized Release*, dated July 16, 1996, the source of the release appears to have been localized in the westernmost fuel pump manway. Specifically, gaskets in the fuel pump appeared to have been the source of the leak. According to site personnel, the fuel pump was repaired and placed back in service. An unknown volume of diesel product was released from this point. Based on an approximate UST basin area of 60 feet by 30 feet, 75% occupied by the existing USTs, an initial 0.25-foot thickness of clear free product, an assumed porosity of 30% for the pea gravel backfill, and a relatively flat gradient, an estimate for the release



Mr. Mike Rogers

April 4, 2003

Page 2

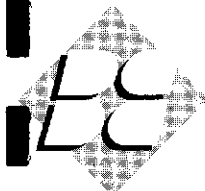
volume of approximately 250 gallons was calculated. In November 1996, during ongoing product recovery operations, site personnel verbally reported a total inventory loss of approximately 165 gallons. This compares well with the recovery of approximately 178 gallons of free product since that time.

Native soils surrounding the UST basin consist of multiple layers of silty clay, clayey silt, and clayey fine sand. The hydraulic conductivity appears to be relatively low, based upon the trapping of older free product within the UST basin years after the initial release, the low dissolved concentrations of total petroleum hydrocarbons (TPH) as diesel and benzene, toluene, ethylbenzene, and total xylenes (BTEX) in groundwater downgradient of the UST complex years after the initial release, and the continued mounding of water in the UST basin.

In response to a Tier I risk assessment and request for case closure contained in a previous monitoring report, the ACHCSA issued a letter dated February 3, 1998, requesting additional groundwater sampling. The ACHCSA requested in particular that, lacking free product, the recovery wells should be included in the analytical program. The concern was expressed that although no significant contaminant concentrations appear to be escaping the UST basin, the fresher free product in the UST basin may present a localized health risk. Using all water quality data from the recovery and monitoring wells located at the site and in the UST basin, specifically the nondetectable concentrations of BTEX inside and outside the UST basin, a comparison to the Tier I Table, as modified for California Maximum Contaminant Levels (MCLs) by the San Francisco Bay Regional Water Quality Control Board (RWQCB) from the American Society for Testing and Materials (ASTM) 1739-95 document entitled *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites (RBCA)*, dated November 1995, indicated that no apparent health risk was present at the site due to the documented releases of diesel hydrocarbons.

Beginning on July 22, 1998, a series of conversations were held between Blymyer Engineers and the ACHCSA regarding the future direction of activities at the site. On August 7, 1998, the ACHCSA issued a letter requesting a more aggressive method of free product recovery from the UST basin and the addition of polynuclear aromatic compounds (PNAs) to the analytical program due to health risks associated with these compounds. These compounds were only recently being requested in analytical programs in the state of California due to the consideration of risk analysis as a case closure method.

In November 1998, Ms. Eva Chu replaced Mr. Brian Oliva as the ACHCSA project manager for the site. Ms. Chu revisited site data and consulted with Mr. Chuck Headlee of the RWQCB regarding possible closure of the site. Due to the continued minimal presence of free product in the recovery wells located in the UST basin, case closure was not recommended. However, the monitoring and sampling interval was reduced from semi-annual to an annual basis for a minimum period of two years beginning with the Spring 1999 monitoring event. If free product was not present in the recovery wells located in the UST basin during the annual monitoring events, and should analytical



Mr. Mike Rogers
April 4, 2003
Page 3

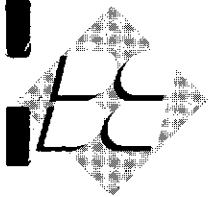
results for samples collected from the recovery wells due to lack of free product indicate no significant health risks, then the case would be evaluated for closure once a risk management plan had been prepared for the site.

On February 22, 1999, Arkansas Best Corporation (ABC; parent company of G.I. Trucking) reported that two of the four USTs were taking on water and that tightness testing was being conducted. On March 16, 1999, ABC reported that the two USTs taking on water had failed tightness testing. The cause and source of the most recent failure had not been identified; however, the USTs that failed were removed from service, remaining fuel had been pumped in to the USTs that had not failed the testing, and no free product was observed in the two recovery wells in the UST basin after the failure. It appeared that the location of the points of failure in the USTs did not allow diesel product to leak into the UST basin.

In June 1999, as a result of the tightness testing failure, all four of the USTs were removed, and UST closure soil samples were collected. Elevated concentrations of TPH as diesel were present at locations around the basin perimeter. Concentrations of TPH as diesel were detected in excavation soil samples ranging from 85 milligrams per kilogram (mg/kg) to 4,500 mg/kg. Low concentrations of TPH as gasoline were also detected in these same excavation soil samples, but were reported to contain significant concentrations of strongly aged gasoline or diesel range components. Very low concentrations of ethylbenzene, toluene, and total xylenes were detected in several soil samples. Gasoline is not known to have ever been stored in the USTs. Thus, the TPH as gasoline concentrations are assumed to be representative of the lighter end of diesel fuel. Methyl tert-butyl ether (MTBE) was not detected in any of the soil samples.

Additionally, product was observed to be seeping from the sidewall. In consultation with the ACHCSA and ABC, Blymyer Engineers directed the contractor to remove approximately 2 additional linear feet of native soil along the eastern, western, southern, and northeastern excavation sidewalls to attempt to clean up the soil further. The concentrations of TPH as diesel along the sidewalls were effectively reduced, but still ranged from 620 to 2,400 mg/kg. Free product, however, was no longer seeping into the excavation. A very low concentration of toluene was detected in one sample, and very low concentrations of total xylenes were detected in most samples (maximum of 0.096 mg/kg). Groundwater monitoring well MW-4 was destroyed as a result of the removal of the northwestern UST basin sidewall.

In September 1999, at the request of the ACHCSA, Blymyer Engineers requested the analytical laboratory to review the March 1999 groundwater analytical data to help determine if MTBE was present in the groundwater samples. The laboratory reviewed the data from wells MW-2, MW-3, and RW-2 and reported that only well MW-3 contained a detectable concentration of MTBE. MTBE was present at a concentration of 17 micrograms per liter ($\mu\text{g/L}$) in well MW-3. The detection of MTBE was not confirmed by gas chromatograph/mass spectrometer (GC/MS) analysis (EPA Method 8260). This confirmation is required as MTBE coelutes with 3-methyl-pentane. During the June 2002 sampling event, MTBE was confirmed in well MW-3 at a concentration of 3.1 $\mu\text{g/L}$ by EPA Method 8260. All other fuel oxygenates were not present at good limits of detection.



During the June 2002 sampling event, BTEX were nondetectable in all wells. BTEX were also nondetectable in recovery well RW-2, at slightly elevated limits of detection. PNAs were also nondetectable at slightly elevated limits of detection in RW-2. Approximately 50 milliliters (ml) of free product were recovered from the skimmer in well RW-1; however, a sheen was not observed in either recovery well. Based on the data it was concluded that limited residual free product may be leaching from the sidewalls of the southern extension of the UST basin, in the vicinity of the former waste oil UST. This is an area that was not removed during the UST overexcavation due to a potential structural threat to the maintenance building. It was additionally concluded that free product recovery operations appeared to have essentially reduced the thickness of free product to isolated globules or a sheen in the southern portion of the former UST complex. Due to the modest increase in the concentration of TPH as diesel in groundwater in wells MW-3 and MW-5, it was suggested that a one time semi-annual groundwater sampling event occur in an attempt to determine the trend of the concentration of TPH as diesel in that well. The ACHCSA was in general agreement with the concept (email dated October 3, 2002), but suggested the alternative that the annual monitoring event more forward in time to March 2003. The latter approach was adopted.

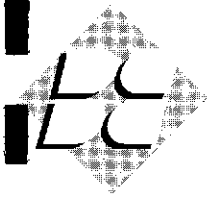
2.0 Data Collection

2.1 Water Sample Collection

Groundwater samples were collected from monitoring wells MW-2, MW-3, and MW-5 on March 13, 2003. The groundwater samples were collected by Blaine Tech Services (Blaine) in general accordance with the Blaine *Standard Operating Procedures* (Appendix A) for groundwater gauging and sampling. Depth to groundwater, temperature, pH, conductivity, and turbidity were measured initially and after the removal of each of three well casing volumes. The groundwater depth measurements and details of the monitoring well purging and sampling are presented on the *Well Monitoring Data Sheets* and *Well Gauging Data Sheets* generated by Blaine and included as Appendix B. Depth-to-groundwater measurements are presented in Table I. Historic and recent measurements of groundwater depth are presented in Table I. All purge and decontamination water was stored in Department of Transportation-approved, 55-gallon drums for future disposal.

2.2 Water Sample Analytical Methods

The groundwater samples from were submitted to Sequoia Analytical, Inc., a California-certified laboratory, on a standard 10-day turnaround time. The samples were analyzed for TPH as diesel by modified EPA Method 8015; and BTEX and MTBE by EPA Method 8020. Tables II and III summarize the current and all previous analytical results for groundwater samples collected from the monitoring wells. The laboratory analytical report for the current sampling event is included as Appendix C.



2.3 Free Product Recovery

A measurable quantity of free product (approximately 50 ml) was present in the passive skimmer installed in recovery well RW-1 since the previous sampling event. The Soak-eze[®] socks located in well RW-2 were not changed during the monitoring event due to the lack of measurable hydrocarbons. Table I presents historic and current groundwater and product depth measurements. Table IV contains a summary of the free product volume recovered during this and past events, and the approximate cumulative volume of free product removed to date.

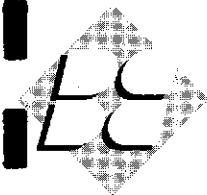
3.0 Discussion of Data

3.1 Groundwater Sample Analytical Results

The concentration of TPH as diesel was detected only in the groundwater sample from well MW-3 during the present sampling event. The concentration of TPH as diesel in wells MW-3 and MW-5 decreased since the previous event. The concentration of BTEX remained nondetectable in wells MW-2, MW-3, and MW-5. Groundwater from the recovery wells were not collected for analysis. BTEX have not been detected in the groundwater samples collected from wells MW-2 and MW-3 since discovery of the July 1996 release, or in wells MW-5 and RW-2 when submitted for analysis. MTBE was detected at a concentration of 2.9 $\mu\text{g/L}$ only in well MW-3, down from a concentration of 3.1 $\mu\text{g/L}$ in the June 2002 sampling event. During the last sampling event, MTBE was confirmed to be present, and the other fuel oxygenates were investigated, with laboratory analysis by EPA Method 8260B on groundwater collected from well MW-3. All other fuel oxygenates were not detected in that analytical event (Table III).

3.2 Recovered Free Product Data

Historically, the existing EZY[®] passive skimmer, installed in recovery well RW-1, was on a monthly operation and maintenance schedule, overseen by on-site personnel, until August 1994. Thereafter, until July 1996, the passive skimmer had been maintained quarterly by Blymyer Engineers, either concurrent with groundwater monitoring in the first and third quarters of the year or independently of groundwater monitoring in the second and fourth quarters of the year. The groundwater depth, the thickness of any pooled product, and the volume of recovered product were measured on each site visit. In November 1995, approximately 0.25 gallons of free product were recovered from the skimmer, and in February 1996, there was no measurable free product to be recovered. After the discovery of fresh product in the UST basin in July 1996, Blymyer Engineers used a second passive skimmer, a FAP pump, and Soak-eze[®] absorbent socks in varying combinations to recover free product in wells RW-1 and RW-2. An increasing volume of product was removed beginning in June 1996 (Table IV). Until the 1996 release, the cumulative volume of free product removed since recovery began had only amounted to approximately 1.18 gallons. To date approximately 180 gallons of free product have been recovered at the site. This compares reasonably well to the inventory loss of approximately 165 gallons reported by site personnel.



Mr. Mike Rogers

April 4, 2003

Page 6

During the March 2003 sampling event, approximately 50 ml of free product were present in recovery well RW-1. No sign of free product was observed on the Soak-eze[®] absorbent sock installed in well RW-2. Sheen was not observed in either well. This suggests that limited residual free product may be leaching from the sidewalls of the southern extension of the UST basin, in the vicinity of the former waste oil UST. This is an area that was not removed during the UST overexcavation due to a potential structural threat to the maintenance building.

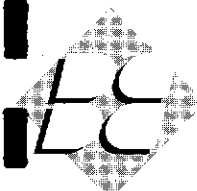
3.3 Groundwater Flow Direction and Gradient

The groundwater elevations measured in wells MW-2, MW-3, MW-5, RW-1, and RW-2 in March 2003 were from 0.13 to 0.62 feet higher than in the previous monitoring event in June 2002. The depths ranged from 5.77 to 6.45 feet below the tops of the well casings. The groundwater elevation data, based on surveyed top-of-casing elevations and depths to water, are presented in Table I. Figure 2 indicates that groundwater flows to the southeast at a gradient of approximately 0.021 feet/foot. In general, the gradient at the site has historically been flat. Historically, a higher localized water level has consistently been present in the immediate vicinity of the UST basin. This has created an outward radial flow centered on the former UST complex. This groundwater mounding in the former UST basin indicates the difficulty in the flow of water, and thus hydrocarbons, out of the UST basin.

4.0 Conclusions

The following conclusions can be made from the available data:

- Due to the increase in the concentration of TPH as diesel in wells MW-3 and MW-5, during the June 2002 monitoring event, the next monitoring event was rescheduled for March 2003 to verify if an increasing analytical trend was present at the site.
- The concentration of TPH as diesel decreased in wells MW-3 and MW-5. In well MW-5 TPH as diesel was not detected. The concentration of TPH as diesel in well MW-2 returned to nondetectable at good limits of detection.
- The concentration of BTEX remained nondetectable in wells MW-2, MW-3, and MW-5. BTEX have not been detected in the groundwater samples collected from wells MW-2, MW-3, MW-5, and RW-2 (when groundwater from wells MW-5 and RW-2 have been submitted for analysis) since discovery of the July 1996 release.
- MTBE was detected at a concentration of 2.9 $\mu\text{g/L}$ in well MW-3. It has previously been confirmed to be present by GC/MS laboratory techniques (EPA Method 8260B). The other fuel oxygenates were previously not found to be present above standard limits of detection.



Mr. Mike Rogers

April 4, 2003

Page 7

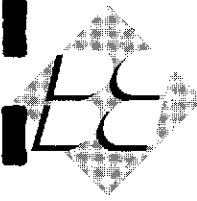
- During the previous sampling event, no detectable SVOC compounds, including the carcinogenic "benzo(a)-" PNA compounds, were present in the groundwater sample from well RW-2. It should be noted that the limit of detection limit was elevated due to the presence of non-target compounds. It is of interest to note that BTEX and PNAs have consistently been nondetectable in water within the UST basin, nor have these compounds been detectable in well MW-2 that is approximately 2 feet downgradient from the edge of the UST basin. It appears that BTEX and PNAs are not migrating beyond the former UST basin.
- During the May 2001, June 2002, and March 2003, sampling events limited measurable quantities (50 ml, 100 ml, and 50 ml, respectively) of free product were present in recovery well RW-1. No sign of free product was observed on the Soak-eze[®] absorbent sock installed in well RW-2 during the present sampling event. This suggests that limited residual free product may be leaching from the sidewalls of the southern extension of the UST basin, in the vicinity of the former waste oil UST. This is an area that was not removed during the UST overexcavation due to a potential structural threat to the maintenance building.
- Free product recovery operations have essentially reduced the thickness of free product to isolated globules or a sheen in the southern portion of the former UST complex.

5.0 Recommendations

- Continue annual groundwater monitoring on the revised schedule. The next groundwater monitoring event should be scheduled for March 2004.
- A copy of this report should be forwarded to the following agencies for review:

Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577
Attention: Ms. Eva Chu

San Leandro Fire Department
835 East 14th Street
San Leandro, CA 94577
Attention: Mr. Mike Bakaldin

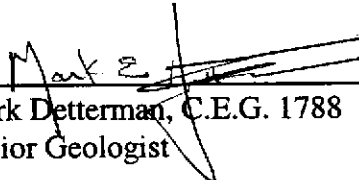


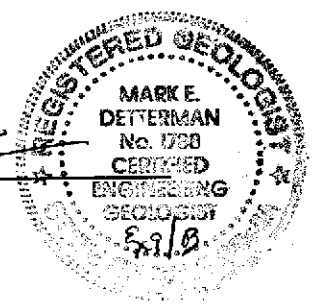
6.0 Limitations

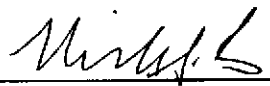
Services performed by Blymyer Engineers have been provided in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client, the Arkansas Best Corporation. 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 the client.

Please call Mark Detterman at (510) 521-3773 with any questions or comments.

Sincerely,
Blymyer Engineers, Inc.

By: 
Mark Detterman, C.E.G. 1788
Senior Geologist



And: 
Michael S. Lewis
Vice President, Technical Services

Enclosures:

- Table I: Summary of Groundwater Elevation Measurements
- Table II: Summary of Groundwater Sample Hydrocarbon Analytical Results
- Table III: Summary of Miscellaneous Groundwater Sample Analytical Results
- Table IV: Free Product Recovery Measurements, Recovery Wells RW-1 and RW-2

- Figure 1: Site Location Map
- Figure 2: Site Plan and Groundwater Elevation Contours, March 13, 2003

- Appendix A: *Standard Operating Procedures*, Blaine Tech Services, Inc.
- Appendix B: *Wellhead Inspection Checklist, Well Gauging Data, and Well Monitoring Data Sheets*, Blaine Tech Services, Inc., March 13, 2003
- Appendix C: Laboratory Analytical Reports, Sequoia Analytical, Inc., dated April 1, 2003

Tables

**Table I, Summary of Groundwater Elevation Measurements
BEI Job No. 88288.1, G.J. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Date Measured	RW-1* TOC Elevation 100.00 ^a		MW-2 TOC Elevation 100.24 ^a		MW-3 TOC Elevation 100.22 ^a TOC Elevation 100.18 ^b		MW-4 TOC Elevation 99.48 ^a TOC Elevation 99.46 ^{a,d}		MW-5 TOC Elevation 99.60 ^a		RW-2 Not Surveyed	
	Depth to Water/Free Product	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water/Free Product	Water Surface Elevation
November 15, 1988	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	N/A	N/A
February 16, 1989	6.03/5.83	N/A	6.13	94.11	6.00	94.22	5.92	93.56	5.42	94.18	N/A	N/A
May 19, 1989	6.31/6.11	N/A	6.24	94.00	6.20	94.02	5.25	94.23	5.53	94.07	N/A	N/A
August 22, 1989	6.72/6.54	N/A	6.68	93.56	6.60	93.62	6.76	92.72	5.94	93.66	N/A	N/A
November 21, 1989	6.51	93.49	6.64	93.60	6.55	93.67	5.72	93.76	5.91	93.69	N/A	N/A
February 23, 1990	5.74	94.26	6.04	94.20	5.83	94.39	4.92	94.56	5.69	93.91	N/A	N/A
May 23, 1990	6.34/6.19	N/A	6.40	93.84	6.38	93.84	5.39	94.09	5.92	93.68	N/A	N/A
August 27, 1990	6.27	93.73	6.70	93.54	6.67	93.55	5.66	93.82	6.17	93.43	N/A	N/A
December 3, 1990	6.49	93.51	6.83	93.41	6.75	93.47	5.95	93.53	6.05	93.55	N/A	N/A
March 13, 1991	4.94	95.06	5.64	94.60	5.42	94.80	4.39	95.09	5.01	94.59	N/A	N/A
May 29, 1991	9.46	90.54	6.31	93.93	6.28	93.94	5.27	94.21	5.57	94.03	N/A	N/A
August 28, 1991	6.31/6.22	N/A	6.68	93.56	6.62	93.60	5.70	93.78	5.90	93.7	N/A	N/A
December 9, 1991	6.49/6.29	N/A	6.69	93.55	6.65	93.57	5.78	93.78	5.99	93.61	N/A	N/A
February 18, 1992	4.19/4.09	N/A	4.96	95.28	4.73	95.49	3.60	95.88	4.45	95.15	N/A	N/A
May 15, 1992	5.72/5.55	N/A	6.07	94.17	5.99	94.23	5.03	94.45	5.33	94.27	N/A	N/A
August 13, 1992	6.12/5.93	N/A	6.42	93.82	6.32	93.90	5.40	94.08	5.62	93.98	N/A	N/A
December 3, 1992	5.65/5.55	N/A	6.25	93.99	6.23	93.99	5.14	94.34	5.58	94.02	N/A	N/A
March 25, 1993	4.60	95.40	5.40	94.84	5.27	94.95	4.14	95.34	4.34	95.26	N/A	N/A
May 21, 1993	5.56/5.47	N/A	6.04	94.20	5.97	94.25	4.95	94.53	5.28	94.32	N/A	N/A
August 17, 1993	6.07/5.94	N/A	6.42	93.82	6.59	93.63	5.40	94.08	5.61	93.99	N/A	N/A
December 13, 1993	NM ^c	NM ^c	6.09	94.15	6.33	93.89	5.08	94.40	5.38	94.22	N/A	N/A

**Table I, Summary of Groundwater Elevation Measurements
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Date Measured	RW-1* TOC Elevation 100.00 ^a		MW-2 TOC Elevation 100.24 ^a		MW-3 TOC Elevation 100.22 ^a TOC Elevation 100.18 ^b		MW-4 TOC Elevation 99.48 ^a TOC Elevation 99.46 ^{a,d}		MW-5 TOC Elevation 99.60 ^a		RW-2 Not Surveyed	
	Depth to Water/Free Product	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water	Water Surface Elevation	Depth to Water/Free Product	Water Surface Elevation
February 24, 1994	4.97	95.63	5.57	94.67	5.76	94.46	4.38	95.10	4.90	94.70	N/A	N/A
May 11, 1994	5.20	94.80	5.94	94.30	5.84	94.34	4.85	94.63	5.23	94.37	N/A	N/A
August 23, 1994	6.06/5.98	N/A	6.44	93.80	6.38	93.80	5.47	94.01	5.70	93.90	N/A	N/A
November 29, 1994	5.98	94.02	5.82	94.42	5.76	94.42	4.76	94.72	5.12	94.48	N/A	N/A
February 15, 1995	4.93	95.07	5.68	95.56	5.60	95.58	NM	NM	NM	NM	N/A	N/A
May 18, 1995	4.99	95.01	NM	NM	NM	NM	NM	NM	NM	NM	N/A	N/A
August 16, 1995	6.46	93.54	6.19	94.05	6.11	94.07	5.16	94.32	5.47	94.13	N/A	N/A
November 16, 1995	5.21	94.79	NM	NM	NM	NM	NM	NM	NM	NM	N/A	N/A
February 15, 1996	4.68	95.32	5.62	94.62	5.48	94.70	4.40	95.08	4.90	94.70	N/A	N/A
August 5, 1996	6.05/5.70	N/A	6.22	94.02	6.16	94.02	5.27	94.19	5.50	94.10	6.02/5.71	N/A
February 6, 1997	4.40	95.60	5.5	94.74	5.36	94.82	4.26	95.2	4.80	94.80	4.41	N/A
August 22, 1997	4.90	95.1	6.57	93.67	5.85	94.33	5.09	94.37	6.37	93.23	4.88	N/A
February 12, 1998	3.18	96.82	4.88	95.36	4.81	95.41	3.58	95.88	4.32	95.28	3.21	N/A
August 27, 1998	5.95	94.05	6.42	93.82	6.25	93.93	5.43	94.03	5.77	93.83	5.92	N/A
March 4 & 11, 1999	4.98	95.02	6.39	93.85	6.14	94.04	5.34	94.12	5.88	93.72	4.95	N/A
June 18, 2002	6.28	93.72	7.14	93.10	7.07	93.11	NM	NM	5.97	93.63	6.30	N/A
March 13, 2003	6.15	93.85	6.64	93.60	6.45	93.73	NM	NM	5.77	93.83	6.11	N/A

Notes: TOC = Top of casing
b = Resurveyed elevation, May 11, 1994
d = TOC mark lost; Resurveyed elevation, August 16, 1996
NM = Not measured

a = Based on an arbitrary datum
c = Not measured due to equipment malfunction
N/A = Not applicable
* = Formerly designated as well MW-1

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
			TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes
RW-1*	November 15, 1988	0.22 ft. FP	NA	NA	NA	NA	NA
	February 16, 1989	0.20 ft. FP	NA	NA	NA	NA	NA
	May 19, 1989	0.20 ft. FP	NA	NA	NA	NA	NA
	August 22, 1989	0.18 ft. FP	NA	NA	NA	NA	NA
	November 21, 1989	product sheen	NA	NA	NA	NA	NA
	February 23, 1990	product sheen	NA	NA	NA	NA	NA
	May 23, 1990	0.15 ft. FP	NA	NA	NA	NA	NA
	August 27, 1990	product sheen	NA	NA	NA	NA	NA
	December 3, 1990	product sheen	NA	NA	NA	NA	NA
	March 13, 1991	product sheen	NA	NA	NA	NA	NA
	May 29, 1991	product sheen	NA	NA	NA	NA	NA
	August 28, 1991	0.09 ft. FP	NA	NA	NA	NA	NA
	December 9, 1991	0.20 ft. FP	NA	NA	NA	NA	NA
	February 18, 1992	0.09 ft. FP	NA	NA	NA	NA	NA
	May 15, 1992	0.17 ft. FP	NA	NA	NA	NA	NA
	August 13, 1992	0.19 ft. FP	NA	NA	NA	NA	NA
	December 3, 1992	0.10 ft. FP	NA	NA	NA	NA	NA
	March 25, 1993	product sheen	NA	NA	NA	NA	NA
	May 21, 1993	0.09 ft. FP	NA	NA	NA	NA	NA
	August 17, 1993	0.13 ft. FP	NA	NA	NA	NA	NA
December 13, 1993	heavy product sheen	NA	NA	NA	NA	NA	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.L. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RW-1* (cont.)	February 24, 1994	heavy product sheen	NA	NA	NA	NA	NA
	May 11, 1994	heavy product sheen	NA	NA	NA	NA	NA
	August 23, 1994	0.08 ft FP	NA	NA	NA	NA	NA
	November 29, 1994	heavy product sheen	NA	NA	NA	NA	NA
	February 15, 1995	heavy product sheen	NA	NA	NA	NA	NA
	August 16, 1995	heavy product sheen	NA	NA	NA	NA	NA
	February 15, 1996	heavy product sheen	NA	NA	NA	NA	NA
	August 5, 1996	0.35 ft FP	NA	NA	NA	NA	NA
	February 6, 1997	light sheen	NA	NA	NA	NA	NA
	August 22, 1997	light sheen	NA	NA	NA	NA	NA
	February 12, 1998	89	NA	NA	NA	NA	NA
	August 27, 1998	heavy product sheen	NA	NA	NA	NA	NA
	March 4 & 11, 1999	sheen	NA	NA	NA	NA	NA
	May 30, 2001	sheen	NA	NA	NA	NA	NA
	June 18, 2002	no sheen	NA	NA	NA	NA	NA
March 13, 2003	no sheen	NA	NA	NA	NA	NA	

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-2	November 15, 1988	<0.20	NA	NA	NA	NA	NA
	February 16, 1989	<0.09	NA	NA	NA	NA	NA
	May 19, 1989	<0.08	NA	NA	NA	NA	NA
	August 22, 1989	<0.03	NA	NA	NA	NA	NA
	November 21, 1989	<0.03	NA	NA	NA	NA	NA
	February 23, 1990	<0.05	NA	NA	NA	NA	NA
	May 23, 1990	<0.05	NA	NA	NA	NA	NA
	August 27, 1990	<0.05	NA	NA	NA	NA	NA
	December 3, 1990	<0.05	NA	NA	NA	NA	NA
	March 13, 1991	<0.05	NA	NA	NA	NA	NA
	May 29, 1991	<0.05	NA	NA	NA	NA	NA
	August 28, 1991	<0.05	NA	NA	NA	NA	NA
	December 9, 1991	<0.05	NA	NA	NA	NA	NA
	February 18, 1992	<0.05	NA	NA	NA	NA	NA
	May 15, 1992	<0.05	NA	NA	NA	NA	NA
	August 13, 1992	<0.05	NA	NA	NA	NA	NA
	December 3, 1992	<0.05	NA	NA	NA	NA	NA
	March 25, 1993	<0.05	NA	NA	NA	NA	NA
May 21, 1993	<0.05	NA	NA	NA	NA	NA	
August 17, 1993	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288-1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-2 (cont.)	December 13, 1993	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	February 24, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	May 11, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	August 23, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	November 29, 1994	0.09	<0.5	<0.5	<0.5	<0.5	NA
	February 15, 1995	0.1^a	<0.5	1.2	<0.5	<0.5	NA
	August 16, 1995	0.063^c	<0.5	<0.5	<0.5	<0.5	NA
	February 15, 1996	0.079	<0.5	<0.5	<0.5	<0.5	NA
	August 5, 1996	0.10^d	<0.5	<0.5	<0.5	<0.5	NA
	February 6, 1997	0.14^a	<0.5	<0.5	<0.5	<0.5	NA
	August 22, 1997	<0.10	<0.5	<0.5	<0.5	<0.5	NA
	February 12, 1998	<0.10	<0.5	<0.5	<0.5	<0.5	NA
	August 27, 1998	0.093	<0.5	<0.5	<0.5	<0.5	NA
	March 4 & 11, 1999	<0.050	<0.5	<0.5	<0.5	<0.5	<5
	May 30, 2001	NA	NA	NA	NA	NA	NA
June 18, 2002	<0.050	<0.5	<0.5	<0.5	<0.5	<2.5	
March 13, 2003	<0.048	<0.5	<0.5	<0.5	<0.5	<2.0	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-3	November 15, 1988	<0.20	NA	NA	NA	NA	NA
	February 16, 1989	<0.09	NA	NA	NA	NA	NA
	May 19, 1989	<0.08	NA	NA	NA	NA	NA
	August 22, 1989	<0.03	NA	NA	NA	NA	NA
	November 21, 1989	<0.03	NA	NA	NA	NA	NA
	February 23, 1990	0.34	NA	NA	NA	NA	NA
	May 23, 1990	0.64	NA	NA	NA	NA	NA
	August 27, 1990	0.41	NA	NA	NA	NA	NA
	December 3, 1990	<0.05	NA	NA	NA	NA	NA
	March 13, 1991	1.3	NA	NA	NA	NA	NA
	May 29, 1991	0.54	NA	NA	NA	NA	NA
	August 28, 1991	0.24	NA	NA	NA	NA	NA
	December 9, 1991	0.20	NA	NA	NA	NA	NA
	February 18, 1992	0.89	NA	NA	NA	NA	NA
	May 15, 1992	0.38	NA	NA	NA	NA	NA
	August 13, 1992	0.20	NA	NA	NA	NA	NA
	December 3, 1992	<0.05	NA	NA	NA	NA	NA
	March 25, 1993	1.6	NA	NA	NA	NA	NA
	May 21, 1993	0.72	NA	NA	NA	NA	NA
August 17, 1993	0.48	<0.5	<0.5	<0.5	<0.5	NA	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
			TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-3 (cont.)	December 13, 1993	0.19	<0.5	<0.5	<0.5	<0.5	NA
	February 24, 1994	0.38	<0.5	<0.5	<0.5	<0.5	NA
	May 11, 1994	0.58	<0.5	<0.5	<0.5	<0.5	NA
	August 23, 1994	0.45 ^a	<0.5	0.6	<0.5	<0.5	NA
	November 29, 1994	0.96 ^a	<0.5	<0.5	<0.5	<0.5	NA
	February 15, 1995	1.7 ^a	<0.5	<0.5	<0.5	<0.5	NA
	August 16, 1995	1.1 ^c	<0.5	<0.5	<0.5	<0.5	NA
	February 15, 1996	1.3	<0.5	<0.5	<0.5	<0.5	NA
	August 5, 1996	1.0 ^d	<0.5	<0.5	<0.5	<0.5	NA
	February 6, 1997	2.4 ^a	<0.5	<0.5	<0.5	<0.5	NA
	August 22, 1997	2.0 ^a	<0.5	<0.5	<0.5	<0.5	NA
	February 12, 1998	1.5 ^e	<0.5	<0.5	<0.5	<0.5	NA
	August 27, 1998	0.410	<0.5	<0.5	<0.5	<0.5	NA
	March 4 & 11, 1999	0.330	<0.5	<0.5	<0.5	<0.5	17
	May 30, 2001	NA	NA	NA	NA	NA	NA
	June 18, 2002	1.1 ^e	<0.5	<0.5	<0.5	<0.5	3.6 ^f
March 13, 2003	0.680	<0.5	<0.5	<0.5	<0.5	2.9	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-4	November 15, 1988	<0.20	NA	NA	NA	NA	NA
	February 16, 1989	<0.09	NA	NA	NA	NA	NA
	May 19, 1989	<0.08	NA	NA	NA	NA	NA
	August 22, 1989	<0.03	NA	NA	NA	NA	NA
	November 21, 1989	<0.03	NA	NA	NA	NA	NA
	February 23, 1990	<0.05	NA	NA	NA	NA	NA
	May 23, 1990	<0.05	NA	NA	NA	NA	NA
	August 27, 1990	<0.05	NA	NA	NA	NA	NA
	December 3, 1990	<0.05	NA	NA	NA	NA	NA
	March 13, 1991	<0.05	NA	NA	NA	NA	NA
	May 29, 1991	<0.05	NA	NA	NA	NA	NA
	August 28, 1991	<0.05	NA	NA	NA	NA	NA
	December 9, 1991	<0.05	NA	NA	NA	NA	NA
	February 18, 1992	<0.05	NA	NA	NA	NA	NA
	May 15, 1992	<0.05	NA	NA	NA	NA	NA
	August 13, 1992	<0.05	NA	NA	NA	NA	NA
	December 3, 1992	<0.05	NA	NA	NA	NA	NA
	March 25, 1993	<0.05	NA	NA	NA	NA	NA
	May 21, 1993	<0.05	NA	NA	NA	NA	NA
August 17, 1993	<0.05	<0.5	<0.5	<0.5	<0.5	NA	

Table H, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-4 (cont.)	December 13, 1993	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	February 24, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	May 11, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	August 23, 1994	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	November 29, 1994	NA	NA	NA	NA	NA	NA
	February 15, 1995	NA	NA	NA	NA	NA	NA
	August 16, 1995	NA	NA	NA	NA	NA	NA
	February 15, 1996	NA	NA	NA	NA	NA	NA
	August 5, 1996	NA	NA	NA	NA	NA	NA
	February 6, 1997	NA	NA	NA	NA	NA	NA
	August 22, 1997	NA	NA	NA	NA	NA	NA
	February 12, 1998	NA	NA	NA	NA	NA	NA
	August 27, 1998	NA	NA	NA	NA	NA	NA
	March 4 & 11, 1999	NA	NA	NA	NA	NA	NA
June 1999	Destroyed						

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
			TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-5	November 15, 1988	<0.20	NA	NA	NA	NA	NA
	February 16, 1989	<0.09	NA	NA	NA	NA	NA
	May 19, 1989	<0.08	NA	NA	NA	NA	NA
	August 22, 1989	<0.03	NA	NA	NA	NA	NA
	November 21, 1989	<0.03	NA	NA	NA	NA	NA
	February 23, 1990	<0.05	NA	NA	NA	NA	NA
	May 23, 1990	<0.05	NA	NA	NA	NA	NA
	August 27, 1990	<0.05	NA	NA	NA	NA	NA
	December 3, 1990	<0.05	NA	NA	NA	NA	NA
	March 13, 1991	<0.05	NA	NA	NA	NA	NA
	May 29, 1991	<0.05	NA	NA	NA	NA	NA
	August 28, 1991	<0.05	NA	NA	NA	NA	NA
	December 9, 1991	<0.05	NA	NA	NA	NA	NA
	February 18, 1992	<0.05	NA	NA	NA	NA	NA
	May 15, 1992	<0.05	NA	NA	NA	NA	NA
	August 13, 1992	<0.05	NA	NA	NA	NA	NA
	December 3, 1992	<0.05	NA	NA	NA	NA	NA
	March 25, 1993	<0.05	NA	NA	NA	NA	NA
	May 21, 1993	<0.05	NA	NA	NA	NA	NA
August 17, 1993	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-5 (cont.)	December 13, 1993	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	February 24, 1994	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	May 11, 1994	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	August 23, 1994	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	November 29, 1994	NA	NA	NA	NA	NA	NA
	February 15, 1995	NA	NA	NA	NA	NA	NA
	August 16, 1995	NA	NA	NA	NA	NA	NA
	February 15, 1996	NA	NA	NA	NA	NA	NA
	August 5, 1996	NA	NA	NA	NA	NA	NA
	February 6, 1997	NA	NA	NA	NA	NA	NA
	August 22, 1997	NA	NA	NA	NA	NA	NA
	February 12, 1998	NA	NA	NA	NA	NA	NA
	August 27, 1998	NA	NA	NA	NA	NA	NA
	March 4 & 11, 1999	NA	NA	NA	NA	NA	NA
	May 30, 2001	NA	NA	NA	NA	NA	NA
June 18, 2002	0.061	<0.5	<0.5	<0.5	<0.5	<2.5	
March 13, 2003	<0.047	<0.5	<0.5	<0.5	<0.5	<2.0	

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 88288.1, G.I. Trucking Facility,
1750 Adams Avenue, San Leandro, California**

Sample ID	Date	Modified EPA Method 8015 (mg/L)	EPA Method 8020 or 8021B ($\mu\text{g/L}$)				
		TPH as Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RW-2 **	August 5, 1996	NA	NA	NA	NA	NA	NA
	February 6, 1997	NA	NA	NA	NA	NA	NA
	August 22, 1997	NA	NA	NA	NA	NA	NA
	February 12, 1998	100	<0.5	<0.5	<0.5	<0.5	NA
	August 27, 1998	NA	NA	NA	NA	NA	NA
	March 4 & 11, 1999	74	<1.0	<1.0	<1.0	<1.0	<10
	May 30, 2001	9.0	<0.5	<0.5	<0.5	<0.5	NA
	June 18, 2002	280	<10	<10	<10	<10	<50
	March 13, 2003	NA	NA	NA	NA	NA	NA

- Notes:
- TPH = Total Petroleum Hydrocarbons
 - MTBE = Methyl *tert*-butyl ether
 - mg/L = Milligrams per liter
 - $\mu\text{g/L}$ = Micrograms per liter
 - <x = Detected concentration less than respective detection limit of x.
 - NA = Not analyzed
 - a = Laboratory reports that positive result appears to be due to the presence of a heavier hydrocarbon than diesel.
 - b = Beginning this sampling event results are converted to mg/L, originally reported in $\mu\text{g/L}$.
 - c = Laboratory reports that an unidentified hydrocarbon, heavier than the diesel standard, was present between the carbon range of C9 to C24.
 - d = Laboratory reports a hydrocarbon heavier than the diesel standard was present, and that the method blank contained 0.05 mg/L TPH as diesel.
 - e = Laboratory reports that the pattern is atypical for diesel analysis (June 2002 result was weathered diesel per personal communication September 16, 2002).
 - f = Confirmed by EPA Method 8260B at a concentration of 3.1 $\mu\text{g/L}$; see Table III
 - * = Formerly designated as well MW-1
 - ** = Installed July 1996

Bold results indicate detectable analyte concentrations.

Table III, Summary of Miscellaneous Groundwater Sample Analytical Results (continued)

Notes: *	=	Groundwater samples from monitoring wells MW-4 and MW-5 were not collected for these analyses.
**	=	Formerly designated as well MW-1
TPH	=	Total Petroleum Hydrocarbons
HVOCs	=	Halogenated Volatile Organic Compounds
SVOCs	=	Semi-volatile Organic Compounds
PNAs	=	Poly-nuclear Aromatic Compounds
MTBE	=	Methyl tert-butyl ether
mg/L	=	Milligrams per liter
$\mu\text{g/L}$	=	Micrograms per liter
NA	=	Not analyzed
ND	=	None of analytes detected above the detection limit; see individual laboratory report for respective detection limits.
a	=	TPH as motor oil analysis performed First Quarter 1995 only to provide additional groundwater chemistry data.
b	=	Metals analytical test includes: cadmium (Cd), chromium (Cr), lead (Pb), nickel (Ni), zinc (Zn).
c	=	Not analyzed due to presence of free product or product sheen in monitoring well.
d	=	Groundwater sample filtered and preserved before submittal to laboratory.
e	=	Detected analyte(s) and concentration(s) listed; see individual laboratory report for respective detection limit(s).
f	=	Analysis of groundwater samples for TPH as gasoline, TRPH, HVOCs, SVOCs, and metals was discontinued beginning this monitoring event.
g	=	MTBE confirmed at a concentration of 3.1 $\mu\text{g/L}$ by EPA Method 8260B. All other fuel oxygenates were nondetectable at variable limits of detection. Please see laboratory report for details.

**Table IV, Free Product Recovery Measurements, Recovery Wells RW-1 and RW-2
 BEI Job No. 88288.001, G.I. Trucking Facility,
 1750 Adams Avenue, San Leandro, California**

Date Recovered	Volume Recovered (gallons)
November 1988 to October 1993	No recovery performed
November 1993	0.125
December 1993	0.25
January 1994	0.05
February 1994	<0.05
March 1994	<0.05
April 1994	<0.05
May 1994	<0.05
June 1994	<0.025
July 1994	<0.025
August 1994 ^a	0.1
November 1994	0.1
February 1995	<0.025
May 1995	<0.025
August 1995	No measurable product to recover
November 1995	0.25
February 1996	No measurable product to recover
June 1996	1.1
July 1996 ^b	3.75
August 1996	121
September 1996	30
October 1996	23
November 1996	Soak-eze [®] installed/trace in passive skimmer
December 1996	Soak-eze [®] installed/trace in passive skimmer
January 1997	Soak-eze [®] installed/0.1 gallon in passive skimmer
February 1 to 6, 1997	Soak-eze [®] installed/trace in passive skimmer
February 7 to August 22, 1997	Soak-eze [®] installed/100 ml in passive skimmer
August 22, 1997 to February 12, 1998	Soak-eze [®] installed/0 ml in passive skimmer
February 13, 1998 to August 27, 1998	Soak-eze [®] replaced/20 ml in passive skimmer
August 28, 1998 to March 4, 1999	No measurable product to recover
May 30, 2001	50 ml in passive skimmer (RW-2), light sheen on water
June 18, 2002	100 ml in passive skimmer (RW-2), no sheen reported
March 13, 2003	50 ml in passive skimmer (RW-1), no sheen reported (RW-1 and RW-2)
Cumulative Volume Recovered (approximate)	180

Table IV, Free Product Recovery Measurements, Recovery Wells RW-1 and RW-2; continued

- Notes:
- a = Frequency of recovery activities decreased from monthly to quarterly after this recovery event.
 - b = Frequency of recovery activities increased after this recovery event.
 - ml = milliliters
 - ** = RW-2 installed in July 1996

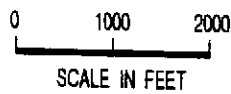
Figures



UNITED STATES GEOLOGICAL SURVEY 7.5' QUAD. "SAN LEANDRO, CA", ED. 1959, PHOTOREVISED 1980.



BLMYER
ENGINEERS, INC.



SITE LOCATION MAP

G.I. TRUCKING FACILITY
1750 ADAMS AVE.
SAN LEANDRO, CA

FIGURE

1

BEI JOB NO. 88288

DATE 9/19/95

Appendix A

Standard Operating Procedures

Blaine Tech Services, Inc.

SUMMARY OVERVIEW OF
STANDARD OPERATING PROCEDURES
FOR THE ROUTINE MONITORING
OF GROUNDWATER WELLS

APPLIES TO WELLS WHICH ARE SAMPLED AND ANALYZED
FOR COMPOUNDS ASSOCIATED WITH
PETROLEUM FUELS,
HEAVY METALS,
CHLORINATED SOLVENTS AND
PRIORITY POLLUTANTS
AND OTHER COMMON CONTAMINANTS
RELATED TO INDUSTRY, AGRICULTURE, COMMERCE AND LANDFILL OPERATIONS

REVISED AND REISSUED SEPTEMBER 10, 1995

1. OBJECTIVE INFORMATION

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. We intentionally limit the scope of our activities and are primarily engaged in the execution of technical assignments which generate objective information. To avoid conflicts of interest which might compromise our impartiality, Blaine Tech Services, Inc. makes no recommendations, does not participate in the interpretation of analytical results and performs no consulting of any kind.

2. SPECIFIC ASSIGNMENTS

All work is performed in accordance with the specific request, authorization and informed consent of the client who may be the property owner, the responsible party or the professional consultant overseeing work at the particular site. The scope of services

is defined in individual one-time work orders or in contracts which reference compliance with regulatory requirements, particular client specifications and conformance with our own Standard Operating Procedures. Decisions about what work will be done, how the work will be done and the sequence of events are established in advance of sending personnel to the site. Except where particular procedures and equipment are specified in advance, the determination of how to best complete the individual tasks which comprise the assignment is left to the discretion of our field personnel.

3. INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead will be checked and noted in the degree of detail requested by the client. Measurements include the depth to water

and the total well depth obtained with industry standard electronic sounders which are graduated in increments of tenths of a foot and hundredths of a foot. The surface of the water in each well is further inspected for the presence of immiscibles and any separate phase hydrocarbon layer is measured in situ with an electronic interface probe and confirmed by visual inspection of the separate phase material in a clear acrylic barrier.

Notations are entered in blank areas on forms provided for the collection of instrument readings and included in the specially prepared field notebook. Data collected in the course of our work may be presented in a TABLE OF WELL MONITORING DATA prepared by our personnel or passed to the client or consultant in their original form on the field data sheets.

4. ADEQUATE PURGE STANDARD

Minimum purge volumes and purge completion standards are established by the interested regulatory agency controlling groundwater monitoring in each particular jurisdiction and by the consultant reviewing technical work performed on the project for submission to the interested regulatory agency. Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in several jurisdictions.

5. STABILIZED PARAMETERS

Completion standards include minimum purge volumes, but additionally require stabilization of normal groundwater parameters. Normal groundwater parameter readings include electrical conductivity (EC), pH, and temperature which are obtained at regular intervals during the evacuation process (no less than once per case volume) and at the time of sample collection.

Temperature is considered to have stabilized when successive readings do not fluctuate more than ± 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is thought to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

Additional completion standards are used in some jurisdictions. Turbidity of <50 NTU is such a completion standard.

6. DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewateres and does not recharge.

In a typical accommodation procedure worked out between the consultants and the regulatory agency, a well which does not recharge to 80% of its original volume within two hours (and any additional time our personnel have reason to remain at the site) will require our personnel to return to the site within twenty four hours to sample the well. In such cases, our personnel return to the site within the prescribed time limit and collect sample material from the water which has flowed back into the well case

without regard to what percentage of the original volume this recharge represents.

There are also instances in which the client, consultant and regulators agree that it is better to collect certain types of water samples (for volatile constituents) from the available water remaining in a dewatered well rather than let the water stand for prolonged periods of time and risk the loss of volatile constituents. These arrangements are client specific and are contained in client directives to our personnel. These are carried as printed directives in reference binders in the sampling vehicle and are on file at our office for use by our project coordination personnel.

7. PURGEWATER CONTAINMENT

All purgewater evacuated from each groundwater monitoring well is captured and contained as are all fluids from the on-site decontamination of reusable apparatus (sounders, electric pumps and hoses etc.). Hazardous materials are placed in appropriately labeled DOT drums and left at the site for handling by a licensed hazardous waste hauler who will move the material to a TSD. Non-hazardous purgewater will be drummed or discharged into an on-site treatment system. Non-hazardous effluent from petroleum industry sites is typically collected in vehicle mounted tanks and transported to the nearest refinery operated by the client.

8. EVACUATION

Wells are purged prior to sampling with a variety of evacuation devices. Small diameter wells which contain a relatively small volume of water are often hand bailed. Larger volumes of water found in deeper

wells and larger diameter wells are removed with down hole electric submersible pumps or pneumatic purge pumps.

In a typical evacuation, the well is pumped with a Grundfos brand electrical pump deployed into the well on a long section of hose which is paid out from a reel assembly mounted on the sampling vehicle.

Specialized evacuation devices such as USGS Middleburg bladder pumps can be used in response to special circumstances, but unless specifically dictated by the client, consultant or regulator, the type of device used to evacuate the well will be selected based on its appropriateness and efficiency.

9. SAMPLE COLLECTION DEVICES

Irrespective of the type of device used to evacuate the well, samples are always collected with a specialized sampling bailer. Standard sampling bailers are constructed of either stainless steel or PTFE (Teflon®). Some clients request that their samples be obtained with disposable bailers which are made from a variety of materials (PTFE, polyethylene, PVC etc.) which are represented by the manufacturer to be adequate and appropriate for one time use applications after which the disposable bailer is discarded.

Regardless of the type of bailer used to collect sample material, the number of check valves the bailer contains or the presence or absence of a bottom emptying device, the water which is the sample material is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

The exceptions to this rule are samples which must be field filtered (i.e. for metals) prior to preservation or those that must be fixed or manipulated in the field (e.g. Winkler titration). Such samples are handled according to procedures described in STANDARD METHODS, the SW-846 and other texts.

10. SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to intended analysis. Chemicals needed to preserve the sample material are commonly already placed inside the sample containers by the laboratory or glassware vendor. The number of replicates is set by the laboratory.

11. QC BLANKS

QC blanks are collected in accordance with the regimen agreed upon by the interested parties and typically include trip blanks, duplicates and equipment blanks.

12. CHAIN OF CUSTODY RECORDS

All samples are labeled and logged on a standardized Chain of Custody form. The Blaine Tech Services, Inc., preprinted Chain of Custody form is a multi-page carbonless form, whereas client and laboratory forms are usually single pages which are replicated by making photocopies. All Chain of

Custody forms follow standard EPA conventions set forth in USEPA SW-846 for recording the time, date and signature of the person collecting the samples, and go further to require paired time, date and responsible party entries each time the samples change hands.

According to this convention, each time the samples move from the custody of one person to another person, the Chain of Custody form must record the time, date and signature of the person relinquishing custody of the samples and the time data and signature of the person accepting custody of the samples.

In practice, all samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Chain of Custody form. If the samples are taken charge of by a different party (such as another person from our office, or a courier who will transport the samples to the laboratory) prior to being delivered to the laboratory, appropriate release and acceptance entries must be made on the Chain of Custody form (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person taking possession of the samples).

13. SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory which will perform the intended analytical procedures. These ice chests contain quantities of ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the

custody of the laboratory or laboratory courier.

14. ICE

Temperature in the ice chest is lowered and maintained with ice. Our firm produces ice in a restaurant grade commercial ice maker which is supplied with deionized water which has been filtered and polished and is the same grade of water tanked on our sampling vehicles for use in decontamination procedures.

15. DOCUMENTATION CONVENTIONS

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be handwritten by our field personnel. The site is identified (usually with a code specified by the client), as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1, etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Our representative adds the Blaine Tech Services, Inc. Sampling Event Number. This Sampling Event Number also appears on the Chain of Custody form and all other notebook pages and papers associated with the work done at the site on the particular day by this particular technician. The Sampling Event Number also becomes the

number of the Blaine Tech Services, Inc. Sampling Report.

The Sampling Event Number is derived from the date on which the work was done, the specific employee who did the work and what the relationship of this particular assignment was to any other assignments performed on that day by this specific employee.

An example Sampling Event Number is 950910-B-2.

The first six digits indicate the date (yyymmdd) which is 950910 for September 10, 1995. The alpha character indicates the letter assigned to the specific employee doing the work (e.g. the letter B is assigned to Mr. Richard Blaine). The final digit indicates that this was the second sampling assignment performed by Mr. Blaine on that particular date.

16. DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use at each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. Because high temperature water retains heat better than does a jet of steam and poses fewer hazards to the operator, we have our steam cleaners detuned by the manufacturer to produce hot water several degrees below the transition to live steam.

The steam cleaner / hot pressure washer is operated with high quality deionized water which is produced at our facility and tanked

on our sampling vehicle for use at remote sites.

Decontamination effluent is collected in the same onboard effluent tanks as are used to contain the effluent from purging the groundwater wells at the site. The decon effluent is handled in the same manner as groundwater from the well.

17. FREE PRODUCT SKIMMERS

A skimmer is a free product recovery device sometimes installed in wells with a free product zone on the surface of the water. The presence of the skimmer in the well often prevents normal well gauging and free product zone measurements. The Petro Trap brand 2.0" and 3.0" diameter skimmers which are used on some petroleum industry sites fall into the category of devices that obstruct the well to the extent of preventing normal gauging. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on behalf of the property owner or responsible party.

In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the Petro Trap before putting it back into the well. The recovered free product is measured and recorded. The notation on the amount of free product will subsequently be entered in the VOLUME OF IMMISCIBLES REMOVED column on the TABLE OF WELL GAUGING DATA in the next Blaine Tech Services, Inc. Sampling Report.

18. CERTIFIED LABORATORY

Samples are directed to analytical laboratories which have been certified by the California Department of Health Services as an authorized Hazardous Materials Testing Laboratory and that laboratory's name and DOHS HMTL number should be noted on the Chain of Custody form.

18. REPORTAGE

A typical groundwater monitoring assignment involves the work of several different firms and a series of reports are generated, beginning with a Blaine Tech Services, Inc. Sampling Report. The Sampling Report (whether in extended or abbreviated form) details the particulars of the work that was performed and either presents directly or references descriptions of the methodologies which were used.

An attachment to the Sampling Report is the Chain of Custody form which is a legal document which records that transfer of the samples from Blaine Tech Services, Inc. to the analytical laboratory which will analyze the samples. The laboratory completes its work and issues its own Certified Analytical Report presenting the results of the analyses they conducted. Both our Sampling Report and the laboratory's Analytical Report deal with the objective information. Neither the Sampling Report nor the Analytical Report interprets the data being reported.

Interpretations are provided by professional geologists and engineers who are working as environmental consultants. The consultant reviews the measurements made by our field personnel and plots an updated groundwater gradient map. The most recent analytical results are compared to earlier results to establish trends and information about the presence of various compounds in the groundwater. Anomalous data are examined

with reference to our field data sheets to see if our notes indicate changed site conditions.

In general, the consultant is charged with making sense of the objective information and deciding what it may mean to the property owner and to the people to the State of California. The consultant signs off on it after her review of the objective information, makes whatever recommendations are appropriate and submits the assembled package of related documents to the regulatory agency on behalf of the property owner or responsible party.

The individual reports from Blaine Tech Services, Inc. and the analytical laboratory are distinct objective information documents, linked together by the Chain of Custody. In contrast, groundwater gradient maps require professional judgements and adjustments and are, therefore, within the domain of the professional consultant. Any professional evaluations or recommendations are always made by the consultant under separate cover.

20. FIELD PERSONNEL

All Blaine Tech Services, Inc. field personnel are required to have 40 hours of initial training in Hazardous Waste Operations and Emergency Response per 29 CFR 1910. 120 with 8-hour annual refresher courses. They are also given an 8-hour BATT course in refinery safety orientation. They receive several days of on-the-job-training and are given additional in-house training which included study of all the applicable Codes of Safe Practices from our Injury and Illness Prevention Program, review of the written Hazard Communication Program, familiarization with our written Drug Alcohol Free Work Place Policy and orientation on the Blaine

Tech Services, Inc. Comprehensive Quality Assurance Program.

Field personnel also receive 29 CFR 1910 Supervisor Training to better prepare them to establish safe work sites at remote locations and supervise their own work including compliance with site specific Site Safety Plans (SSP). Client requirement binders and Standard Operating Procedures are also provided. Blaine Tech Services, Inc. Policies and extensive in house training materials covering Basics and Diverse Sampling Assignments are included in advance employee training.

Blaine Tech Services, Inc. field personnel routinely commence work at OSHA level D and can upgrade to appropriate levels of additional protection as needed. They maintain their personal protective equipment in accordance with OSHA requirements and the specific mandates of our Respiratory Protection Program. All field personnel are trained and expected to comply with the requirements of any site specific Safety Plan which is in effect at any given site. Our personnel are prepared and able to follow the directions of any Site Safety Officer (SSO) administering the Site Safety Plan and, in the absence of an SSO, can apply the pertinent provisions of the SSP to themselves and to other Blaine Tech Services, Inc. personnel.

21. WORK ORIENTATION

Blaine Tech Services, Inc. field personnel are chosen from applicants who usually have bachelors' degrees in the sciences, environmental studies or related fields. People from the observational sciences (like botanists) often do better field sampling than young engineers who want to learn consulting (and are encouraged to find work

with a good consulting firm). We notice that we employ a disproportionate number of people with degrees in fire science.

The academic concentration, however, has proven less important than the broader aptitude, durability and willingness of the applicant to deal with the range of problems which attend executing exacting procedures in a noisy workplace largely unprotected from sun, wind and rain.

Put simply, there is a lot of physical work that surrounds the science. Those who succeed at field sampling are those who can manage the physical work, handle emergencies and make field repairs without losing track of the particular requirements of the procedure they are performing.

22. PLAIN BUT IMPORTANT

Blaine Tech Services, Inc. has concentrated on providing high quality environmental sampling and documentation for well over a decade. During that time we have contributed mechanical and procedural innovations, helped establish higher quality and performance standards and have assisted in the replacement of inefficient sole-source-vendor monopolies with the new practice of separating projects into identifiable modules in which professional, technical and contractor functions are evaluated, bid and awarded individually – on the basis of price and actual performance.

Real as these advances are, sampling remains unglamorous and even misunderstood. Some engineers have expressed the view that field sampling is such a menial activity that it may as well be performed by their newest employees who are paying their dues before being allowed to do *real* work such as data interpretation,

computer modeling, and the design of remediation systems.

We assert the contrary view, that sample collection is at least as important as sample analysis in the laboratory. This is based on the fact that no amount of care in the laboratory can – retroactively – put back into a sample, the integrity and quality that has been lost by indifferent sample collection. It can even be argued that objective scientific information is *more credible* when it is produced by people who are wholly impartial and really have no interest in any particular outcome.

Blaine Tech Services, Inc. exists because there is technical work which needs to be done that is neither glamorous nor highly remunerative, but is still important enough that it needs to be done correctly.

Any questions can be directed to our senior project coordinator, Mr. Kent Brown who can be reached at: (408) 573-0555.

Select voice mail extension number 203.

Appendix B

***Wellhead Inspection Checklist, Well Gauging Data
and Well Monitoring Data Sheets***

Blaine Tech Services, Inc.

dated March 13, 2003

WELL MONITORING DATA SHEET

Project #: <u>050313-211</u>	Client: <u>Blymer Engineers, Inc</u>
Sampler: <u>ILY4n H</u>	Start Date: <u>3/13/03</u>
Well I.D.: <u>mw-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>22.53</u>	Depth to Water: <u>6.64</u>
Before: _____ After: _____	Before: _____ After: _____
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- | | |
|--|--|
| Bailer
Disposable Bailer
Middleburg
Electric Submersible | Waterra
Peristaltic
Extraction Pump
Other _____ |
|--|--|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
Dedicated Tubing
- Other: _____

$$\underline{2.6} \text{ (Gals.)} \times \underline{3} = \underline{7.8}$$

Gals.

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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
943	62.9	7.3	791	>200	2.75	cloudy
946	63.3	7.1	794	>200	5.25	"
950	63.4	7.1	787	7200	8.0	"

Did well dewater? Yes No Gallons actually evacuated: 8.0

Sampling Time: 955 Sampling Date: 3/13/03

Sample I.D.: mw-2 Laboratory: Sequin

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

Equipment Blank I.D.: _____ @ _____ Time Duplicate I.D.: _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

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

WELL MONITORING DATA SHEET

Project #: 050313-RH1	Client: Blymen Engineers, Inc
Sampler: Blymen H	Start Date: 3/13/03
Well I.D.: mw-3	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 20.65	Depth to Water: 6.45
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- | | |
|--|---|
| Bailer
<u>Disposable Bailer</u>
Middleburg
Electric Submersible | Waterra
Peristaltic
Extraction Pump
Other: _____ |
|--|---|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: _____

2.25 (Gals.) X 3 = 6.75
 Gals.

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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
1004	64.9	7.3	918	>200	2.25	cloudy
1006	65.4	7.0	942	>200	4.5	"
1008	65.3	7.0	974	>200	6.75	"

Did well dewater? Yes No Gallons actually evacuated: 6.75

Sampling Time: 1013 Sampling Date: 3/13/03

Sample I.D.: mw-3 Laboratory: Sequoia

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
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ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV
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WELL MONITORING DATA SHEET

Project #: 600313-211	Client: Blymer Engineers, Inc
Sampler: Ryan H	Start Date: 3/13/03
Well I.D.: mw-5	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 21.70	Depth to Water: 5.77
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- | | |
|--|--|
| Bailer
<u>Disposable Bailer</u>
Middleburg
Electric Submersible | Waterra
Peristaltic
Extraction Pump
Other _____ |
|--|--|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

Other: _____

$2.5 \text{ (Gals.)} \times 3 = 7.5$

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	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
9:14	63.6	6.1	972	77.1	2.5	clear
9:17	63.8	6.2	925	124	9.0	turbid
9:20	64.2	6.4	956	131	7.9	"

Did well dewater? Yes No Gallons actually evacuated: 7.5

Sampling Time: 9:25 Sampling Date: 3/13/03

Sample I.D.: mw-5 Laboratory: Sequim

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

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

Laboratory Analytical Reports
Sequoia Analytical, Inc., dated April 1, 2003



**Sequoia
Analytical**

885 Jarvis Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoiainlabs.com

1 April, 2003

Mark Detterman
Blymyer Engineers
1829 Clement Street
Alameda, CA 94501



RE: -
Sequoia Work Order: MMC0489

Enclosed are the results of analyses for samples received by the laboratory on 03/14/03 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley
Project Manager

CA ELAP Certificate #1210



Blymyer Engineers
1829 Clement Street
Alameda CA, 94501

Project: -
Project Number: G.I. Trucking
Project Manager: Mark Detterman

MMC0489
Reported:
04/01/03 09:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	MMC0489-01	Water	03/13/03 09:55	03/14/03 15:30
MW-3	MMC0489-02	Water	03/13/03 10:13	03/14/03 15:30
MW-5	MMC0489-03	Water	03/13/03 09:25	03/14/03 15:30



Blymyer Engineers
1829 Clement Street
Alameda CA, 94501

Project: -
Project Number: G.I. Trucking
Project Manager: Mark Detterman

MMC0489
Reported:
04/01/03 09:23

**Diesel Hydrocarbons (C10-C28) by EPA 8015B modified
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (MMC0489-01) Water Sampled: 03/13/03 09:55 Received: 03/14/03 15:30									
Diesel Range Organics (C10-C28)	ND	48	ug/l	1	3C17036	03/17/03	03/18/03	8015Bm	
Surrogate: <i>n-Octacosane</i>		89.2 %	34-123		"	"	"	"	
MW-3 (MMC0489-02) Water Sampled: 03/13/03 10:13 Received: 03/14/03 15:30									
Diesel Range Organics (C10-C28)	680	47	ug/l	1	3C17036	03/17/03	03/18/03	8015Bm	HC-12
Surrogate: <i>n-Octacosane</i>		92.8 %	34-123		"	"	"	"	
MW-5 (MMC0489-03) Water Sampled: 03/13/03 09:25 Received: 03/14/03 15:30									
Diesel Range Organics (C10-C28)	ND	47	ug/l	1	3C17036	03/17/03	03/18/03	8015Bm	
Surrogate: <i>n-Octacosane</i>		88.8 %	34-123		"	"	"	"	

Blymyer Engineers
 1829 Clement Street
 Alameda CA, 94501

 Project: -
 Project Number: G.I. Trucking
 Project Manager: Mark Detterman

MMC0489
Reported:
04/01/03 09:23

Gasoline (2-Methylpentane to 1,2,4-Trimethylbenzene) and BTEX by EPA 8015M and 8021B
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (MMC0489-01) Water Sampled: 03/13/03 09:55 Received: 03/14/03 15:30									
Benzene	ND	0.50	ug/l	1	3030324	03/21/03	03/21/03	EPA 8015/8021	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96 %	60-140	"	"	"	"	"	
MW-3 (MMC0489-02) Water Sampled: 03/13/03 10:13 Received: 03/14/03 15:30									
Benzene	ND	0.50	ug/l	1	3030324	03/21/03	03/21/03	EPA 8015/8021	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	2.9	2.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89 %	60-140	"	"	"	"	"	
MW-5 (MMC0489-03) Water Sampled: 03/13/03 09:25 Received: 03/14/03 15:30									
Benzene	ND	0.50	ug/l	1	3030324	03/21/03	03/21/03	EPA 8015/8021	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		87 %	60-140	"	"	"	"	"	



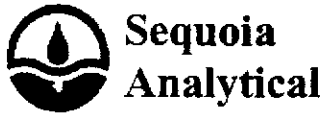
Blymyer Engineers
 1829 Clement Street
 Alameda CA, 94501

Project: -
 Project Number: G.I. Trucking
 Project Manager: Mark Detterman

MMC0489
 Reported:
 04/01/03 09:23

Diesel Hydrocarbons (C10-C28) by EPA 8015B modified - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3C17036 - EPA 3510C										
Blank (3C17036-BLK1)					Prepared: 03/17/03 Analyzed: 03/18/03					
Diesel Range Organics (C10-C28)	ND	50	ug/l							
<i>Surrogate: n-Octacosane</i>	36.8		"	50.0		73.6	34-123			
Laboratory Control Sample (3C17036-BS1)					Prepared: 03/17/03 Analyzed: 03/18/03					
Diesel Range Organics (C10-C28)	428	50	ug/l	500		85.6	51-128			
<i>Surrogate: n-Octacosane</i>	34.0		"	50.0		68.0	34-123			
Laboratory Control Sample Dup (3C17036-BSD1)					Prepared: 03/17/03 Analyzed: 03/18/03					
Diesel Range Organics (C10-C28)	453	50	ug/l	500		90.6	51-128	5.68	27	
<i>Surrogate: n-Octacosane</i>	36.2		"	50.0		72.4	34-123			



Blymyer Engineers
1829 Clement Street
Alameda CA, 94501

Project: -
Project Number: G.I. Trucking
Project Manager: Mark Detterman

MMCD489
Reported:
04/01/03 09:23

Gasoline (2-Methylpentane to 1,2,4-Trimethylbenzene) and BTEX by EPA 8015M and 8021B - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3030324 - EPA 5030B (P/T)

Blank (3030324-BLK1)

Prepared & Analyzed: 03/20/03

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.0	"							

Surrogate: *a,a,a*-Trifluorotoluene 9.13 " 10.0 91 60-140

Blank (3030324-BLK2)

Prepared & Analyzed: 03/21/03

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.0	"							

Surrogate: *a,a,a*-Trifluorotoluene 9.28 " 10.0 93 60-140

Laboratory Control Sample (3030324-BS1)

Prepared & Analyzed: 03/20/03

Benzene	8.95	0.50	ug/l	10.0		90	70-130			
Toluene	9.02	0.50	"	10.0		90	70-130			
Ethylbenzene	9.46	0.50	"	10.0		95	70-130			
Xylenes (total)	27.8	0.50	"	30.0		93	70-130			
Methyl tert-butyl ether	9.64	2.0	"	10.0		96	70-130			

Surrogate: *a,a,a*-Trifluorotoluene 10.1 " 10.0 101 60-140

Laboratory Control Sample (3030324-BS2)

Prepared & Analyzed: 03/21/03

Benzene	9.12	0.50	ug/l	10.0		91	70-130			
Toluene	9.22	0.50	"	10.0		92	70-130			
Ethylbenzene	9.48	0.50	"	10.0		95	70-130			
Xylenes (total)	28.2	0.50	"	30.0		94	70-130			
Methyl tert-butyl ether	10.1	2.0	"	10.0		101	70-130			

Sequoia Analytical - Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.



**Sequoia
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Blymyer Engineers
1829 Clement Street
Alameda CA, 94501

Project: -
Project Number: G.I. Trucking
Project Manager: Mark Detterman

MMC0489
Reported:
04/01/03 09:23

Gasoline (2-Methylpentane to 1,2,4-Trimethylbenzene) and BTEX by EPA 8015M and 8021B - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3030324 - EPA 5030B (P/T)

Laboratory Control Sample (3030324-BS2)

Prepared & Analyzed: 03/21/03

Surrogate: a,a,a-Trifluorotoluene	10.3		ug/l	10.0		103	60-140			
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Matrix Spike (3030324-MS1)

Source: S303322-23

Prepared & Analyzed: 03/21/03

Benzene	8.86	0.50	ug/l	10.0	ND	89	60-140			
Toluene	9.03	0.50	"	10.0	ND	90	60-140			
Ethylbenzene	9.38	0.50	"	10.0	ND	94	60-140			
Xylenes (total)	27.0	0.50	"	30.0	ND	90	60-140			
Methyl tert-butyl ether	9.35	2.0	"	10.0	ND	94	60-140			

Surrogate: a,a,a-Trifluorotoluene	11.0		"	10.0		110	60-140			
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Matrix Spike Dup (3030324-MSD1)

Source: S303322-23

Prepared & Analyzed: 03/21/03

Benzene	9.49	0.50	ug/l	10.0	ND	95	60-140	7	25	
Toluene	9.45	0.50	"	10.0	ND	94	60-140	5	25	
Ethylbenzene	9.65	0.50	"	10.0	ND	96	60-140	3	25	
Xylenes (total)	28.5	0.50	"	30.0	ND	95	60-140	5	25	
Methyl tert-butyl ether	9.59	2.0	"	10.0	ND	96	60-140	3	25	

Surrogate: a,a,a-Trifluorotoluene	11.3		"	10.0		113	60-140			
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Sequoia Analytical - Morgan Hill

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Blymyer Engineers
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Alameda CA, 94501

Project: -
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MMC0489
Reported:
04/01/03 09:23

Notes and Definitions

HC-12 Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

