

**BLYMYER**  
ENGINEERS, INC.

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G.I. Trucking Company  
c/o ABF Freight System, Inc.

P.O. Box 10048

Fort Smith, AR 72917-0048

LETTER OF TRANSMITTAL

DATE	September 13, 1996	BEI Job No.	88288.1
ATTENTION:	Mr. Mike Rogers		
SUBJECT:	G.I. Trucking Facility		
	San Leandro, California		
	STID 1373		

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			<i>Groundwater Monitoring and Free Product Recovery</i>

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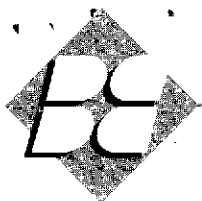
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 Mr. Bob Hogancamp, G.I. Trucking Company  
 Mr. Tom McGuire, G.I. Trucking Company

**SIGNED:** Mark Detterman

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: Second Semi-annual Groundwater Monitoring Event 1996  
Groundwater Monitoring and Free Product Recovery  
G.I. Trucking Facility  
1750 Adams Avenue  
San Leandro, California  
STID 1373**

Dear Mr. Rogers:

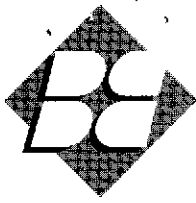
This letter documents free product recovery and the second semi-annual groundwater monitoring event of 1996 at the subject site (Figures 1 and 2).

## 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 tank (UST) 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 was 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. 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.



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September 13, 1996  
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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, 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.

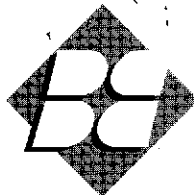
Four monitoring wells with total depths of approximately 25 feet bgs were also installed in the vicinity of the UST system to assess the extent of soil and groundwater contamination associated with the diesel USTs. The native soil consisted predominantly of sandy clay or clayey sand and silty clay. The 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 during which all three USTs were 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 the 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 Level (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 has been recovered 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

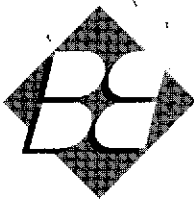


performed for confirmation. Analysis of TPH as motor oil was also performed to provide additional groundwater contaminant data. The analytical results, which were either non-detectable or below MCLs, indicated that diesel fuel, not waste oil, was the cause of groundwater contamination at the site.

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 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 ( $\mu\text{g/L}$ ), 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 product in the recovery wells. On June 12, 1996, the discovery of an apparent 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 appear to have been the source of the leak. According to site personnel the fuel pump has been repaired and placed back in service. An unknown volume of diesel product was released from this point; however based on an approximate assumed UST excavation 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, the best estimate for the release volume is approximately 250 gallons.

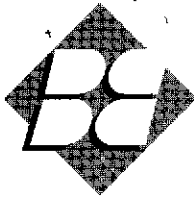
Blymyer Engineers has evaluated the use of passive free product skimmers at the site and, due to the low recovery rate by the passive skimmers, a Flexible Axial Peristaltic (FAP) pump was installed in RW-1 on August 8, 1996. The low recovery rate in the passive skimmers is likely related to the relatively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

Native soils surrounding the UST excavation 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 excavation years after the initial release and the low dissolved concentrations of TPH as diesel and BTEX in groundwater downgradient of the UST complex years after the initial release.

## 2.0 Data Collection

### 2.1 Groundwater Sample Collection

Groundwater samples were collected from monitoring wells MW-2 and MW-3 (Figure 2) on August 5, 1996. The groundwater samples were collected in accordance with the previously submitted Blymyer Engineers' Standard Operating Procedure No. 3, entitled *Groundwater Monitoring and Well Sampling Using a Bailer or Hand Pump, Revision No. 1*. The groundwater depth measurements and details of the monitoring well purging and sampling are presented on the Well Purging and Sampling Data sheets included as Attachment A. 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 National Environmental Testing, (NET) Inc., 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 B.

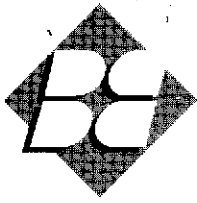
## 2.3 Free Product Recovery

The existing EZY<sup>®</sup> passive skimmer, installed in recovery well RW-1, was on a monthly operation and maintenance schedule, overseen by on-site personnel, until August 1994. Since then, and until recently, the skimmer has 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. On February 15, 1996, the skimmer was submerged due to a decrease in depth to groundwater since the last recovery event. Since discovery of the fresh product in the UST basin in June 1996, Blymyer Engineers has purchased a second skimmer for placement in recovery well RW-2. After difficulties in free product recovery were encountered, the FAP pump was installed in recovery well RW-1, while the newer passive skimmer remains in recovery well RW-2. Since discovery of the fresh product, Blymyer Engineers has made daily or weekly visits to either hand bail, to empty the skimmers, or to monitor the FAP pump operation. 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.

## 3.0 Discussion of Data

### 3.1 Groundwater Sample Analytical Results

Concentrations of TPH as diesel were detected in the groundwater samples collected from monitoring wells MW-2 and MW-3 (Table III) this quarter. The TPH as diesel concentration detected in the groundwater sample collected from monitoring well MW-2 was barely above the method detection limit, while the concentration of TPH as diesel in well MW-3 decreased from the last monitoring event. Of importance is the detection of 0.05 mg/L TPH as diesel in the method blank. Subtraction of the portion of TPH as diesel attributed to laboratory contamination from the total result would cause the TPH as diesel concentration in well MW-2 to be at or below the method detection limit. In addition the laboratory reported that the concentration of



TPH as diesel was indicative of a heavier hydrocarbon than diesel. BTEX were not detected in the groundwater samples collected from either monitoring well (Table II) nearly two months after discovery of the release. Well MW-2 is approximately 2 feet downgradient from the edge of the waste oil excavation and, at present, the release appears to be confined to the UST basin.

### **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 has been removed beginning in June 1996 (Table V). Until the recent release, the cumulative volume of free product removed since recovery began had only amounted to approximately 1.18 gallons. As of August 15, 1996, nearly 63 gallons of product have been recovered at the site. Product thickness in wells RW-1 and RW-2 has decreased slightly.

### **3.2 Groundwater Flow Direction and Gradient**

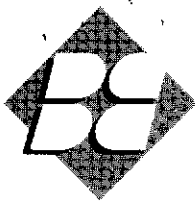
Based on the depth-to-groundwater measurements this quarter, the groundwater flow direction in the vicinity of the underground storage tank basin was toward the south with a gradient of approximately 0.004 feet per foot.

## **4.0 Recommendations**

- Expedited free product recovery should continue.
- Semi-annual groundwater monitoring should be continued to further assess trends in contaminant concentrations in groundwater at the site. Analysis of total dissolved solids (TDS) to assess the quality of groundwater and analyses of specific inorganic constituents and soil characteristics to assess whether natural attenuation of contamination in the aquifer is occurring should be performed.

## **5.0 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.




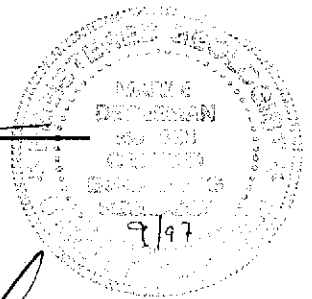
Mr. Mike Rogers  
September 13, 1996  
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The next groundwater monitoring event is scheduled for February 1997. Please call Mark Detterman at (510) 521-3773 with any questions or comments.

Sincerely,

Blymyer Engineers, Inc.

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



And:   
Sue Black  
Vice President, Environmental Services

Enclosures:

- 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  
Table IV: Summary of Groundwater Sample Analytical Results; TPH as Gasoline, TPH as Motor Oil, TRPH, HVOCs, SVOCs, and Metals  
Table V: Free Product Recovery Measurements, Monitoring Well MW-1  
Figure 1: Site Location Map  
Figure 2: Site Plan and Groundwater Elevation Contours, August 5, 1996  
Attachment A: Well Purging and Sampling Data Sheets, dated August 5, 1996  
Attachment B: Laboratory Analytical Report, National Environmental Testing, Inc., dated August 14, 1996

- cc: Mr. Dale Klettke, Alameda County Health Care Services Agency  
Mr. Eddy So, San Francisco Bay Regional Water Quality Control Board  
Mr. Mike Bakaldin, San Leandro Fire Department  
Mr. Bob Hogencamp, G.I. Trucking Company  
Mr. Tom McGuire, 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-1* TOC Elevation 100.00*		MW-2 TOC Elevation 100.24*		MW-3 TOC Elevation 100.22* TOC Elevation 100.18 <sup>b</sup>		MW-4 TOC Elevation 99.48* TOC Elevation 99.46 <sup>a,d</sup>		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	Water Surface Elevation
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

- Notes: TOC = Top of casing  
a = Based on an arbitrary datum  
b = Resurveyed elevation, May 11, 1994  
c = Not measured due to equipment malfunction  
d = TOC mark lost; Resurveyed elevation, August 16, 1996  
N/A = Not applicable  
NM = Not measured  
\* = 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	Not Analyzed					
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 <sup>a</sup>	<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	1.2 <sup>a</sup>	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

Notes: µg/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.J. 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	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	<0.03	<0.03	N/A
November 21, 1989	product sheen	<0.03	<0.03	<0.03	<0.03	N/A
February 23, 1990	product sheen	<0.05	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	product sheen	<0.05	0.41	<0.05	<0.05	N/A
December 3, 1990	product sheen	<0.05	<0.05	<0.05	<0.05	N/A
March 13, 1991	product sheen	<0.05	1.3	<0.05	<0.05	N/A
May 29, 1991	product sheen	<0.05	0.54	<0.05	<0.05	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	0.09 feet free product	<0.05	0.89	<0.05	<0.05	N/A
May 15, 1992	0.17 feet free product	<0.05	0.38	<0.05	<0.05	N/A
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	heavy product sheen	<0.05	0.19	<0.05	<0.05	N/A
February 24, 1994	heavy product sheen	<0.05	0.38	<0.05	<0.05	N/A
May 11, 1994	heavy product sheen	<0.05	0.58	<0.05	<0.05	N/A
August 23, 1994	0.08 feet free product	<0.05	0.45 <sup>a</sup>	<0.05	<0.05	N/A
November 29, 1994	heavy product sheen	0.09	0.96 <sup>a</sup>	NA	NA	N/A
February 15, 1995	heavy product sheen	0.1 <sup>a</sup>	1.7 <sup>a</sup>	NA	NA	N/A
August 16, 1995 <sup>b</sup>	heavy product sheen	0.063 <sup>c</sup>	1.1 <sup>c</sup>	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 <sup>d</sup>	1.0 <sup>d</sup>	NA	NA	NA

Table III, Summary of Groundwater Sample Analytical Results, continued

Notes: TPH	=	Total Petroleum Hydrocarbons
mg/L	=	Milligrams per liter
<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.
*	=	Formerly designated as well MW-1

**Table IV. Summary of Groundwater Sample Analytical Results\***  
**TPH as Gasoline, TPH as Motor Oil, TRPH, HVOCs, SVOCs, and Metals**  
**DEI 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 <sup>a</sup> (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 <sup>b</sup> (mg/L)
RW-1**	January 15, 1988 to August 23, 1994	NA	NA	NA	NA	NA	NA
	November 29, 1994 <sup>c</sup>	NA	NA	NA	NA	NA	NA
	February 15, 1995 <sup>e</sup>	NA	NA	NA	NA	NA	NA
	August 16, 1995 <sup>e</sup>	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	ND <sup>d</sup>
	February 15, 1995	<0.05	<0.5	<5.0	ND	ND	0.002 Pb <sup>e</sup>
	August 16, 1995 <sup>f</sup>	NA	NA	NA	NA	NA	NA
MW-3	January 15, 1988 to August 23, 1994	NA	NA	NA	NA	NA	NA
	November 29, 1994	<0.05	NA	NA	ND	ND	ND <sup>d</sup>
	February 15, 1995	<0.05	<0.5	<5.0	ND	ND	0.004 Pb <sup>e</sup> 0.16 Zn <sup>e</sup>
	August 16, 1995 <sup>f</sup>	NA	NA	NA	NA	NA	NA

Notes:

- \* = 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
- µg/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).
- 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.
- 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 V. Free Product Recovery Measurements, Monitoring Well MW-1  
BEI Job No. 85288.001, 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 <sup>a</sup>	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	3.75
August 1 to 19, 1996	79.65
Cumulative Volume Recovered (approximate)	83.40

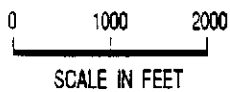
Notes: a = Frequency of recovery activities decreased from monthly to quarterly after this recovery event.



UNITED STATES GEOLOGICAL SURVEY 7.5' QUAD. "SAN LEANDRO, CA", ED. 1969, PHOTOREVISED 1980.



**BLMYER**  
ENGINEERS, INC.



**SITE LOCATION MAP**

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

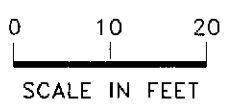
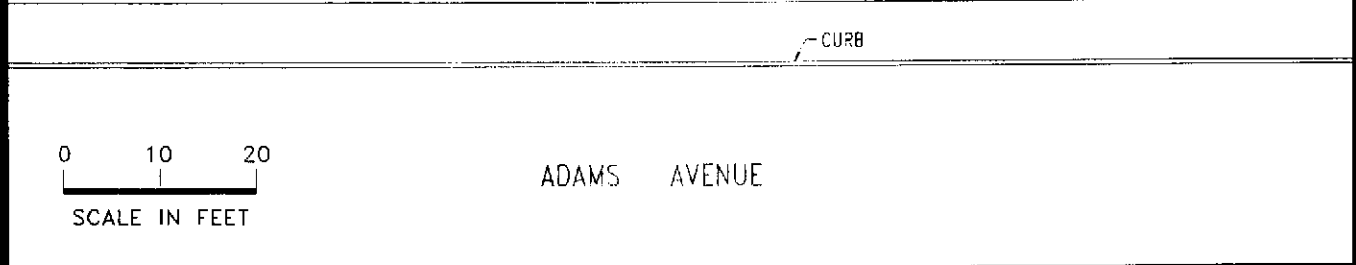
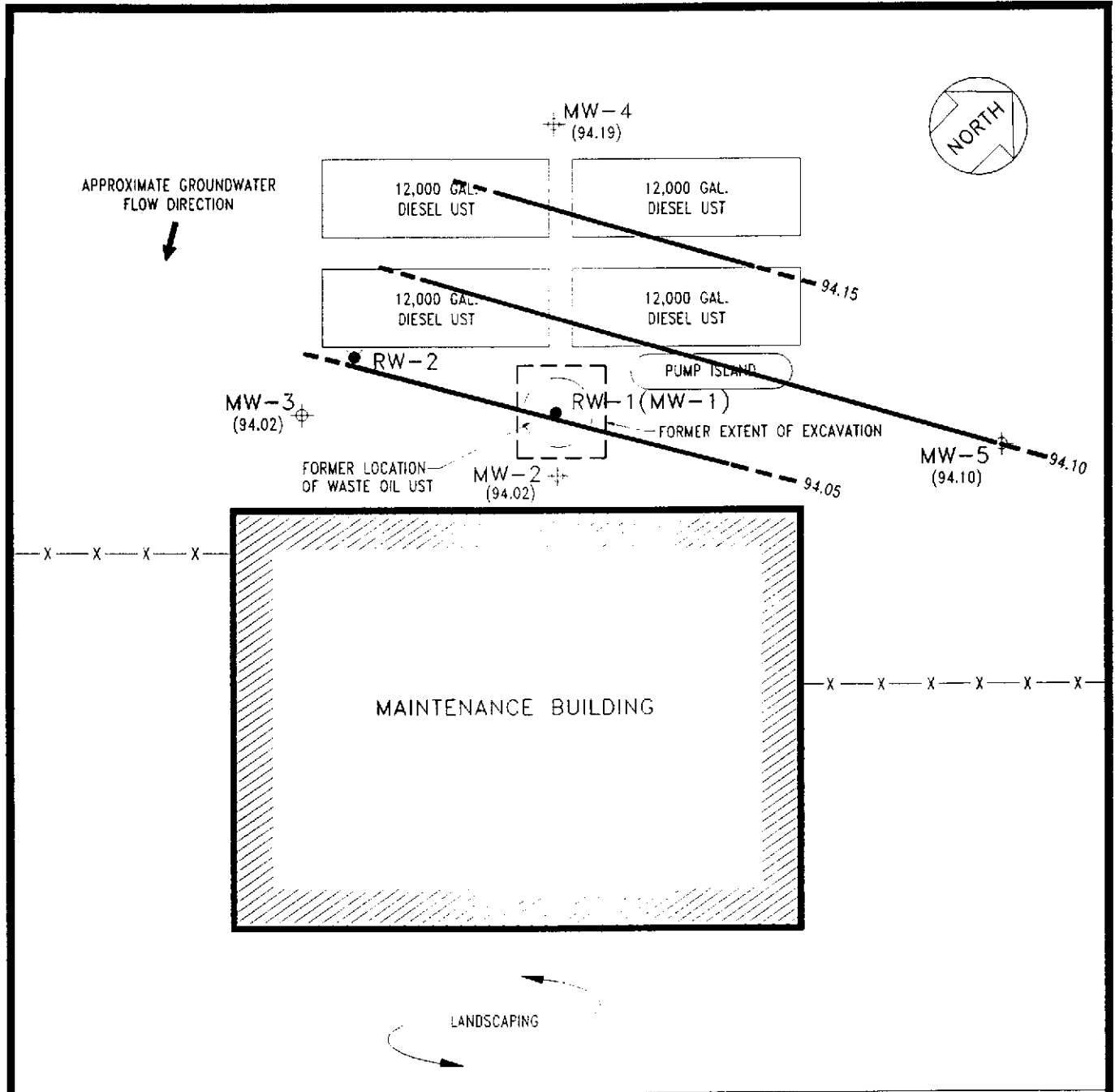
FIGURE

1

BEI JOB NO. 88288

DATE 9/19/95





<p><b>BLYMYER</b> ENGINEERS, INC.</p>	<p>LEGEND</p> <ul style="list-style-type: none"> <li>UST UNDERGROUND STORAGE TANK</li> <li>⊕ MONITORING WELL</li> <li>● RECOVERY WELL</li> <li>94.02 GROUNDWATER ELEVATION IN FEET</li> <li>- - - 94.05 GROUNDWATER ELEVATION CONTOUR</li> </ul>		<p>SITE PLAN &amp; GROUNDWATER ELEVATION CONTOURS</p> <p>AUGUST 5, 1996</p> <p>G.I. TRUCKING FACILITY</p> <p>1750 ADAMS AVE.</p> <p>SAN LEANDRO, CA</p>	<p>FIGURE</p> <p style="font-size: 2em; text-align: center;">2</p>
	<p>BEI JOB NO.</p> <p>88288.001</p>	<p>DATE</p> <p>8-19-96</p>		

**Attachment A**

Well Purging and Sampling Data Sheets

dated August 5, 1996

## Well Purging and Sampling Data

Date	8/5/96	Project Number	88288.1	Project Name	G.I. Trucking
Well Number	MW-2	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	6.22 ft.	Column of water	x 17.03 ft.
Total depth of well	23.25 ft.	Volume of casing	= 2.90 gal.
Column of water	17.03 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 8.70 gal.

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

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Slightly silty, tan color, no odor
Final	Slightly silty, tan color, no odor

Field Analysis	Initial	During		Final
Time	10:56	11:01	11:07	11:12
Temperature (°F)	68.4	67.8	67.4	67.5
Conductivity (µ/cm)	715	714	713	712
pH	7.12	7.38	7.44	7.50
Method of measurement	Hydac meter			
Total volume purged	9.0 gal.			
Comments	Sampled with disposable polyethylene bailer			

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

Signed/Sampler	<i>Steph W. Mue</i>	Date	8/5/96
Signed/Reviewer	<i>[Signature]</i>	Date	8/5/96

## Well Purging and Sampling Data

Date	8/5/96	Project Number	88288.1	Project Name	G.I. Trucking
Well Number	MW-3	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	6.16 ft.	Column of water	x 16.59 ft.
Total depth of well	22.75 ft.	Volume of casing	= 2.82 gal.
Column of water	16.59 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 8.46 ft.

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

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

Field Analysis	Initial	During		Final
Time	11:40	11:45	11:50	11:56
Temperature (°F)	72.6	69.4	68.2	68.5
Conductivity (µ/cm)	754	716	808	814
pH	7.30	7.40	7.19	7.29
Method of measurement	Hydac meter			
Total volume purged	9.0 gal.			
Comments	Sampled with disposable polyethylene bailer			

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

Signed/Sampler <i>[Signature]</i>	Date 8/5/96
Signed/Reviewer <i>[Signature]</i>	Date 8/15/96

**Attachment B**

Laboratory Analytical Report, National Environmental Testing, Inc.

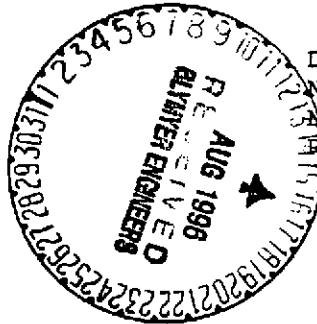
dated August 14, 1996



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

Santa Rosa Division  
3636 North Laughlin Road  
Suite 110  
Santa Rosa, CA 95403-8226  
Tel: (707) 526-7200  
Fax: (707) 541-2333

Mark Detterman  
ABF Freight Systems, Inc.  
c/o Blymyer Engingeers  
1829 Clement Avenue  
Alameda, CA 94501




Date: 08/14/1996  
NET Client Acct. No: 11290  
NET Job No: 96.02309  
Received: 08/07/1996

Client Reference Information

G.I. Trucking/San Leandro, CA/Job No. 88288.1

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. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel free to call me at (707) 541-2307.

Submitted by:

  
Judy Ridley  
Project Coordinator

Enclosure (s)

Client Name: ABF Freight Systems, Inc.  
Client Acct: 11290  
NET Job No: 96.02309

Date: 08/14/1996  
ELAP Cert: 1386  
Page: 2

Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

SAMPLE DESCRIPTION: MW-2  
Date Taken: 08/05/1996  
Time Taken: 11:35  
NET Sample No: 266836

Parameter	Results	Flags	Reporting			Date	Date	Run
			Limit	Units	Method	Extracted	Analyzed	Batch No.
8020 (GC, Liquid)								
DILUTION FACTOR*	1						08/08/1996	3703
Benzene	ND		0.50	ug/L	8020		08/08/1996	3703
Toluene	ND		0.50	ug/L	8020		08/08/1996	3703
Ethylbenzene	ND		0.50	ug/L	8020		08/08/1996	3703
Xylenes (Total)	ND		0.50	ug/L	8020		08/08/1996	3703
SURROGATE RESULTS	--						08/08/1996	3703
Bromofluorobenzene (SURR)	97			% Rec.	8020		08/08/1996	3703
M8015 (EXT., Liquid)						08/12/1996		
DILUTION FACTOR*	1						08/13/1996	1253
as Diesel	0.10	DH,B-O	0.050	mg/L	3510		08/13/1996	1253

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

Client Name: ABF Freight Systems, Inc.  
Client Acct: 11290  
NET Job No: 96.02309

Date: 08/14/1996  
ELAP Cert: 1386  
Page: 3

Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

SAMPLE DESCRIPTION: MW-3  
Date Taken: 08/05/1996  
Time Taken: 12:25  
NET Sample No: 266837

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
8020 (GC, Liquid)								
DILUTION FACTOR*	1						08/08/1996	3703
Benzene	ND		0.50	ug/L	8020		08/08/1996	3703
Toluene	ND		0.50	ug/L	8020		08/08/1996	3703
Ethylbenzene	ND		0.50	ug/L	8020		08/08/1996	3703
Xylenes (Total)	ND		0.50	ug/L	8020		08/08/1996	3703
SURROGATE RESULTS	--						08/08/1996	3703
Bromofluorobenzene (SURR)	97			% Rec.	8020		08/08/1996	3703
M8015 (EXT., Liquid)						08/12/1996		
DILUTION FACTOR*	1						08/13/1996	1253
as Diesel	1.0	B-O, DH	0.050	mg/L	3510		08/13/1996	1253

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



Client Name: ABF Freight Systems, Inc.

Date: 08/14/1996

Client Acct: 11290

ELAP Cert: 1386

NET Job No: 96.02309

Page: 4

Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

## CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	Flags	Units	Date Analyzed	Analyst Initials	Run Batch Number
	Standard % Recovery	Standard Amount Found					
8020 (GC,Liquid)							
Benzene	103.7	20.74	20.0	ug/L	08/08/1996	aal	3703
Toluene	103.8	20.75	20.0	ug/L	08/08/1996	aal	3703
Ethylbenzene	102.9	20.57	20.0	ug/L	08/08/1996	aal	3703
Xylenes (Total)	101.8	61.10	60.0	ug/L	08/08/1996	aal	3703
Bromofluorobenzene (SURR)	88.0	88	100	% Rec.	08/08/1996	aal	3703
M8015 (EXT., Liquid) as Diesel	87.0	870	1000	mg/L	08/13/1996	aal	1253

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

Client Name: ABF Freight Systems, Inc.  
Client Acct: 11290  
NET Job No: 96.02309

Date: 08/14/1996  
ELAP Cert: 1386  
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Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

## METHOD BLANK REPORT

Parameter	Method	Reporting	Flags	Units	Date	Analyst	Run
	Blank						
8020 (GC,Liquid)							
Benzene	ND	0.50		ug/L	08/08/1996	aal	3703
Toluene	ND	0.50		ug/L	08/08/1996	aal	3703
Ethylbenzene	ND	0.50		ug/L	08/08/1996	aal	3703
Xylenes (Total)	ND	0.50		ug/L	08/08/1996	aal	3703
Bromofluorobenzene (SURR)	94			% Rec.	08/08/1996	aal	3703
M8015 (EXT., Liquid)							
as Diesel	0.05	0.050		mg/L	08/13/1996	aal	1253

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

Client Name: ABF Freight Systems, Inc.  
 Client Acct: 11290  
 NET Job No: 96.02309

Date: 08/14/1996  
 ELAP Cert: 1386  
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Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike				Matrix Spike				Flags	Units	Date Analyzed	Run Batch	Sample Spiked
	Matrix Spike % Rec.	Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Spike Dup. Conc.						
8020 (GC, Liquid)													266603
Benzene	99.6	98.1	1.5	6.83	ND	6.80	6.70		ug/L	08/08/1996	3703		266603
Toluene	99.6	99.6	0.0	38.83	ND	38.68	38.69		ug/L	08/08/1996	3703		266603
Bromofluorobenzene (SURR)	94.0	98.0	4.2	100	87	94	98		% Rec.	08/08/1996	3703		266603
M8015 (EXT., Liquid)													266836
as Diesel	80.7	75.5	6.7	1.92	0.10	1.65	1.55	DH,B-0	mg/L	08/13/1996	1253		266836

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

Client Name: ABF Freight Systems, Inc.  
Client Acct: 11290  
NET Job No: 96.02309

Date: 08/14/1996  
ELAP Cert: 1386  
Page: 7

Ref: G.I. Trucking/San Leandro, CA/Job No. 88288.1

## LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Rec.	DUP		LCS Amount Found	DUP		Flags	Units	Date Analyzed	Analyst Initials	Run Batch
		LCS % Rec.	RPD		LCS Amount Found	LCS Amount Exp.					
M8015 (EXT., Liquid) as Diesel	133.0			1.33		1.00		mg/L	08/13/1996	aal	1253

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

## KEY TO RESULT FLAGS

\* : RPD between sample duplicates exceeds 30%.  
\*M : 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.  
B-I : Value is between Method Detection Limit and Reporting Limit.  
B-O : Analyte found in blank and sample.  
C : The result confirmed by secondary column or GC/MS analysis.  
CNA : Cr+6 not analyzed; Total Chromium concentration below Cr+6 regulatory level.  
COMP : Sample composited by equal volume prior to analysis.  
D- : The result has an atypical pattern for Diesel analysis.  
D1 : The result for Diesel is an unknown hydrocarbon which consists of a single peak.  
DH : The result appears to be a heavier hydrocarbon than Diesel.  
DL : The result appears to be a lighter hydrocarbon than Diesel.  
DR : Elevated Reporting Limit due to Matrix.  
DS : Surrogate diluted out of range.  
DX : The result for Diesel is an unknown hydrocarbon which consists of several peaks.  
FA : Compound quantitated at a 2X dilution factor.  
FB : Compound quantitated at a 5X dilution factor.  
FC : Compound quantitated at a 10X dilution factor.  
FD : Compound quantitated at a 20X dilution factor.  
FE : Compound quantitated at a 50X dilution factor.  
FF : Compound quantitated at a 100X dilution factor.  
FG : Compound quantitated at a 200X dilution factor.  
FH : Compound quantitated at a 500X dilution factor.  
FI : Compound quantitated at a 1000X dilution factor.  
FJ : Compound quantitated at a greater than 1000x dilution factor.  
FK : Compound quantitated at a 25X dilution factor.  
FL : Compound quantitated at a 250X dilution factor.  
G- : The result has an atypical pattern for Gasoline.  
G1 : The result for Gasoline is an unknown hydrocarbon which consists of a single peak.  
GH : The result appears to be a heavier hydrocarbon than Gasoline.  
GL : The result appears to be a lighter hydrocarbon than Gasoline.  
GX : The result for Gasoline is an unknown hydrocarbon which consists of several peaks.  
HT : 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.  
HX : Peaks detected within the quantitation range do not match standard used.  
J : Value is estimated.  
MI : Matrix Interference Suspected.  
MSA : Value determined by Method of Standard Additions.  
MSA\* : Value obtained by Method of Standard Additions; Correlation coefficient is <0.995.  
NI1 : Sample spikes outside of QC limits; matrix interference suspected.  
NI2 : Sample concentration is greater than 4X the spiked value; the spiked value is considered insignificant.  
NI3 : Matrix Spike values exceed established QC limits, post digestion spike is in control.  
P : There is >40% difference between primary and confirmation analysis.  
P7 : pH of sample > 2; sample analyzed past 7 days.  
RSC : Refer to subcontract laboratory report for QC data.  
S2 : Matrix interference confirmed by repeat analysis.  
SCN : Thiocyanate not analyzed separately; total value is below the Reporting Limit for Free Cyanide.  
UMDL : Undetected at the Method Detection Limit.



## CHAIN OF CUSTODY RECORD

JOB # 88288.1		PROJECT NAME/LOCATION G.I. Trucking / San Leandro CA													standard TURNAROUND TIME: 5 DAY(S)		
SAMPLERS (SIGNATURE) Steph W. Mhuu															REMARKS:		
DATE	TIME	COMP	GRAB	SAMPLE NAME/LOCATION	# OF CONTAINERS	TPH AS GASOLINE + BTX (MOD EPA 8015/8020)	TPH AS DIESEL (MOD EPA 8015)	VOC (EPA 624/8240)	SEMI-VOC (EPA 625/8270)	TRPH (EPA 418.1)	BTX (EPA 8070/602)						HOLD
8/5/96	1135		X	MW-2	5	X	X				X						
8/5/96	1225		X	MW-3	5	X	X				X						
CUSTODY SEALED Date: 8/6/96 Time: 12:16 Initials: [Signature] SEAL INTACT? Yes [initials] No [initials] Initials: [Signature]																	
REQUESTED BY: Mark Dettorman					RESULTS AND INVOICE TO: A. B. F. Freight System c/o Blymyer Engineers, Inc												
RELINQUISHED BY: (SIGNATURE) Steph W. Mhuu		DATE / TIME 8/6/96 10:11		RECEIVED BY: (SIGNATURE) C. Smart		DATE / TIME 8/6/96 10:11		RELINQUISHED BY: (SIGNATURE) C. Smart		DATE / TIME 8/6/96 12:16		RECEIVED BY: (SIGNATURE)					
RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED (FOR LABORATORY BY): (SIGNATURE) Dana Keene		DATE / TIME 8/7/96 08:00		REMARKS:									