

Alameda California 94501-1396

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(510) 52	21-3773 FAX: (510) 865-25	94	Sa	an Leandro, California					
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	ng Company eight System, Inc.									
3801 Old G	reenwood Road									
Fort Smith,	AR 72903					T.				
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	Groundwater Monitoring and Free Product Recovery									
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	individuals	and agencies	s. The San Francisco R	egional Water Quality Co	ntrol Board is no longer	maintaining				
	files on fuel	release sites	consequently a convi	of the report will no long	he sent to the agency					

5770373 30

SIGNED: Mark Detterman

BEI Job No. 88288.1

LETTER OF TRANSMITTAL

Mt, Mike Rogers

DATE MAY 13, 1998

ATTENTION!

SUBJECT:

COPY TO:

mot/88288 \termsahf.159

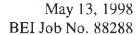
Call with any questions.

Mr. Mike Bakaldin, San Leandro Fire Department

Mr. Dale Klettke, Alameda County Health Care Services Agency

Mr. Stan Lovell, G.I. Trucking Company Mr. Pat Mila, G.I. Trucking Company

If enclosures are not as noted, kindly notify Blymyer Engineers, Inc. at once.





Mr. Mike Rogers G.I. Trucking Company c/o ABF Freight System, Inc. 3801 Old Greenwood Road P.O. Box 10048 Fort Smith, AR 72917-0048

Subject: First Semi-Annual Groundwater Monitoring Event of 1998

G.I. Trucking Facility 1750 Adams Avenue San Leandro, California

STID 1373

Dear Mr. Rogers:

This letter documents free product recovery and the first semi-annual groundwater monitoring event of 1998 at the subject site (Figures 1 and 2).

1.0 Introduction

1.1 Background

Blymyer Engineers, Inc. was retained by Milne Truck Lines in July 1986 to conduct precision testing and to install a monitoring system for three 12,000-gallon diesel, one 12,000-gallon gasoline, and one 800-gallon waste oil underground storage tanks (USTs) at the site, which is currently occupied by G.I. Trucking Company. All of the USTs were constructed of fiberglass. During precision testing, which required that the USTs be filled to capacity with product, all of the USTs tested tight except for the waste oil UST. The waste oil UST was uncovered to identify the source of the leak and to attempt to repair the UST. It was observed by a representative of the UST manufacturing company that the bottom of the waste oil UST was ruptured and damaged beyond repair. In December 1986, when the waste oil UST was removed, it was observed that the pea gravel and native soil surrounding the UST contained waste oil and there were approximately 3 inches of waste oil on the groundwater surface.

Groundwater and waste oil were removed from the waste oil UST basin during two pumping events, leaving only a sheen on groundwater. Approximately 45 cubic yards of contaminated pea gravel and native soil were removed and disposed of off the site. It was noted that once the contaminated soil was removed, diesel fuel flowed into the excavation from the direction of the diesel USTs. The diesel fuel was removed via pumping on two occasions, leaving a sheen on



groundwater. The excavation was subsequently filled to just below grade surface (bgs) with pea gravel and resurfaced. A 12-inch-diameter free product recovery well with a passive skimmer, previously designated MW-1 and currently designated RW-1, was installed in the center of the former waste oil UST basin to recover any diesel fuel that accumulated after backfilling the excavation.

Four monitoring wells with total depths of approximately 25 feet bgs were also installed in the vicinity of the UST system to assess the extent of soil and groundwater contamination associated with the diesel USTs. The native soil consisted predominantly of sandy clay or clayey sand and silty clay. The soil samples collected from the soil bores contained petroleum hydrocarbon concentrations ranging from 71 to 210 parts per million, quantified using EPA Method 3550. No concentrations of Total Oil and Grease, by an unspecified analytical method, were detected in groundwater samples collected from the four monitoring wells.

The diesel USTs were re-tested in April 1987 and certified as tight. Based on the test results, it was assumed by Blymyer Engineers that the diesel fuel removed from the excavation did not result from a UST leak, but that a damaged product line may have been the source. Any released diesel fuel was likely contained in the relatively higher permeability pea gravel.

Quarterly groundwater monitoring of the monitoring wells, presently designated MW-2 through MW-5, began in Fourth Quarter 1988. Since monitoring began, only groundwater samples collected from monitoring wells MW-2 and MW-3 have contained detectable concentrations of analytes. Therefore, groundwater sample analysis for monitoring wells MW-4 and MW-5 was discontinued after Third Quarter 1995 in accordance with the Alameda County Health Care Services Agency's (ACHCSA's) letter dated August 14, 1995. Low concentrations of Total Petroleum Hydrocarbons (TPH) as diesel have been detected in groundwater samples collected from monitoring well MW-2 since Fourth Quarter 1994 and TPH as diesel has consistently been detected in groundwater samples collected from monitoring well MW-3 since First Quarter 1990. Low concentrations of toluene, below California Department of Health Services and Environmental Protection Agency Maximum Contaminant Levels (MCLs), have been detected in a groundwater sample collected from monitoring well MW-2 during First Quarter 1995 and in a groundwater sample collected from monitoring well MW-3 during Third Quarter 1994. Groundwater flow direction has historically ranged between south and southeast.

Free product ranging in thickness from less than 0.2 feet to a sheen has been measured on groundwater in well RW-1 since quarterly monitoring began, and approximately 1.18 gallons of free product have been recovered from well RW-1 since recovery activities began in November 1993.



During Second Quarter 1995, additional analyses of the waste oil suite were performed in accordance with the request of the ACHCSA. Although the waste oil released from the former waste oil UST was removed, the ACHCSA requested that the waste oil suite of analyses be performed for confirmation. Analysis of TPH as motor oil was also performed to provide additional groundwater contaminant data. The analytical results, which were either non-detectable or below MCLs, indicated that diesel fuel, not waste oil, was the cause of groundwater contamination at the site.

Based on the data accumulated since 1988, Blymyer Engineers requested site closure from the ACHCSA in April 1995, considering the recent changes in the regulatory climate regarding plume definition and necessary closure conditions. In its letter dated July 27, 1995, the ACHCSA granted a reduced sampling frequency and discontinuation of the waste oil suite of analyses. Blymyer Engineers inquired whether TPH as gasoline analysis was to be continued, because the status was not discussed in the ACHCSA letter. The ACHCSA stated that the need for the analysis would be evaluated, but that, minimally, analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and TPH as diesel should be performed. The ACHCSA also stated that the concentrations of toluene, the "unstabilized" TPH as diesel concentrations, and the presence of free product, although minimal, needed to be addressed before closure could be granted.

Blymyer Engineers discussed these issues with the ACHCSA in August and November 1995. Because the toluene concentration units were misread as milligrams per liter (mg/L), instead of micrograms per liter (µg/L), the ACHCSA thought the toluene concentrations detected in groundwater collected from monitoring well MW-3 exceeded MCLs. Therefore, the ACHCSA's primary concern was that a sheen or product layer still existed in recovery well RW-1 and its secondary concern was that the TPH as diesel concentrations were the highest during First Quarter 1995. Blymyer Engineers and ACHCSA agreed that if an additional recovery well was installed in the backfill, downgradient of the southwest corner of the diesel UST basin (the inferred source), free product recovery would be expedited and the TPH as diesel concentrations in groundwater would likely decrease. In the meantime, the ACHCSA requested that semi-annual groundwater monitoring and quarterly free product recovery be continued. In February 1996, Blymyer Engineers notified the ACHCSA that installation of an additional recovery well was under consideration while groundwater monitoring and free product recovery was ongoing. At that time, the ACHCSA confirmed that analysis of TPH as gasoline was no longer necessary based on the existing data.

On June 6, 1996, Blymyer Engineers installed a second free product recovery well, RW-2, in the southwestern corner of the UST complex. On June 7, 1996, and June 10, 1996, Blymyer Engineers visited the site to determine if free product was appearing in well RW-2. A thin layer of relatively fresh free product was observed in both recovery wells, along with a darker product layer, on June 10, 1996. On June 11, 1996, Blymyer Engineers visited the site to further



investigate the situation and encountered an increased thickness of fresh free product in the recovery wells. On June 12, 1996, the discovery of an apparent diesel release was verbally reported to the 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 assumed 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 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.

Blymyer Engineers evaluated the use of passive free product skimmers at the site and, due to the low recovery rate by the passive skimmers, a Flexible Axial Peristaltic (FAP) pump was installed in RW-1 on August 8, 1996. The low recovery rate in the passive skimmers is likely related to the relatively higher viscosity of diesel in comparison to gasoline, and to potential biofouling of the skimmers by the older product.

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 TPH as diesel and 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 the previous semi-annual sampling 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.

Approximately 18 tons of hydrocarbon-impacted pea gravel and soil was removed from beneath the dispenser system during recent UST upgrade operations conducted in early March 1998. The soil was taken to TPS Environmental, Inc., a thermal treatment facility in Richmond, California, on March 24, 1998. A copy of the manifest is enclosed as Attachment A.



2.0 Data Collection

2.1 Groundwater Sample Collection

Groundwater samples were collected from monitoring wells MW-2 and MW-3, and recovery wells RW-1 and RW-2 (Figure 2) on February 12, 1998. The groundwater samples were collected by Blaine Tech Services, Inc. (Blaine) in general accordance with the Blymyer Engineers' Standard Operating Procedure No. 3, previously forwarded. The groundwater depth measurements and details of the monitoring well purging and sampling are presented on the *Groundwater Sampling Report 980212-H-1* generated by Blaine and included as Attachment B. 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 Groundwater Sample Analytical Methods

The groundwater samples were submitted to LEGEND Analytical Services, a California-certified laboratory, on a standard 10-day turnaround time for analysis of BTEX by EPA Method 8020 and TPH as diesel by modified EPA Method 8015. Tables II, III, and IV 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 Attachment C.

2.3 Free Product Recovery

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. Until June 1996, the passive skimmer had been maintained quarterly by Blymyer Engineers, either in concurrence 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. Since discovery of the fresh product in the UST basin in June 1996, Blymyer Engineers purchased a second skimmer for placement in well RW-2. After difficulties in free product recovery were encountered, a turn was installed in recovery well RW-1, while the newer passive skimmer remained in well RW-2. Upon discovery of the fresh product, Blymyer Engineers made daily or weekly visits to hand bail free product, to empty the skimmers, or to monitor the Expump operation. Due to decreased product thickness in well RW-1 in September 1996, difficulties in free product recovery were encountered. Consequently, the FAP pump was removed and reinstalled in well RW-2, and the newer passive skimmer was removed and reinstalled in well RW-1. On November 20, 1996, the FAP pump had reached the limits of operation and was subsequently removed from RW-2. Soak-eze® absorbent socks were installed in well RW-1 and the newer passive skimmer was installed in well RW-2 in order to collect the residual product from each well. Inspection and change out, if required, of these recovery



systems was initially conducted approximately every two weeks. Because significant measurable free product has not been encountered in either recovery well since November 1996, nor was there significant product absorbed onto the Soak-eze® absorbent socks, the monitoring of the socks was decreased to monthly beginning in February 1997, and to quarterly in April 1997. Table I presents historic and current groundwater and product depth measurements. Table V contains a summary of the free product volume recovered during past events and the approximate cumulative volume of free product removed to date.

During this monitoring event measurable free product was not recovered by the passive skimmer; however, the Soak-eze® socks were changed during the current monitoring event.

3.0 Discussion of Data

3.1 Groundwater Sample Analytical Results

TPH as diesel was detected in the groundwater sample collected from monitoring well MW-3 and recovery wells RW-1 and RW-2 (Table III) this quarter. The TPH as diesel concentration detected in the groundwater sample collected from monitoring well MW-3 has again decreased from the previous monitoring event. The concentration of TPH as diesel in the groundwater sample from well MW-2 remains below the detection limit for the second consecutive monitoring event since the most recent release. BTEX were again not detected, and have not been detected, in the groundwater samples collected from either monitoring well (Table II), nearly 21 months after discovery of the most recent release. Well MW-2 is approximately 2 feet downgradient from the edge of the waste oil UST basin and BTEX do not appear to have migrated beyond the UST basin.

Due to a concern of the ACHCSA that although groundwater chemical concentrations outside the UST basin are very low and may not represent a health risk, there was a potential that potentially higher concentrations of chemicals of concern within the UST basin may represent a localized health risk. Consequently, groundwater samples were collected from both recovery wells within the UST basin in order to quantify the risk present. Concentrations of BTEX were not detectable above the limit of detection $0.50~\mu g/L$. As would be expected of a UST basin with a low hydraulic connectivity to outside groundwater, TPH as diesel was present in recovery wells RW-1 and RW-2. The concentrations in RW-1 and RW-2 were 89 and 100 mg/L, respectively.



3.2 Recovered Free Product Data

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. An increasing volume of product was removed beginning in June 1996 (Table V). Until the more recent release, the cumulative volume of free product removed since recovery began had only amounted to approximately 1.18 gallons. As of the date of the previous monitoring event (August 22, 1997) approximately 178 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.

During the present monitoring event, there was no measurable thickness of free product in well RW-1 or well RW-2. Additionally, the passive skimmer did not contain measurable free product.

3.3 Groundwater Flow Direction and Gradient

Blymyer Engineers contoured groundwater elevations for the four monitoring wells outside of the UST complex this monitoring event to depict the general groundwater gradient at the site. Based on the depth-to-groundwater measurements in these wells during this monitoring event, the groundwater flow direction in the vicinity of the UST basin was toward the southeast at a gradient of approximately 0.012 feet per foot. This is a return from the gradient and flow direction seen during the last monitoring event to the historically flatter gradient and the historical flow direction seen at the site over most of the previous 10 years. A not unexpected higher groundwater level exists within the UST complex and indicates difficulty in the flow of water, and thus hydrocarbons, out of the UST basin. If included in the groundwater contour map, this higher level would indicate a localized high, with somewhat outward radial flow, centered on the southern area of the UST complex.

4.0 Tier I Risk-Based Analysis

Adding the data collected during the present event, specifically the nondetectable concentrations of BTEX inside and outside the UST basin, to previously generated site analytical data, a quick review and subsequent comparison to the Tier I Table, as modified for California 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, indicates that no apparent health risk is present at the site due to the documented releases of diesel hydrocarbons.



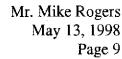
5.0 Summary and Recommendations

Free product recovery operations have essentially reduced the thickness of free product to a light sheen in the UST basin, and have essentially removed all available free product. The detectable concentrations of TPH as diesel remain consistent, or are declining, outside the UST basin. Concentrations of BTEX have continuously remained nondetectable in wells within 2 feet downgradient of the edge of the UST basin approximately 21 months after the most recent release. Further, no detectable concentrations of BTEX are present within the UST basin 21 months after the most recent release. From the data, no health risk is apparent to site personnel, or for potential downgradient receptors when a comparison is made to the Tier I Look-up Table in the ASTM RBCA document, as modified for California MCLs. Therefore, Blymyer Engineers recommends closure for this site.

Because the San Francisco Bay Regional Water Quality Control Board (RWQCB) no long requires copies of contaminant investigation reports, Blymyer Engineers recommends the removal of the RWQCB from the list of agencies copied located at the end of this report.

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, G.I. Trucking Company. 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.

Mark Detterman, C.E.G. 1788

Senior Geologist

MARK E.
DETTERMAN
No. 1788
CERTIFIED
ENGINEERING
GEOLOGIST

And: ______

Michael S. Lewis

Vice President, Technical Services

Enclosures:

Table IV:

Table I: Groundwater Depth Measurements

Table II: Summary of Groundwater Sample Analytical Results; Benzene, Toluene,

Ethylbenzene, and Total Xylenes

Table III: Summary of Groundwater Sample Analytical Results; TPH as Diesel

Summary of Groundwater Sample Analytical Results; TPH as Gasoline,

TPH as Motor Oil, TRPH, HVOCs, SVOCs, and Metals

Table V: Free Product Recovery Measurements, Recovery Wells RW-1 and RW-2

Figure 1: Site Location Map

Figure 2: Site Plan and Groundwater Elevation Contours, February 12, 1998

Attachment A: Manifest for Hydrocarbon Impacted Soil, dated March 24, 1998

Attachment B: Groundwater Sampling Report 970822-S-1, and Water Level Report

980212-H-1, Blaine Tech Services, Inc., dated February 19, 1998

Attachment C: Laboratory Analytical Report, LEGEND Analytical Services, dated March

26, 1998

cc: Mr. Brian Oliva, Alameda County Health Care Services Agency

Mr. Mike Bakaldin, San Leandro Fire Department

Mr. Stan Lovell, G.I. Trucking Company Mr. Pat Mila, G.I. Trucking Company

	Table I. Groundwater Depth Measurements BEI Job No. 88288.001, G.I. Trucking Facility, 1750 Adams Avenue, San Leandro, California												
Date Measured	RW- TOC Elevati			W-2 tion 100.24 ^a	TOC Eleva	W-3 ition 100.22 ^a tion 100.18 ^b	TOC Elev	W-4 ration 99.48° ation 99.46°		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°	ΝM°	6.09	94.15	6.33	93.89	5.08	94.40	5.38	94.22	N/A	N/A	
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	ŅM	NM	N/A	N/A	

	В	El Job No. 8	8288 001, G	J. Trucking	Facility, 17	50 Adams A	venue, San	Leandro, Ca	ifornia				
Date Measured	9	RW-1* TOC Elevation 100.00*		MW-2 TOC Elevation 100.24 ^a		MW-3 TOC Elevation 100.22* TOC Elevation 100.18b		MW-4 TOC Elevation 99.48* TOC Elevation 99.46 ^{ad}		MW-5 TOC Elevation 99,60°		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 Elevatio	
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	

Notes: TOC = Top of casing

a

b

c =

Based on an arbitrary datum
Resurveyed elevation, May 11, 1994
Not measured due to equipment malfunction
TOC mark lost; Resurveyed elevation, August 16, 1996 d

N/A = Not applicable Not measured NM =

Formerly designated as well MW-1

Table II, Summary of Groundwater Sample Analytical Results Benzene, Toluene, Ethylbenzene, and Total Xylenes, Modified EPA Method 8020 (µg/L) BEI Job No. 88288.001, G.I. Trucking Facility, 1750 Adams Avenue, San Leandro, California												
Date Sampled	RW-1*	MW-2	MW-3	MW-4	MW-5	RW-2						
November 15, 1988 to May 21, 1993		1	Not Analyzed	l								
August 17, 1993	0.13 feet free product	<0.5	<0.5	<0.5	<0.5	N/A						
December 13, 1993	heavy product sheen	<0.5	<0.5	<0.5	<0.5	N/A						
February 24, 1994	heavy product sheen	<0.5	<0.5	<0.5	<0.5	N/A						
May 11, 1994	heavy product sheen	<0.5	<0.5	<0.5	<0.5	N/A						
August 23, 1994	0.08 feet free product	<0.5	0.6	<0.5	<0.5	N/A						
November 29, 1994	heavy product sheen	<0.5	<0.5	NA	NA	N/A						
February 15, 1995	heavy product sheen	1.2ª	ND	NA	NA -	N/A						
August 16, 1995	heavy product sheen	<0.5	<0.5	NA	NA	N/A						
February 15, 1996	heavy product sheen	<0.5	<0.5	NA	NA	N/A						
August 5, 1996	0.35 feet free product	<0.5	<0.5	NA	NA	NA						
February 6, 1997	light sheen	<0.5	<0.5	NA	NA	NA						
August 22, 1997	light sheen	<0.5	<0.5	NA	NA	NA						
February 12, 1998	<0.5	<0.5	<0.5	NA	NA	<0.5						

Notes: μ g/L = Micrograms per liter

< x = Detected concentration less than respective detection limit of x.

a = Detected concentration of toluene.

N/A = Not applicable NA = Not analyzed

ND = None of analytes detected above the detection limit; see individual laboratory report for respective detection limits.

* = Formerly designated as well MW-1

Table III, Summary of Groundwater Sample Analytical Results TPH as Diesel, Modified EPA Method 8015 (mg/L)

BEI Job No. 88288.001, G.L Trucking Facility, 1750 Adams Avenue, San Leandro, California RW-1* MW-2 MW-4 Date Sampled MW-3 MW-5 RW-2 November 15, 1988 0.22 feet free product < 0.20 < 0.20 < 0.20 < 0.20 N/A February 16, 1989 0.20 feet free product < 0.09 < 0.09 < 0.09 < 0.09 N/A May 19, 1989 0.20 feet free product < 0.08 < 0.08 < 0.08 < 0.08 N/A August 22, 1989 0.18 feet free product < 0.03 < 0.03 N/A < 0.03 < 0.03 November 21, 1989 product sheen < 0.03 < 0.03 < 0.03 < 0.03 N/A February 23, 1990 < 0.05 product sheen 0.34 < 0.05 < 0.05 N/A May 23, 1990 0.15 feet free product < 0.05 0.64 < 0.05 < 0.05 N/A August 27, 1990 < 0.05 product sheen < 0.05 0.41 < 0.05 N/A December 3, 1990 product sheen < 0.05 < 0.05 < 0.05 < 0.05 N/A March 13, 1991 < 0.05 < 0.05 < 0.05 N/A product sheen 1.3 May 29, 1991 < 0.05 0.54 < 0.05 < 0.05 product sheen N/A August 28, 1991 0.09 feet free product < 0.05 0.24 < 0.05 < 0.05 N/A December 9, 1991 0.20 feet free product < 0.05 0.20 < 0.05 < 0.05 N/A February 18, 1992 N/A 0.09 feet free product < 0.05 0.89 < 0.05 < 0.05 May 15, 1992 0.17 feet free product < 0.05 < 0.05 < 0.05 N/A 0.38 August 13, 1992 0.19 feet free product < 0.05 0.20 < 0.05 < 0.05 N/A December 3, 1992 0.10 feet free product < 0.05 < 0.05 < 0.05 < 0.05 N/A March 25, 1993 product sheen < 0.05 1.6 < 0.05 < 0.05 N/A May 21, 1993 0.09 feet free product < 0.05 0.72 < 0.05 < 0.05 N/A August 17, 1993 0.13 feet free product < 0.05 0.48 < 0.05 < 0.05 N/A December 13, 1993 0.19< 0.05 N/A heavy product sheen < 0.05 < 0.05 February 24, 1994 N/A heavy product sheen < 0.05 0.38 < 0.05 < 0.05 May 11, 1994 0.58 < 0.05 N/A heavy product sheen < 0.05 < 0.05 August 23, 1994 0.08 feet free product < 0.05 < 0.05 < 0.05 N/A 0.45 November 29, 1994 N/A heavy product sheen 0.09 0.96° NA NΑ February 15, 1995 1.74 N/A heavy product sheen 0.1^{a} NA NA August 16, 1995^b heavy product sheen 0.063° 1.1° NA NA N/A February 15, 1996 heavy product sheen 0.079 1.3 NA NA N/A August 5, 1996 0.35 feet free product 0.10^{d} 1.0^d NA NA NA February 6, 1997 light sheen 0.14^{a} 2.4^{2} NA NA NA August 22, 1997 NA light sheen < 0.10 2.0° NA NA February 12, 1998 89 < 0.10 1.5° NA NA 100

Table III, Summary of Groundwater Sample Analytical Results, continued

Notes:	TPH	=	Total Petroleum Hydrocarbons
	mg/L	=	Milligrams per liter
	<x< td=""><td>=</td><td>Detected concentration less than respective detection limit of x.</td></x<>	=	Detected concentration less than respective detection limit of x.
	NA	=	Not analyzed
	N/A	=	Not applicable
	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 µg/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.
	*	=	Formerly designated as well MW-1

	Table TV, Summary of Groundwater Sample Analytical Results* TPH as Gasoline, TPH as Motor Oil, TRPH, HVOCs, SVOCs, and Metals BEI Job No. 88288.001, G.L Trucking Facility, 1750 Adams Avenue, San Leandro, California											
Sample I.D.	Date Sampled	Modified EPA Method 8015 TPH as gasoline (mg/L)	Modified EPA Method 8015 TPH as motor oil* (mg/L)	EPA Method 418.1 TRPH (mg/L)	EPA Method 601 HVOCs (µg/L)	EPA Method 8270 SVOCs (μg/L)	EPA Methods 6010 and 7421 Metals ^b (mg/L)					
RW-1**	January 15, 1988 to August 23, 1994	NA	NA	NA	NA	NA	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					
MW-2	January 15, 1988 to August 23, 1994	NA	NA	NA	NA	NA	NA					
	November 29, 1994	<0.05	NA	NA	ND	ND	NDd					
	February 15, 1995	<0.05	<0.5	<5.0	ND	ND	0.002 Pb°					
	August 16, 1995 ^r	NA	NA	NA	NA	NA	NA					
		1										
MW-3	January 15, 1988 to August 23, 1994	NA	NA	NA	NA	NA	NA					
	November 29, 1994	< 0.05	NA	NA	ND	ND	ND⁴					
	February 15, 1995	<0.05	<0.5	<5.0	ND	ND	0.004 Pb° 0.16 Zn°					
	August 16, 1995 ^f	NA	NA	NA	ÑΑ	NA	NA					

3. T		
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1.7		

*	=	Groundwater samples from monitoring wells MW-4 and MW-5 were not collected for analysis
TPH	=	Total Petroleum Hydrocarbons
HVOCs	=	Halogenated Volatile Organic Compounds
SVOCs	=	Semi-volatile Organic Compounds
mg/L	=	Milligrams per liter
ug/L	=	Micrograms per liter
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).
С	=	Not analyzed due to presence of free product or product sheen in monitoring well.
d	=	Groundwater sample filtered and preserved before submittal to laboratory.
è	=	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.
NA	=	Not analyzed
ND	=	None of analytes detected above the detection limit; see individual laboratory report for respective
		detection limits.

Formerly designated as well MW-1

	rements, Recovery Wells RW-1 and RW-2 y, 1759 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°	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
Cumulative Volume Recovered (approximate)	178

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

Attachment A

Manifest for Hydrocarbon Impacted Soil dated March 24, 1998

	Manifest	TPS Techn	ologies on-Hazard	_	ACHI ?	Control of the second	
	Date of Shipment:	Responsible for Payment:	Transporte	r Truck #:	Facility #: A04	Given by TPS: 88 4	Load #
	Generator's Name and Billing Ac GI Trucki C/O BEI Cor	Istruction Clara Suite	T. /	Generator's Phon 5/0-5 Person to Contact	T94-1		
	Oakland	CA 94610		5/0.86		-94 Customer Account	Number with TPS
	Blymer En 1829 Cler	igineers		Consultant's Photo 5/0 5 Person to Contact	21 37	773	7.0
	alameda			FAN#:	<u> </u>	Customer Account	Number with TPS
	Generation Site (Transport from): GI Truck-	ing		Site Phone #. 5/0.5			
ltant	1750 Ad San Leandr			Person to Contact FAX=.	: 	TPH Levels AVG.	
Consultan	Designated Facility (fransport to)	. Hanyer of additions		Eactive Phone = 570 23.	C 071	Levels Facility Permit Nur	mbers
Generator and/or	TPS Techni 20 Recycli	ng Lane		Debbee	Tues	lee	
nerato	Richmond,	A 94801		510 23		Transporter's US E	PA ID No
95 —	Rogers True	cking	in the second se	Fransporter's Pho 650 - 95 Persoppo Contacti	2-180	Transporter's DOT	
	P. D. Box 2 San Franci	seo, CA 941:	2 f	Jary 1 FAX= 650 95	0gli	Customer Account	Number with TPS
	Description of Soil Mo	sisture Content Contaminated	by: Approx		otion of Deliv	ery Gross Weight Tar	e Weight Net Weight
	Class D. Others D.	1 - 10%	:			7969	400 2656
	Sand D Organic D	0 - 10"	:			, ,	18.28
	Generator's and/or consultant	s certification: I/We certify that ny me/us for the Generation Site	t the soil refe	rrenced hereit is to	takernentirely as heen added	, from those soils described d or done to such soil that	t in the Soil Data would alter it in
	Print or Type Name:	Cenerator J - Sufant		nure and date:		;	Month Day Year
Transporter	condition as when received. I	Ne acknowledge receipt of the s We further certify that this so subtracting from or in any way	il is being d	irectlu transport	ed from the (soil is being delivered in Generation Sile to the De	exactly the same esignated Facility
Tran	Print or Type Name: Cradan F, - 6 Discrepancies.	edricksen	Signa	iture and date:		1	Month Day Year 1.
g Facility	Secupianes.		108.108.11				
Recycling	Recycling Facility certifies the re Print or Type Name:	ceipt of the soil covered by this ma		as noted above:	L	chan?	724/98
Pleas	e print or type.		باع ا		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ersten en e	

Attachment B

Groundwater Sampling Report 980212-H-1

Blaine Tech Services, Inc.

dated February 19, 1998



1680 ROGERS AVENUE SAN JOSE, CALIFORNIA 95112 (408) 573-7771 FAX (408) 573-0555 PHONE

February 19, 1998

Blymyer Engineers, Inc. 1829 Clement Ave. Alameda, CA 94501-1395

ATTN: Mark Detterman

Site:
G.I. Trucking Facility
1750 Adams Ave.
San Leandro, California

Date: February 12, 1998

GROUNDWATER SAMPLING REPORT 980212-H-1

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. does not participate in the interpretation of analytical results, or become involved with the marketing or installation of remedial systems.

This report deals with the groundwater well sampling performed by our firm in response to your request. Data collected in the course of our work at the site are presented in the TABLE OF WELL MONITORING DATA. This information was collected during our inspection, well evacuation and sample collection. Measurements include the total depth of the well and the depth to water. Water surfaces were further inspected for the presence of immiscibles. A series of electrical conductivity, pH, and temperature readings were obtained during well evacuation and at the time of sample collection.

STANDARD PRACTICES

Evacuation and Sampling Equipment

As shown in the TABLE OF WELL MONITORING DATA, the wells at this site were evacuated according to a protocol requirement for the removal of a minimum of three case volumes of water, before sampling. The wells were evacuated using bailers and electric submersible pumps.

Samples were collected using bailers.

Bailers: A bailer, in its simplest form, is a hollow tube which has been fitted with a check valve at the lower end. The device can be lowered into a well by means of a cord. When the bailer enters the water, the check valve opens and liquid flows into the interior of the bailer. The bottom check valve prevents water from escaping when the bailer is drawn up and out of the well.

Two types of bailers are used in groundwater wells at sites where fuel hydrocarbons are of concern. The first type of bailer is made of a clear material such as acrylic plastic and is used to obtain a sample of the surface and the near surface liquids, in order to detect the presence of visible or measurable fuel hydrocarbon floating on the surface. The second type of bailer is made of Teflon or stainless steel, and is used as an evacuation and/or sampling device.

Bailers are inexpensive and relatively easy to clean. Because they are manually operated, variations in operator technique may have a greater influence than would be found with more automated sampling equipment. Also, where fuel hydrocarbons are involved, the bailer may include near surface contaminants that are not representative of water deeper in the well.

Electric Submersible Pumps: Electric submersible pumps are appropriate for the high volume evacuation of wells of any depth provided the well diameter is large enough to admit the pump. Four inch and three inch diameter wells will readily accept electric submersible pumps, while two inch wells do not. In operation, the pump is lowered into the well with a pipe train above it. A checkvalve immediately above the pump and below the first section of pipe prevents water that has entered the pipe from flowing back into the well. Electricity is provided to the pump via an electrical cable and the action of the pump is to push water up out of the well.

Electric submersible pumps are often used as well evacuation devices, which are then supplanted with a more specialized sample collection device (such as a bailer) at the time of sampling. An alternative is to use the pump for both evacuation and sampling. When a bailer is used to collect the sample, interpretation of results by the consultant should allow for variations attributable to near surface contamination entering the bailer. When the electric submersible is, itself, used for sample collection it should be operated with the output restricted to a point where the loss of

volatiles becomes indistinguishable from the level obtained with true sampling pumps. It should be noted that when the pump is used for both evacuation and sample collection that it is possible to perform these operations as an uninterrupted continuum. This contrasts with the variations in elapsed time between evacuation and sample collection that occur when field personnel cease one mode of operation and must bring other apparatus into use.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

Effluent Materials

The evacuation process creates a volume of effluent water which must be contained. Blaine Tech Services, Inc. will place this water in appropriate containers of the client's choice or bring new 55 gallon DOT 17 E drums to the site, which are appropriate for the containment of the effluent materials. The determination of how to properly dispose of the effluent water must usually await the results of laboratory analyses of the sample collected from the groundwater well. If that sample does not establish whether or not the effluent water is contaminated, or if effluent from more than one source has been combined in the same container, it may be necessary to conduct additional analyses on the effluent material.

Sampling Methodology

Samples were obtained by standardized sampling procedures that follow an evacuation and sample collection protocol. The sampling methodology conforms to both State and Regional Water Quality Control Board standards and specifically adheres to EPA requirements for apparatus, sample containers and sample handling as specified in publication SW 846 and T.E.G.D. which is published separately.

Sample Containers

Sample containers are supplied by the laboratory performing the analyses.

Sample Handling Procedures

Following collection, samples are promptly placed in an ice chest containing deionized ice or an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with both a sampling event number and a discrete sample identification number. Please note that the sampling event number is the number that appears on our chain of custody. It is roughly equivalent to a job number, but applies only to work done on a particular day of the year rather than spanning several days, as jobs and projects often do.

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under our standard chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date and signature of person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Legend Laboratories in Santa Rosa, California. Legend Laboratories is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #1386.

Personnel

All Blaine Tech Services, Inc. personnel receive 29 CFR 1910.120(e)(2) training as soon after being hired as is practical. In addition, many of our personnel have additional certifications that include specialized training in level B supplied air apparatus and the supervision of employees working on hazardous materials sites. Employees are not sent to a site unless we are confident they can adhere to any site safety provisions in force at the site and unless we know that they can follow the written provisions of an SSP and the verbal directions of an SSO.

In general, employees sent to a site to perform groundwater well sampling will assume an OSHA level D (wet) environment exists unless otherwise informed. The use of gloves and double glove protocols protects both our employees and the integrity of the samples being collected. Additional protective gear and procedures for higher OSHA levels of protection are available.

Reportage

Submission to the Regional Water Quality Control Board and the local implementing agency should include copies of the sampling report, the chain of custody and the certified analytical report issued by the Hazardous Materials Testing Laboratory.

Please call if we can be of any further assistance.

Kent E. Brown

KEB/aa

attachments: table of well monitoring data

chain of custody

TABLE OF WELL MONITORING DATA

Well I.D.	MW-2			MW-3			MW – 4	MW-5
Date Sampled	02/12/9	98		02/12/	98		02/12/98	02/12/98
Well Diameter (in.)	2			2			2	2
Total Well Depth (ft.)	22.92			21.01			22.44	21.71
Depth To Water (ft.)	4.88			4.81			3.58	4.32
Free Product (in.)	NONE			NONE			NONE	NONE
Reason If Not Sampled							GAUGE ONLY	GAUGE ONLY
1 Case Volume (gal.)	2.7			2.4				
Did Well Dewater?	NO	NO						
Gallons Actually Evacuated	9.0			7.5				
urging Device	BAILER			BAILER				
Or pling Device	BAILER			BAILER				
Time	9:32	9:38	9:44	9:53	9:58	10:03		
Temperature (Fahrenheit)	64.4	64.0	64.2	65.2	65.6	65.8		
рH	6.7	6.6	6.5	7.0	7.0	7.0		
Conductivity (micromhos/cm)	780	750	750	850	800	800		
Nephelometric Turbidity Units	>200	>200	>200	>200	>200	>200		
BTS Chain of Custody	980212-H1		980212-H1					
BTS Sample I.D.	MW-2			MW - 3				
DOHS HMTL Laboratory	LEGEND			LEGEND				
Analysis	TPH-D,	BTEX		TPH-D,	BTEX			

TABLE OF WELL MONITORING DATA

	Well I.D.	RW-1 *			RW-2 *1	•		
	Date Sampled	02/12/9	8		02/12/9	98		
	Well Diameter (in.)	12			4			
	Total Well Depth (ft.)	10.12			12.48			
	Depth To Water (ft.)	3.18			3.21			
	Free Product (in.)	NONE			NONE			
	Reason If Not Sampled							
	1 Case Volume (gal.)				6.0			
	Did Well Dewater?	NO			NO			
	Gallons Actually Evacuated	==			18.0			
	Purging Device	ELECTRI	C SUBMERS	SIBLE	ELECTRIC SUBMERSIBLE			
	Sampling Device	BAILER			BAILER			
٠	Time	10:54	10:55	10:56	10:09	10:10	10:11	
	Temperature (Fahrenheit)	61.2	61.8				62.0	
	рH	6.9	6.9	6.9	7.4	7.1	7.0	
	Conductivity (micromhos/cm)	500	500	490	680	450	450	
	Nephelometric Turbidity Units	17	15	7.0	>200	>200	>200	
	BTS Chain of Custody	980212~	н1		980212-	-н1		
	BTS Sample I.D.	RW-1			RW-2			
`	DOUS HMTL Laboratory	LEGEND			LEGEND TPH-D, BTEX			
·	analysis	TPH-D,	BTEX					
*	ua Mili	** ***						

^{*} RW-1: Absorbant sock replaced.

^{**} RW-2: Approximately 20 mL of separate phase hydrocarbon removed from installed skimmer.

BLANE 1680 ROGERS AVENUE SAN JOSE, CALIFORNIA 95112	2		CONE	DUCT AN	NALYSIS	TO DETE	СТ	ILAB LEGEND IDHS #
TECH SERVICES INC. FAX (408) 573-7771 PHONE (408) 573-0555 CHAIN OF CUSTODY	1							ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND PA
15:# 9862-12-H1	RS							☐ LIA ———————————————————————————————————
BLYMYER ENGINEER INC	TAINE	12						SPECIAL INSTRUCTIONS
G. I. TRUCKING ENGINEER INC 1750 ADMINI AND	CON	7.3531C-						- TOVOICE & REPORT TO:
FISO FIDAMI ANE	TE AL	À					BLY MYER ENGINEERS, INC	
SAN LOSANDRO CA MATRIX CONTAINERS	COMPOSITE ALL CONTAINERS	HO	BTE,					TOUDICE & REPORT TO: BLY MYER ENGINEERS, INC. ATN: WACK DETRESEMENT
SAMPLEID. TIME DATE OS TOTAL) = O	1,		_				ADD'L INFORMATION STATUS CONDITION LAB SAMPLE #
MW-2 948 2/2 W 5	-	X	χ					
711-3 1005	_	(1					
RW-1 1100		\mathbb{H}	\rightarrow		\perp	-	 	
RW-2 1018 # #	-	\$	0					
	-						_	
	 		-					
	+							
	· 					+++		
	-					 		
SAMPLING DATE TIME SAMPLING PERFORMED BY Mor.	jan			<u> </u>			<u></u>	RESULTS NEEDED NO LATER THAN PER CLIENT -
RELEASED BY DAY	TE /3/	98	TIME	GO	▶ R	ECEIVED	BY) E	DATE TIME 2/13/98 (600)
RELEASED BY DATE			TIME		₽ R	ECEIVED	BY	DATE TIME
, go ry Dat	TE		TIME		→ R	ECEIVED	BY	DATE TIME
DAT	TE SEN	ΝT	TIME	SENT	CO	OLER#		

Attachment C

Laboratory Analytical Report, LEGEND Analytical Services

dated March 26, 1998

LEGEND

Analytical Services

3636 N. Laughlin Road, Suite 110 Santa Rosa, California 95403 707.526.7200 Fax 707.541.2333 E-Mail: info@legendlab.com

Mark Detterman Blymyer Engineers, Inc 1829 Clement Ave Alameda, CA 94501 Date: 03/26/1998

LEGEND Client Acct. No: 49500

LEGEND Job No: 98.00305 Received: 02/13/1998

Client Reference Information

G.I. Trucking Facility/BTS #980212-HI

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Facsimile transmission of this report is non-confidential. If received in error, please contact sender immediately at the number listed and return the information to us by mail. Please refer to the enclosed "Key to Result Flags" for definition of terms. Should you have questions regarding procedures or results, please feel free to call me at (707) 541-2313.

Samples RW1 (281884) and RW2 (281885) were analyzed outside of the method specified holding time for BTXE. The reported results should be considered as minimum values.

Submitted by:

Jennifer L. Roseberry

Project Manager

Enclosure(s)

Date: 03/26/1998 ELAP Cert: 2193

Client Acct: 49500

Page: 2

LEGEND Job No: 98.00305

Ref: G.I. Trucking Facility/BTS #980212-HI

82

SAMPLE DESCRIPTION: MW-2

Ortho-terphenyl (SURR)

Date Taken: 02/12/1998

Time Taken: 09:48

Run LEGEND Sample No: 281882 Batch Date Date Reporting Analyzed No. Extracted Results Flags Limit Uni<u>ts</u> Method <u>Parameter</u> 8020 (GC, Liquid) 3961 02/26/1998 DILUTION FACTOR* 1 02/26/1998 3961 8020 ug/L 0.50 ND Benzene 02/26/1998 3961 8020 0.50 ug/L ND Toluene 02/26/1998 3961 0.50 ug/L 8020 ND Ethylbenzene 3961 02/26/1998 8020 0.50 ug/L Xylenes (Total) ND 02/26/1998 3961 SURROGATE RESULTS 02/26/1998 3961 8020 % Rec. Bromofluorobenzene (SURR) 97 02/19/1998 M8015 (EXT., Liquid) 1412 02/23/1998 DILUTION FACTOR* 1412 02/23/1998 3510 as Diesel ND 0.10 mg/L 02/23/1998 1412 SURROGATE RESULTS 02/23/1998 1412 ነ Rec. 3510

Client Acct: 49500 LEGEND Job No: 98.00305 Date: 03/26/1998

ELAP Cert: 2193
Page: 3

Ref: G.I. Trucking Facility/BTS #980212-HI

SAMPLE DESCRIPTION: MW-3

Date Taken: 02/12/1998
Time Taken: 10:05

Run LEGEND Sample No: 281883 Batch Date Date Reporting No. Analyzed Units <u>Method</u> Extracted <u>Parameter</u> Results Flags Limit 8020 (GC, Liquid) 02/26/1998 3961 DILUTION FACTOR* 02/26/1998 3961 8020 Benzene ND 0.50 ug/L 02/26/1998 3961 uq/L 8020 Toluene ND 0.50 3961 02/26/1998 8020 ug/L Ethylbenzene ND 0.50 02/26/1998 39**61** 8020 Xylenes (Total) ND 0.50 ug/L 02/26/1998 3961 SURROGATE RESULTS 02/26/1998 3961 % Rec. 8020 Bromofluorobenzene (SURR) 96 02/19/1998 M8015 (EXT., Liquid) 02/23/1998 1412 DILUTION FACTOR* 1 02/23/1998 1412 D-0.10 mg/L 3510 as Diesel 1.5 02/23/1998 1412 SURROGATE RESULTS - -02/23/1998 1412 % Rec. 3510 Ortho-terphenyl (SURR) 82

Client Name: Blymyer Engineers, Inc Date: 03/26 ELAP Cert: 2193

Date: 03/26/1998

Client Acct: 49500 LEGEND Job No: 98.00305

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Ref: G.I. Trucking Facility/BTS #980212-HI

SAMPLE DESCRIPTION: RW-1

Date Taken: 02/12/1998

Time Taken: 11:00

Time Taken: 11:00								Run
LEGEND Sample No: 281884			Reporting			Date	Date	Batch
Parameter	Results	Flags	Limit_	Units	Method	Extracted	Analyzed	No.
8020 (GC,Liquid)		HT						
DILUTION FACTOR*	1						02/27/1998	3961
Benzene	ND		0.50	ug/L	8020		02/27/1998	3961
	ND		0.50	ug/L	8020		02/27/1998	3961
Toluene			0.50	ug/L	8020		02/27/1998	3961
Ethylbenzene	ИĎ			_	8020		02/27/1998	39 61
Xylenes (Total)	ND		0.50	ug/L	3020		02/27/1998	3961
SURROGATE RESULTS								39 61
Bromofluorobenzene (SURR)	104			% Rec.	80 20		02/27/1998	3501
						02/19/1998		
MB015 (EXT., Liquid)							03/05/1998	1412
DILUTION FACTOR*	50			/=	3510		03/05/1998	1412
as Di esel	89		5.0	mg/L	3210		03/05/1998	1412
SURROGATE RESULTS	- -						,	
Ortho-terphenyl (SURR)	SR	DS		% Rec.	3510		03/05/1998	1412

Date: 03/26/1998

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LEGEND Job No: 98.00305

DS

SR

Ref: G.I. Trucking Facility/BTS #980212-HI

SAMPLE DESCRIPTION: RW-2

Ortho-terphenyl (SURR)

Date Taken: 02/12/1998

Time Taken: 10:18

Run LEGEND Sample No: 281885 Batch Date Date Reporting Analyzed No. Extracted Method Flags Limit_ Units Results <u>Parameter</u> HT 8020 (GC, Liquid) 02/27/1998 3961 DILUTION FACTOR* 1 3961 8020 02/27/1998 0.50 ug/L Benzene ND 02/27/1998 3961 8020 ND 0.50 ug/L Toluene 02/27/1998 3961 ND 0.50 ug/L 8020 Ethylbenzene 3961 8020 02/27/1998 0.50 ug/L Xylenes (Total) ND 3961 02/27/1998 SURROGATE RESULTS 02/27/1998 3961 8020 k Rec. Bromofluorobenzene (SURR) 124 02/19/1998 M8015 (EXT., Liquid) 03/05/1998 1412 DILUTION FACTOR* 50 3510 03/05/1998 1412 5.0 mg/L as Diesel 100 03/05/1998 1412 SURROGATE RESULTS 03/05/1998 1412

% Rec.

3510

Client Acct: 49500 LEGEND Job No: 98.00305 Date: 03/26/1998

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CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

		CCV	CCV Standard					Run
	CCV	Standard Amount	Amount			Date	Analyst	Batch
	Standard	Found	Expected_	Flags	Units	Analyzed	Initials	Number
Parameter	% Recovery	round	EXPECCE					
8020 (GC,Liquid)			20.0		uq/L	02/26/1998	nne	3961
Benzene	96.5	19.3			ug/L	02/26/1998		3961
Toluene	95.0	19.0	20.0			02/26/1998		39 61
Ethylbenzene	104.5	20.9	20.0		ug/L	•		3961
Xylenes (Total)	92.8	5 5. 7	60.0		u g/L	02/26/1998		
Bromofluorobenzene (SURR)	101.0	101	100		% Rec.	02/26/1998	nne	3961
8020 (GC,Liquid)								
Benzene	102.0	20.4	20.0		ug/L	02/27/1998	nne	39 61
Toluene	91.0	18.2	20.0		ug/L	02/27/1998	nne	3 961
Ethylbenzene	92.0	18.4	20.0		ug/L	02/27/1998	nne	3961
Xylenes (Total)	94.8	56.9	60.0		ug/L	02/27/1998	nne	3961
Bromofluorobenzene (SURR)	96.0	96	100		% Rec.	02/27/1998	nne	3961
M8015 (EXT., Liquid)								
as Diesel	96.4	964	1000		mg/L	02/22/1998	dat1	1412
Ortho-terphenyl (SURR)	100.0	100	100		% Rec.	02/22/1998	dat1	1412
M8015 (EXT., Liquid)								
as Diesel	99.4	994	1000		mg/L	02/23/1998	datl	1412
Ortho-terphenyl (SURR)	106.0	106	100		% Rec.	02/23/1998	datl	1412
M8015 (EXT., Liquid)								
as Diesel	98.1	981	1000		mg/L	03/04/1998	dati	1412
Ortho-terphenyl (SURR)	100.0	100	100		% Rec.	03/04/1998	dat1	1412
• •	100.0	100						
M8015 (EXT., Liquid)	103.0	1022	1000		mg/L	03/05/1998	datl	1412
as Diesel	102.2		1000		% Rec.	03/05/1998		1412
Ortho-terphenyl (SURR)	107.0	107	100		, vec.			

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METHOD BLANK REPORT

Method Run Blank Analyst 9atch Date Reporting Amount Initials Number Analyzed Flags Units Limit Found <u>Parameter</u> 8020 (GC, Liquid) 02/26/1998 3961 ug/L ND 0.50 Benzene 02/26/1998 nne 3961 0.50 ug/L ND Toluene 3961 ug/L 02/26/1998 nne 0.50 Ethylbenzene ND 3961 ug/L 02/26/1998 nne 0.50 Xylenes (Total) ND 02/26/1998 nne 3961 % Rec. 100 Bromofluorobenzene (SURR) 8020 (GC, Liquid) 3961 ug/L 02/27/1998 ១១៩ 0.50 Benzene ND ug/L 02/27/1998 nne 3961 0.50 Toluene ND ug/L 02/27/1998 3961 0.50 ND Ethylbenzene ug/L 02/27/1998 3961 0.50 ND Xylenes (Total) 3961 % Rec. 02/27/1998 nne 100 Bromofluorobenzene (SURR) MB015 (EXT., Liquid) 1412 mg/L 02/22/1998 dat1 0.10 ND as Diesel % Rec. 02/22/1998 dat1 1412 83 Ortho-terphenyl (SURR)

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Dup	R.PD	Spike Amount	Sample Conc.	Matrix Spike	Matrix Spike Dup. Conc.	Flags	Units	Date Analyzed	Run Batch	Sampl Spike
8020 (GC, Liquid)												28188
Benzene	98.0	110.5	11.9	20.0	ND	19.6	22.1		ug/L	02/26/1998	3961	28188
Toluene	93.0	99.0	6.3	20.0	ND	18.6	19.8		ug/L	02/26/1998	3961	2 818 E
Bromofluorobenzene (SURR)	94.0	97.0	3.1	100	9 7	94	97		% Rec.	02/26/1998	3961	28 18 8

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LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS %_Rec	DUP LCS % Rec.	RPD_	LCS Amount Found	DUP LCS Amount Found	LCS Amount Exp.	Flags	Units	Date Analyzed	Analyst Initials	Run Bate
M8015 (EXT., Liquid) as Diesel Ortho-terphenyl (SURR)	61.8 72.0	5 4.7 70.0	12.2 2.8	0.618 72	0.5 47 70	1.00 10 0		ag/L % Rec.	02/22/1998 02/22/1998		141: 141:

NOTE: Results copic only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

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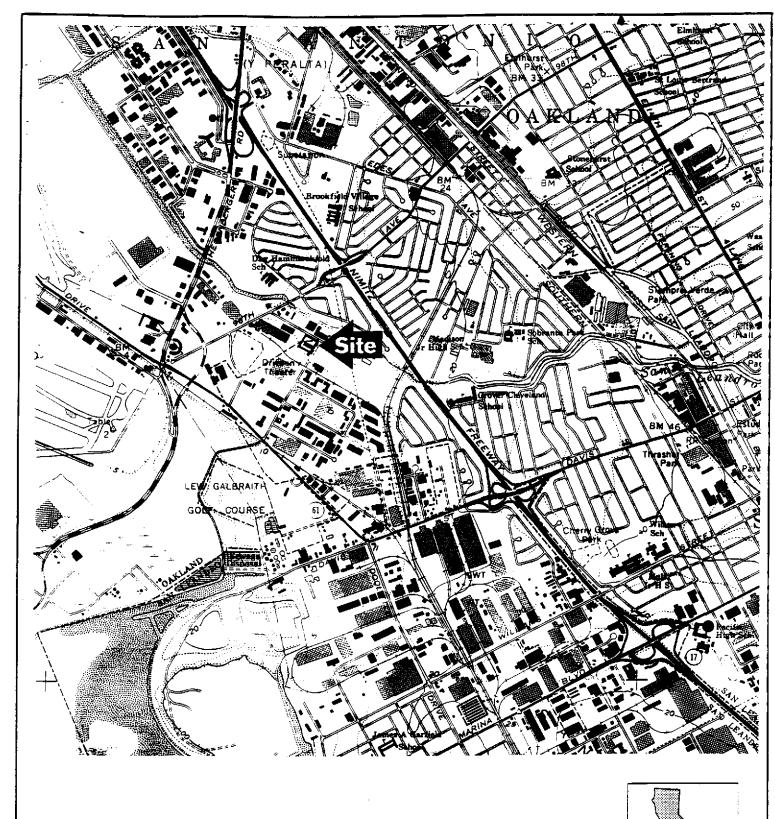
1000 DO OFFIC AVENUE					برمساتات
BLAINE SAN JOSE, CALIFORNIA 9511		CONDUCT ANAL	YSIS TO DETECT	ILAB LEGEND	IDHS#
TECH SERVICES INC PHONE (408) 573-777 PHONE (408) 573-055	1			ALL ANALYSES MUST MEET SPECIF SET BY CALIFORNIA DHS AND	ICATIONS AND DETECTION LIMITS
	-			☐ EPA	RWQCB REGION
BT3 # 9862-12-H1				□ LIA □ OTHER	
CLIENT BLACK 131/2 Williams TW	Ä				
SITE 2	-1 \(\bar{\bar{\bar{\bar{\bar{\bar{\bar{	4		SPECIAL INSTRUCTIONS	2
SITE G. I. TRUCKING TAZILITY	APOSITE ALL CONTAINERS			TOVOICE & R	POST TO?
1750 Horans 166	그렇다			Buy my DR ON	161WEERS TWC
STAN CONTAINERS CONTAINERS	COMPOSITE			ATTN: MACK	DETTERMAN
		7 60		1	1 (
SAMPLE LD. FINE DATE " TOTAL	ů			ADD'L INFORMATION STATUS	CONDITION LAB SAMPLE #
11N-2 948 2/2 W 5	<u> </u>	X			
1005	1-1	1/-			
RW-1 1100	111				
RW-2 1018	#	4			<u> </u>
SAMPLING DATE TIME SAMPLING PERFORMED BY MU	(Jan	H.		RESULTS NEEDED NO LATER THAN	CLIENT - 4.0°C
1/1 1	ME /98	TIME 1600	RECEIVED EX	The	DATE TIME 2/13/98 (600)
RELEASED BY TO	ATE	TIME	RECEIVED BY		DATE / TIME
Mar. 1 21	13/88	2000	▼ (MUT)	i alusuj	2/14/95 0500 DATE TIME
RELEASED BY	ATE	TIME	RECEIVED BY	U	IDME TIME
SHIPPED VIA	ATE SENT	TIME SENT	COOLER#		

KEY TO RESULT FLAGS

```
: RPD between sample duplicates exceeds 30%.
     : RPD between sample duplicates or MS/MSD exceeds 20%.
     : Correlation coefficient for the Method of Standard Additions is less than 0.995.
     : Sample result is less than reported value.
    : Value is between Method Detection Limit and Reporting Limit.
B-I
B-0 : Analyte found in blank and sample.
    : The result confirmed by secondary column or GC/MS analysis.
Ç
    : Cr+6 not analyzed; Total Chromium concentration below Cr+6 regulatory level.
COMP : Sample composited by equal volume prior to analysis.
     : 2-Chloroethylvinyl ether cannot be determined in a preserved sample.
    : Due to the sample matrix, constant weight could not be achieved.
CWT
     : The result has an atypical pattern for Diesel analysis.
D1 : The result for Diesel is an unknown hydrocarbon which consists of a single peak.
     : ND for hydrocarbons, non-discrete baseline rise detected.
DB
     : The result appears to be a heavier hydrocarbon than Diesel.
DH
     : The result appears to be a lighter hydrocarbon than Diesel.
DL
     : Elevated Reporting Limit due to Matrix.
     : Surrogate diluted out of range.
DS
     : The result for Diesel is an unknown hydrocarbon which consists of several peaks.
DX
     : Compound quantitated at a 2X dilution factor.
FA
     : Compound quantitated at a 5X dilution factor.
FB
     : Compound quantitated at a 10% dilution factor.
FC
     : Compound quantitated at a 20% dilution factor.
FD
     : Compound quantitated at a 50% dilution factor.
FE
     : Compound quantitated at a 100% dilution factor.
FF
     : Compound quantitated at a 200% dilution factor.
FG
     : Compound quantitated at a 500% dilution factor.
     : Compound quantitated at a 1000X dilution factor.
FI
     : Compound quantitated at a greater than 1000x dilution factor.
FJ
     : Compound quantitated at a 25% dilution factor.
FΚ
     : Compound quantitated at a 250% dilution factor.
FL
     : The result has an atypical pattern for Gasoline.
    : The result for Gasoline is a single peak.
G1
    : The result appears to be a heavier hydrocarbon than Gasoline.
GH
    : The result appears to be a lighter hydrocarbon than Gasoline.
    : The result for Gasoline is an unknown hydrocarbon which consists of several peaks.
    : Analysis performed outside of the method specified holding time.
HTC : Confirmation analyzed outside of the method specified holding time.
HTP : Prep procedure performed outside of the method specified holding time.
HTR : Received after holding time expired, analyzed ASAP after receipt.
     : Peaks detected within the quantitation range do not match standard used.
HX
J
     : Value is estimated.
     : Matrix Interference Suspected.
     : Value determined by Method of Standard Additions.
MSA* : Value obtained by Method of Standard Additions; Correlation coefficient is <0.995.
     : Sample spikes outside of QC limits; matrix interference suspected.
NII
     : Sample concentration is greater than 4X the spiked value; the spiked value is
NI2
       considered insignificant.
    : Matrix Spike values exceed established QC limits, post digestion spike is in
NI3
       control.
     : MS/MSD outside of control limits, serial dilution within control.
NI4
     : There is >40% difference between primary and confirmation analysis.
     : pH of sample > 2; sample analyzed past 7 days.
P7
    : Refer to subcontract laboratory report for QC data.
     : Matrix interference confirmed by repeat analysis.
S2
     : Thiocyanate not analyzed separately; total value is below the Reporting Limit for
SCN
       Free Cyanide.
     : Analysis performed by Selective Ion Monitoring.
     : Conc. of the total analyte ND; therefore this analyte is ND also.
UMDL : Undetected at the Method Detection Limit.
```

: Unable to . Torm requested analysis.

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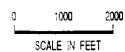
QUADRANGLE LOCATION

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



BEI JOB NO. 38288

DATE 9/19/95





SITE LOCATION MAP

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

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