

STIP 363

**BLMYER**  
ENGINEERS, INC.



HAZMAT  
June 14, 1994  
BEI Job No. 89070  
94 JUL -6 PM 3:06

Mr. Ed Peterson  
1301 65th Street Association  
1939 Harrison Street, Suite 605  
Oakland, CA 94612

Subject: 1301 65th Street  
Emeryville, California

Dear Mr. Peterson:

Blymyer Engineers, Inc. has completed the additional investigation discussed in my conversation with Ms. Caroline Baxter of Peterson Properties on April 26, 1994. The additional investigative work consisted of the following two tasks:

1. Reports and correspondence at the Alameda County Department of Environmental Health (ACDEH) were reviewed for six sites in close proximity to the subject site that are currently or were previously under environmental investigation. This research concentrated on the direction of groundwater flow determined at each of these sites.
2. A groundwater sample was collected and analyzed from the existing monitoring well at the subject site.

### Background

One 2,000-gallon gasoline underground storage tank (UST) was removed from the subject site on June 9, 1988. The UST removal was performed for the previous property owner, Mr. Charles Gensler, under the supervision of Blymyer Engineers. The UST was installed in 1952 and had been out-of-service since 1972. The UST was inspected upon removal and two 1-inch-diameter holes were found. Groundwater infiltrated the excavation to a depth of approximately 12 feet below ground surface (bgs). A sheen was visible on the groundwater in the excavation. Three soil samples were collected from the bottom of the excavation and analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Only one soil sample contained detectable concentrations of TPH as gasoline at 180 milligrams per kilogram (mg/kg), or parts per million (ppm), and benzene at 0.053 mg/kg. The UST backfill material, consisting of partially cemented foundry sand, was excavated and properly disposed of off the site.

One 25-foot-deep, 2-inch-diameter groundwater monitoring well, MW-1, was installed by Blymyer Engineers on June 8, 1988, in the inferred downgradient direction (southwest). The monitoring well was installed 25 feet from the UST excavation, rather than within 10 feet as

specified in the Regional Water Quality Control Board's (RWQCB) *Tri-Regional Guidelines*, due to the presence of an overhead power line. ~~Soil samples were collected during the installation of the monitoring well at approximate depths of 5, 10, and 15 feet bgs.~~ The soil samples were analyzed for TPH as gasoline and BTEX. In the soil sample collected at approximately 5 feet bgs, TPH as gasoline was detected at 35 mg/kg, benzene at 0.580 mg/kg, toluene at 0.460 mg/kg, ethylbenzene at 0.670 mg/kg, and total xylenes at 4.9 mg/kg. In the soil sample collected at approximately 10 feet bgs, TPH as gasoline was detected at 0.630 mg/kg and benzene at 0.020 mg/kg. TPH as gasoline and BTEX were not detected in the soil sample collected at approximately 15 feet bgs.

Groundwater was encountered initially during drilling at a depth of approximately 14.5 feet bgs and stabilized at a depth of approximately 3 to 4 feet bgs. The site stratigraphy generally consisted of clay with varying amounts of silt and sand.

A groundwater sample was collected from well MW-1 initially on June 10, 1988, and quarterly groundwater sampling was performed from February 1989 to May 1991. The groundwater sample analytical results for all previous sampling events are summarized in Table I.

### Site Conditions

The subject site was located in an industrial area in northern Emeryville, California (Figures 1 and 2). The site consisted of a single building surrounded by asphalt and concrete paving. The former gasoline UST was located in the northwest portion of the site in an automobile parking area (Figure 3). At the time of this investigation, the site was occupied by Sybase, a computer software developer.

The site is located approximately 2,500 feet east of San Francisco Bay at an approximate elevation of 20 feet above mean sea level.

### Neighboring Site File Review

The following six sites in close proximity (within 1,000 feet) to the subject site are currently or were previously under environmental investigation:

1. Oliver Rubber Company  
1200 65th Street
2. Rix Industries  
6460 Hollis Street

3. Grove Valve & Regulator  
6529 Hollis Street
4. Ryerson Steel  
1465 65th Street
5. Mission-Taylor Properties  
1410 64th Street
6. Liquid Sugar, Inc. (LSI)  
1275 66th Street

The general locations of these sites are shown on Figure 2. Blymyer Engineers reviewed case files for these sites at the ACDEH on May 3, 1994. The file review concentrated on obtaining information about the direction of groundwater flow to establish the regional groundwater flow direction in the immediate proximity of the subject site.

Groundwater flow direction was determined through the installation of at least three groundwater monitoring wells at five of the sites listed above. The sixth site, LSI, only had two monitoring wells and therefore a site-specific groundwater flow direction had not been determined. At the other five sites, the direction of groundwater flow had been measured from one time (Rix Industries, July 1992) up to 10 separate times (Mission-Taylor Properties, April 1990 to March 1993). The range of groundwater flow direction at each of these sites is shown on Figure 2.

At three of the sites (Oliver Rubber Co., Rix Industries, and Grove Valve & Regulator), the range of groundwater flow was exclusively from the west to the southwest. At Mission-Taylor Properties, which had the longest monitoring period of four years, the direction of groundwater flow ranged almost 180 degrees, from south to north-northwest. At Ryerson Steel, the direction of groundwater flow ranged from north-northwest to north. One of the monitoring wells at Ryerson Steel contained free product which could affect the determination of groundwater flow direction at that site.

Overall, groundwater in the immediate vicinity of the subject site appears to flow generally towards the west to southwest, which is towards San Francisco Bay. The northerly flow direction observed at the two sites west and south of the subject site cannot be readily explained at this time.

## Groundwater Sampling

A groundwater sample was collected from well MW-1 at the subject site by Blymyer Engineers on May 2, 1994. Prior to sampling, approximately three well casing volumes (10 gallons) of groundwater were purged from the well using a disposable polyethylene bailer and placed in a DOT-approved, 55-gallon drum for later disposal by the client. Temperature, conductivity, and pH were measured initially and after the removal of each well casing volume. A representative groundwater sample was collected and placed in three 40-milliliter vials, containing hydrochloric acid preservative, provided by the laboratory. The vials were fitted with Teflon<sup>®</sup>-lined lids, labeled, and placed in a cooler with blue ice. The Well Purging and Sampling Data sheet is included as Appendix A.

The groundwater sample was delivered via courier to NET Pacific, Inc., a California-certified analytical laboratory, and analyzed for TPH as gasoline using modified EPA Method 8015 and BTEX using EPA Method 8020. TPH as gasoline and BTEX were not found in the groundwater sample above the respective method reporting limits of 0.05 milligrams per liter, or ppm, and 0.5 micrograms per liter, or parts per billion. The analytical report is included as Appendix B.

The depth to groundwater in well MW-1 prior to sampling was 2.70 feet below the top of the well casing (TOC). The TOC elevation has never been determined for this monitoring well since it is the only well at the subject site.

## Conclusions and Recommendations

Based on the data from this investigation, Blymyer Engineers concludes the following:

- Well MW-1 is generally downgradient from the former gasoline UST excavation.
- Concentrations of TPH as gasoline and BTEX have decreased to below the method reporting limits since the last groundwater sampling event at the subject site in May 1991.

A copy of this report should be submitted to the following regulatory agencies:

Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Suite 350  
Oakland, CA 94621  
Attn: Susan Hugo

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1301 65th Street Association

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California Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612  
Attn: Richard Heitt

### Limitations

Services performed by Blymyer Engineers, Inc. have been provided in accordance with generally accepted professional practices for the nature and conditions of similar work completed in the same or similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. This report was prepared for the sole use of 1301 65th Street Association.

If you have any questions, please contact Mike Lewis at 521-3773.

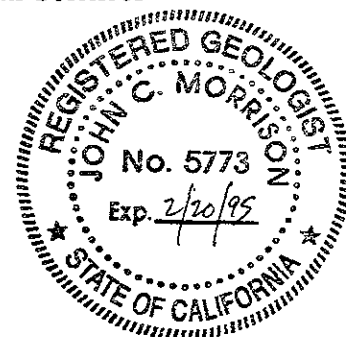
Cordially,

Blymyer Engineers, Inc.

By: Michael S. Lewis  
Michael S. Lewis  
Vice-President, Technical Services

And: John Morrison  
John Morrison, R.G.  
Director, Earth Sciences

cc: Mr. Robert Coussan  
Mr. Charles Gensler  
Joe Armao, Esq.



Mr. Ed Peterson  
1301 65th Street Association

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Enclosures:

Table I:	Summary of Groundwater Sample Analytical Results
Figure 1:	Site Location Map
Figure 2:	Area Map
Figure 3:	Site Plan
Appendix A:	Well Purging and Sampling Data
Appendix B:	Laboratory Report, NET Pacific, Inc., May 17, 1994

m189070inv.rpt

**Table I, Summary of Groundwater Sample Analytical Results  
 1301 65th Street Association  
 1301 65th Street, Emeryville, California  
 BEI Job No. 89070**

Monitoring Well	Sampling Date	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes
		8015M	8020	8020	8020	8020
		mg/L	µg/L	µg/L	µg/L	µg/L
MW-1	6/10/88*	1.4	<3	<10	<4	15
	2/13/89	0.21	<1	<0.9	5.6	<2
	5/8/89	0.36	79	<2	7.5	<4
	8/8/89	0.24	21	<2	5.2	<7
	11/8/89	0.44	270	<3	5.9	<9
	2/8/90	0.56	440	5.6	13	<10
	5/10/90	0.29	200	<3	<5	<10
	8/8/90	0.62	430	<5	25	<10
	11/12/90	0.18	9.4	1.8	<0.5	<0.5
	2/11/91	1.3	45	1.9	4.8	0.7
	5/14/91	1.0	61	<0.5	9.5	1.9
	5/2/94	<0.05	<0.5	<0.5	<0.5	<0.5

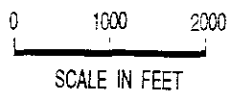
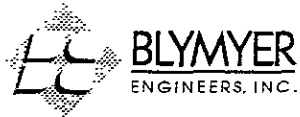
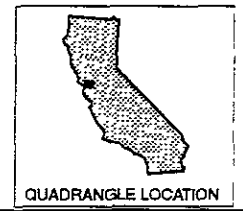
\* Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 624

TPH = Total Petroleum Hydrocarbons  
 mg/L = milligrams per liter (parts per million)  
 µg/L = micrograms per liter (parts per billion)

Note: For results shown as <x, x represents the method reporting limit.



SOURCE: UNITED STATES GEOGRAPHICAL SURVEY 7.5' QUAD "OAKLAND WEST, CA" PHOTOREVISED 1980.



**SITE LOCATION MAP**

1301 65th ST. ASSOCIATION  
1301 65th ST.  
EMERYVILLE, CA

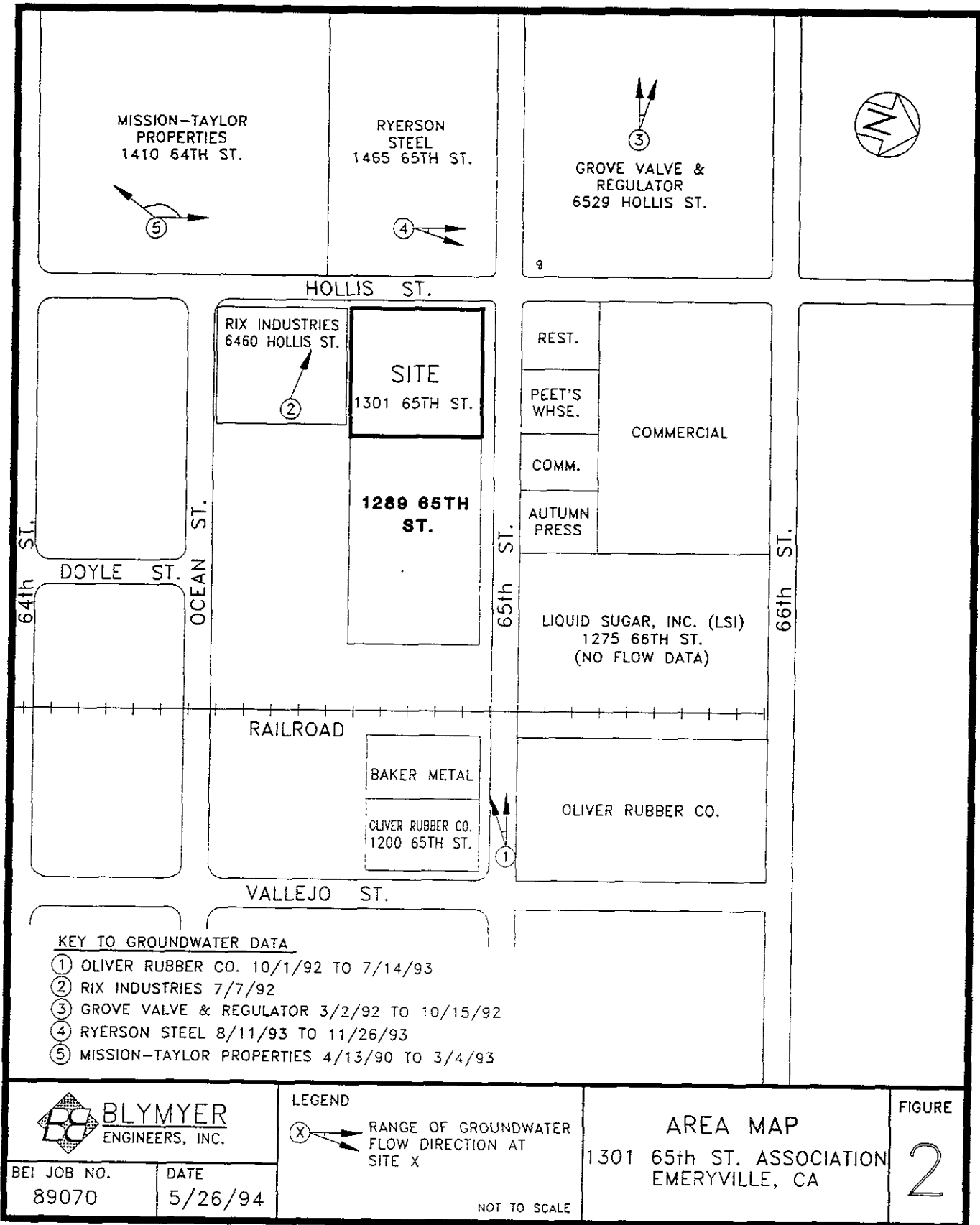
FIGURE

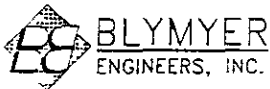
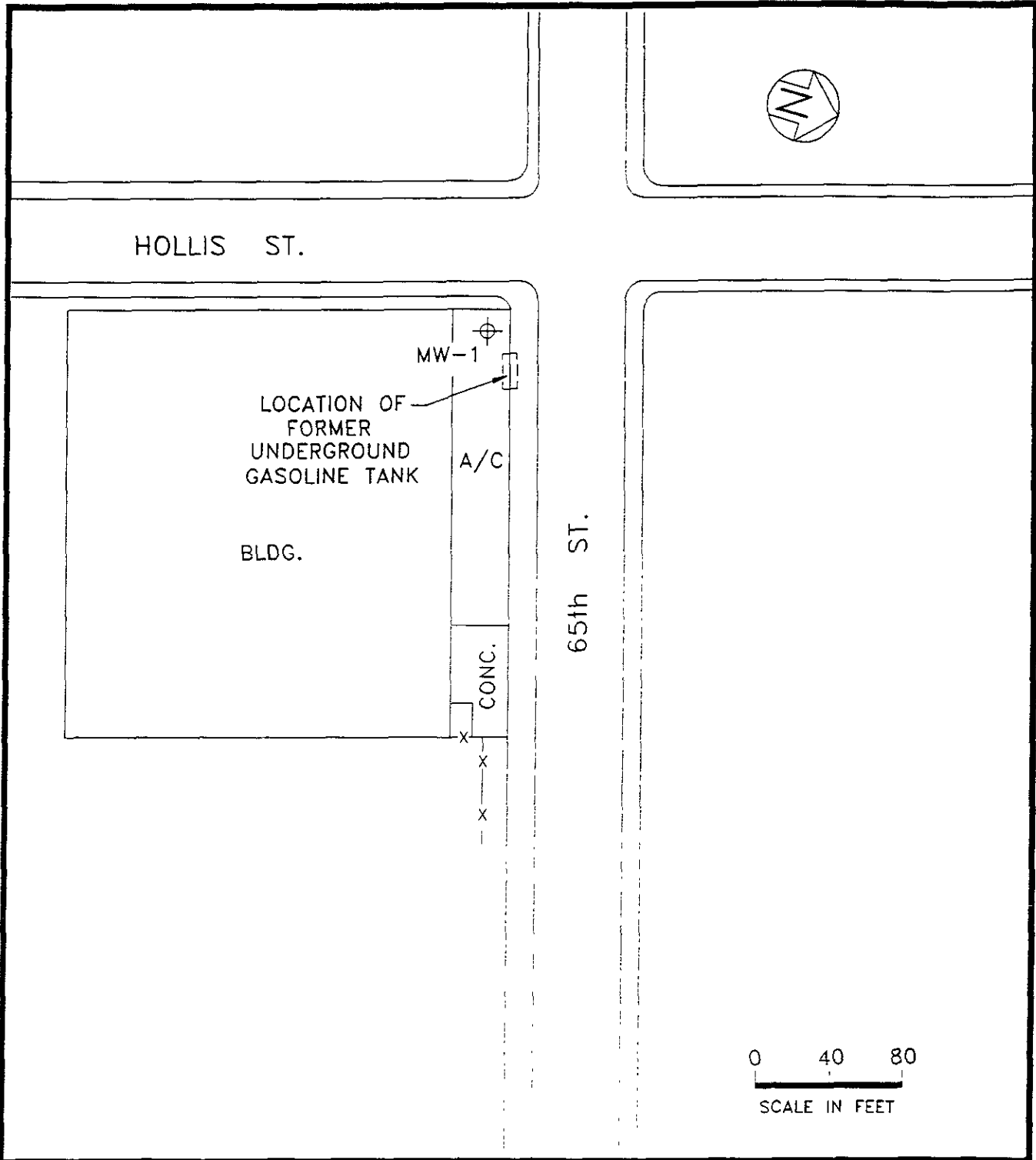
1

BEI JOB NO. 89070

DATE 5/24/94







LEGEND

⊕ MONITORING WELL

SITE PLAN

1301 65th ST. ASSOCIATION  
EMERYVILLE, CA

FIGURE

3

BEI JOB NO.  
89070

DATE  
5/24/94

APPENDIX A

WELL PURGING AND SAMPLING DATA

## Well Purging and Sampling Data

Date	5/2/94	Project Number	89070	Project Name	Peterson
Well Number	MW-1	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	2.70 ft.	Column of water	x 19.65 ft.
Total depth of well	22.35 ft.	Volume of casing	= 3.3 gal.
Column of water	19.65 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 9.9 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	Reddish color, no silt, slight "sewage" odor
During	Red color, slightly silty, slight "sewage" odor
Final	Red color, silty, slight "sewage" odor

Field Analysis	Initial	During		Final
Time	07:43	07:50	07:59	08:08
Temperature (F)	60.2	60.7	60.9	61.0
Conductivity (us/cm)	1730	1930	1940	1950
pH	7.95	7.45	7.33	7.20
Method of measurement	Hydac meter			
Total volume purged	10.0 gal.			
Comments	Signs of water ingress from two 1-inch long slits in well case. Removed approx. 1 inch from top of case to eliminate slits and prevent future water ingress.			

Sample Number	Amount of Sample
MW-1	3-40ml VOA w/ HCl

Signed/Sampler	Date
<i>Steph W. Wilson</i>	5/2/94
Signed/Reviewer	Date
<i>Richard J. ...</i>	5/6/94

APPENDIX B

LABORATORY REPORT, NET PACIFIC, INC., MAY 17, 1994

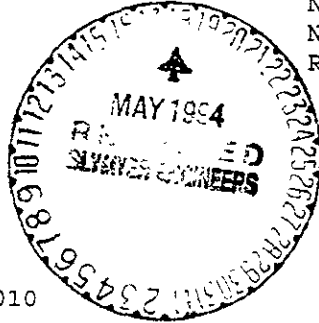


NATIONAL  
ENVIRONMENTAL  
® TESTING, INC.

Santa Rosa Division  
435 Tesconi Circle  
Santa Rosa, CA 95401  
Tel. (707) 526-7200  
Fax: (707) 526-9623

Mike Lewis  
Blymyer Engineers, Inc  
1829 Clement Ave  
Alameda, CA 94501

Date: 05/17/1994  
NET Client Acct. No: 49500  
NET Pacific Job No: 94.01769  
Received: 05/03/1994

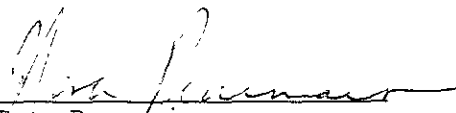


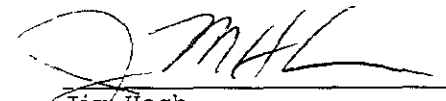
Client Reference Information

Peterson/Emeryville, Job: 89010

Sample analysis in support of the project referenced above has been completed and results are presented on 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 welcome to contact Client Services.

Approved by:

  
Nora Pearmain  
Project Coordinator

  
Jim Hoch  
Operations Manager

Enclosure (s)





Client Acct: 49500  
Client Name: Blymyer Engineers, Inc  
NET Job No: 94.01769

Date: 05/17/1994  
ELAP Certificate: 1386  
Page: 2

Ref: Peterson/Emeryville, Job: 89010

SAMPLE DESCRIPTION: MW-1  
Date Taken: 05/02/1994  
Time Taken: 08:40  
NET Sample No: 192874

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE, Liquid)							
METHOD 5030/M8015	--						05/13/1994
DILUTION FACTOR*	1						05/13/1994
as Gasoline	ND		0.05	mg/L	5030		05/13/1994
METHOD 8020 (GC, Liquid)	--						05/13/1994
Benzene	ND		0.5	ug/L	8020		05/13/1994
Toluene	ND		0.5	ug/L	8020		05/13/1994
Ethylbenzene	ND		0.5	ug/L	8020		05/13/1994
Xylenes (Total)	ND		0.5	ug/L	8020		05/13/1994
SURROGATE RESULTS	--						05/13/1994
Bromofluorobenzene (SURR)	93			% Rec.	5030		05/13/1994

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



Client Acct: 49500  
Client Name: Blymyer Engineers, Inc  
NET Job No: 94.01769

Date: 05/17/1994  
ELAP Certificate: 1386  
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Ref: Peterson/Emeryville, Job: 89010

## CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

<u>Parameter</u>	<u>CCV Standard % Recovery</u>	<u>CCV Standard Amount Found</u>	<u>CCV Standard Amount Expected</u>	<u>Units</u>	<u>Date Analyzed</u>	<u>Analyst Initials</u>
TPH (Gas/BTXE, Liquid)						
as Gasoline	89.0	0.89	1.00	mg/L	05/13/1994	klh
Benzene	98.6	4.93	5.00	ug/L	05/13/1994	klh
Toluene	94.4	4.72	5.00	ug/L	05/13/1994	klh
Ethylbenzene	91.6	4.58	5.00	ug/L	05/13/1994	klh
Xylenes (Total)	91.3	13.7	15.0	ug/L	05/13/1994	klh
Bromofluorobenzene (SURR)	97.0	97	100	% Rec.	05/13/1994	klh

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





Client Acct: 49500  
Client Name: Blymyer Engineers, Inc  
NET Job No: 94.01769

Date: 05/17/1994  
ELAP Certificate: 1386  
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## METHOD BLANK REPORT

<u>Parameter</u>	<u>Method</u> <u>Blank</u> <u>Amount</u> <u>Found</u>	<u>Reporting</u> <u>Limit</u>	<u>Units</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u> <u>Initials</u>
TPH (Gas/BTXE, Liquid)					
as Gasoline	ND	0.05	mg/L	05/13/1994	klh
Benzene	ND	0.5	ug/L	05/13/1994	klh
Toluene	ND	0.5	ug/L	05/13/1994	klh
Ethylbenzene	ND	0.5	ug/L	05/13/1994	klh
Xylenes (Total)	ND	0.5	ug/L	05/13/1994	klh
Bromofluorobenzene (SURR)	105		% Rec.	05/13/1994	klh

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



Client Acct: 49500  
Client Name: Blymyer Engineers, Inc  
NET Job No: 94.01769

Date: 05/17/1994  
ELAP Certificate: 1386  
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Ref: Peterson/Emeryville, Job: 89010

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike			Spike Amount	Sample Conc.	Matrix Spike		Units	Date Analyzed	Analyst Initials
	Matrix Spike % Rec.	Dup % Rec.	RPD			Matrix Spike Conc.	Dup. Conc.			
TPH (Gas/BTXE, Liquid)										
as Gasoline	78.0	74.0	5.3	1.00	0.93	1.71	1.67	mg/L	05/13/1994	klh
Benzene	97.3	99.5	2.2	40.3	ND	39.2	40.1	ug/L	05/13/1994	klh
Toluene	93.7	96.0	2.4	101.8	ND	95.4	97.7	ug/L	05/13/1994	klh

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



## KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- \* : Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference,  $100 \text{ [Value 1 - Value 2] / mean value}$ .
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

### Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.



9102

## CHAIN OF CUSTODY RECORD

JOB # 89070		PROJECT NAME/LOCATION Peterson / Emeryville, CA				# OF CONTAINERS 3	TPH AS GASOLINE + BTXE (MOD EPA 8015/8020)	TPH AS DIESEL (MOD EPA 8015)	VOC (EPA 624/8240)	SEMI-VOC (EPA 625/8270)	TRPH (EPA 418.1)	BTXE (EPA 8020/602)	HOLD	TURNAROUND TIME: <u>Standard</u> DAY(S)
SAMPLERS (SIGNATURE) <i>Steph. W. Moore</i>				REMARKS:										
DATE	TIME	COMP	GRAB	SAMPLE NAME/LOCATION										
5/2/94	0840		X	mcv-1		X								
REQUESTED BY: <i>Mike Lewis</i>						RESULTS AND INVOICE TO: <i>Blymyer Engineers, Inc</i>								
RELINQUISHED BY: (SIGNATURE) <i>Steph. W. Moore</i>		DATE / TIME 5/2/94 0950		RECEIVED BY: (SIGNATURE) <i>Michael S. L.</i>		RELINQUISHED BY: (SIGNATURE) <i>Michael S. L.</i>		DATE / TIME 5/2/94 1130		RECEIVED BY: (SIGNATURE) <i>[Signature]</i>				
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE / TIME 5/2/94 1130		RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>		DATE / TIME 5/2/94 0800		REMARKS: Temp Record 2 2°C						

(5/2/94) *[Signature]*  
substantiated