

ENGEO INCORPORATED

GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS

February 28, 1995

Mr. Dick Alford
Livermore Valley Joint Unified School District
685 East Jack London Boulevard
Livermore, CA 94550

Subject: Maintenance Yard
2900 Ladd Avenue
Livermore, California

In Reply
Please Refer to:
3174-F8

*Called Eric Hamel for copy of
MW 3 + 4 + 5B investigation*

ENVIRONMENTAL
PROTECTION
95 MAR 17 PM 2:12

REPORT ON GROUND-WATER SAMPLING

Reference: ENGEO Inc., Report on Soil and Ground-Water Investigation, 2900 Ladd Avenue, Livermore, California, dated July 8, 1994.

Dear Mr. Alford:

This report presents the results of the quarterly ground-water sampling episode at the subject property (Figure 1). The scope of services included the following:

- Purging of the three ground-water monitoring wells with the recovery of a ground-water sample from each of the wells.
- Laboratory analysis of the ground-water samples for TPH as gasoline; benzene, toluene ethyl benzene and xylene (BTEX).
- Preparation of this letter report

Ground-Water Sampling

Field work was conducted on February 8, 1995. Initially, the depth to the top of the ground-water was verified and the well was checked for the presence of free product or petroleum sheen. No free product or sheen was observed. The water levels for MW2, MW3, and MW4 were measured at 28.04, 27.08 and 27.66 feet below the top of the well casing respectively. The measured water levels in the three wells had risen approximately 12 feet since the last sampling event on July 12, 1994.

Prior to sampling, 6 to 7 casing volumes of water were removed from the wells using a submersible electric pump. Water quality parameters including, temperature, pH, and dissolved solids were monitored to allow for adequate purging. The ground-water sample was collected for laboratory testing using a Voss Technologies dedicated polyethylene bailer. The samples were then decanted into precleaned laboratory glassware and cooled in an ice chest until delivery under a documented chain-of-custody to ChromaLab, Incorporated in Pleasanton, California. A copy of the well sampling information forms and the chain of custody are provided as an attachment.

Laboratory Analysis

The ground-water samples was tested for total petroleum hydrocarbons as gasoline, (EPA 5030/8015) and benzene, toluene, ethylbenzene and xylenes (BTEX) (EPA 602). The practical quantitation limits listed for TPHg and BTEX in the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites dated August 10, 1990, were used by the laboratory as the detection reporting limits. A copy of the laboratory test report is provided as an attachment. Table I provides a summary of the laboratory test results.

TABLE I
 Laboratory Analysis Summary
 (Concentrations reported in parts per billion)

	TPHg	B	T	E	X
MW2					
4/20/93	4,500	340	110	8.0	630
5/12/94	7,000	520	220	35	410
2/8/95	170	8.9	4.5	2.1	17
MW3					
7/12/94	<50	<0.5	<0.5	<0.5	<0.5
2/8/95	<50	<0.5	<0.5	<0.5	<0.5
MW4					
7/12/94	<50	<0.5	<0.5	<0.5	<0.5
2/8/95	<50	<0.5	<0.5	<0.5	<0.5

Livermore Valley Joint Unified School District
Maintenance Yard, 2900 Ladd Avenue
REPORT ON GROUND-WATER SAMPLING

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February 28, 1995
Page 3

The next quarterly sampling episode for the three wells will be undertaken in early May 1995. With your authorization, a copy of this report has been provided to Ms. Eva Chu with the Alameda County Department of Environmental Health. We appreciate the opportunity to be of continued service to you on this project. If you have any questions, please contact our office.

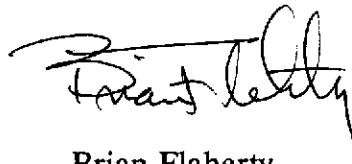
Very truly yours,

ENGEO INCORPORATED

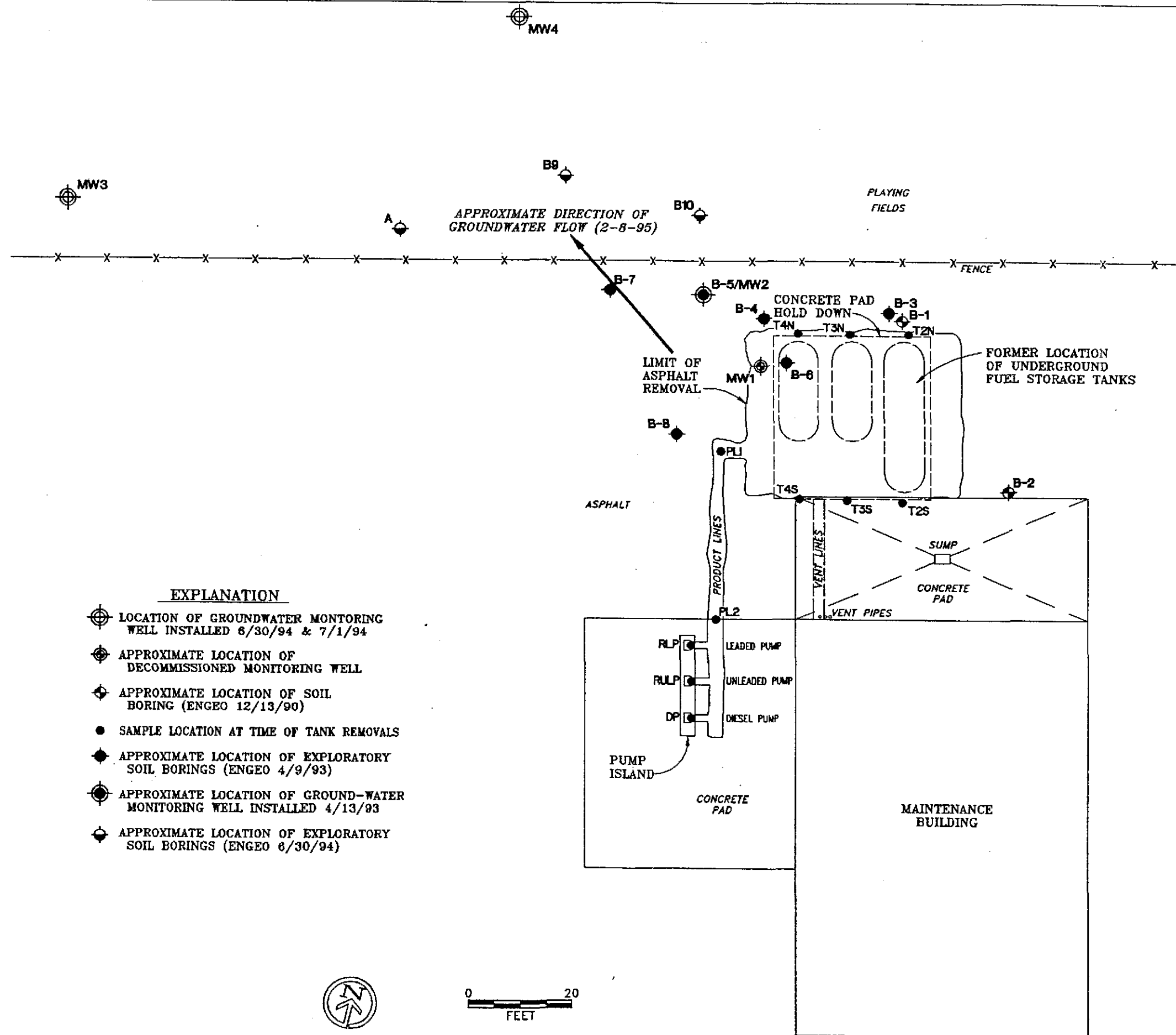


Eric Harrell
Environmental Geologist

Reviewed by:



Brian Flaherty
Vice President
Director, Environmental Services



EXPLANATION

- ⊕ LOCATION OF GROUNDWATER MONITORING WELL INSTALLED 6/30/94 & 7/1/94
- ⊙ APPROXIMATE LOCATION OF DECOMMISSIONED MONITORING WELL
- ⊕ APPROXIMATE LOCATION OF SOIL BORING (ENGE0 12/13/90)
- SAMPLE LOCATION AT TIME OF TANK REMOVALS
- ◆ APPROXIMATE LOCATION OF EXPLORATORY SOIL BORINGS (ENGE0 4/9/93)
- ⊕ APPROXIMATE LOCATION OF GROUND-WATER MONITORING WELL INSTALLED 4/13/93
- ⊙ APPROXIMATE LOCATION OF EXPLORATORY SOIL BORINGS (ENGE0 6/30/94)

**ENGEO INCORPORATED
GROUND-WATER SAMPLING INFORMATION**

Job Name: 2900 Ladd Avenue

Job Number: 3174-F8

Location: Livermore, California

Date: February 8, 1995

Client: L.V.J.U.S.D

By: Eric Harrell

WELL INFORMATION

Well Number: MW-2

Diameter (in): 2

Total Depth (ft): 57.02

Screen Length: 25'

Depth to Water (ft): 28.14

Casing Volume (gal): 4.9

PURGING INFORMATION

Bailer: Pump: X (rate): 1.1gpm

Time: (init./fin) 16:43/17:19

Volume Removed (gal): 35

No. of Casing Vol: 7.1

Time	Volume Removed (Gal.)	Total Casing Volumes	Temp °C	Cond (µS)	pH	Comments
16:43	--	--	--	--	--	Initial
16:48	5	1	19.1	820	7.3	Turbid
16:53	10	2	19.5	840	7.2	Moderately turbid
16:59	15	3	19.2	840	7.3	Moderately turbid
17:04	20	4.1	19.6	830	7.3	Moderately turbid
17:09	25	5.1	19.3	840	7.2	Moderately turbid
17:14	30	6.1	19.4	820	7.3	Moderately turbid
17:19	35	7.1	19.4	810	7.3	Moderately turbid

SAMPLE INFORMATION

Bailer: X Pump: (gpm):

Dist. H₂O

Decon Procedure: TSP

Other

Disposable X

Sample	Time	Size	Presv.	Test	Comments
MW-2	17:49	40ml	ICE	TPHg/BTEX	

3174-F8
February 28, 1995

**ENGEO INCORPORATED
GROUND-WATER SAMPLING INFORMATION**

Job Name: 2900 Ladd Avenue

Job Number: 3174-F8

Location: Livermore, California

Date: February 8, 1995

Client: L.V.J.U.S.D

By: Eric Harrell

WELL INFORMATION

Well Number: MW-3

Diameter (in): 2

Total Depth (ft): 52.80

Screen Length: 25'

Depth to Water (ft): 27.08

Casing Volume (gal): 4.4

PURGING INFORMATION

Bailer: Pump: X (rate): 1.1gpm

Time: (init./fin) 12:40/13:07

Volume Removed (gal): 27

No. of Casing Vol: 6

Time	Volume Removed (Gal.)	Total Casing Volumes	Temp °C	Cond (µS)	pH	Comments
12:40	--	--	--	--	--	Initial
12:44	4.5	1	18.5	680	7.5	Slightly turbid
12:48	9	2	18.7	760	7.4	Slightly turbid
12:53	13	3	18.6	740	7.4	Slightly turbid
12:58	18	4.1	18.7	750	7.4	Slightly turbid
1:03	22.5	5.1	18.9	740	7.4	Slightly turbid
1:07	27	6.1	19.0	740	7.4	Slightly turbid

SAMPLE INFORMATION

Bailer: X Pump: (gpm):

Decon Procedure: TSP

Dist. H₂O

Disposable X

Other

Sample	Time	Size	Presv.	Test	Comments
MW-3	13:14	40ml	ICE	TPHg/BTEX	

**ENGEO INCORPORATED
GROUND-WATER SAMPLING INFORMATION**

Job Name: 2900 Ladd Avenue

Job Number: 3174-F8

Location: Livermore, California

Date: February 8, 1995

Client: L.V.J.U.S.D

By: Eric Harrell

WELL INFORMATION

Well Number: MW-4

Diameter (in): 2

Total Depth (ft): 53.82

Screen Length: 25'

Depth to Water (ft): 27.66

Casing Volume (gal): 4.4

PURGING INFORMATION

Bailer: Pump: X (rate): 1.1gpm

Time: (init./fin) 14:23

Volume Removed (gal): 27

No. of Casing Vol: 6.1

Time	Volume Removed (Gal.)	Total Casing Volumes	Temp °C	Cond (µS)	pH	Comments
14:23	--	--	--	--	--	Initial
14:27	4.5	1	17.4	1020	7.3	Turbid
14:32	9	2	18.2	1150	7.3	Moderately turbid
14:37	13.5	3	18.2	1040	7.3	Slightly turbid
14:43	18	4	18.5	950	7.3	Slightly turbid
14:47	22.5	5.1	18.4	980	7.3	Slightly turbid
14:52	27	6.1	18.5	1000	7.3	Very slightly turbid

SAMPLE INFORMATION

Bailer: X Pump: (gpm):

Dist. H₂O

Decon Procedure: TSP

Other

Disposable X

Sample	Time	Size	Presv.	Test	Comments
MW-4	15:49	40ml	ICE	TPHg/BTEX	

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1995

Submission #: 9502115

ENGEO, INC.

Atten: Shawn Munger

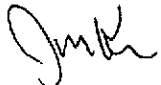
Project: 2900 LADD ANENUE
Received: February 9, 1995

Project#: 3174-F8

re: 3 samples for Gasoline and BTEX analysis.

Sampled: February 8, 1995 Matrix: WATER Analyzed: February 13, 1995
Method: EPA 5030/8015M/602/8020 Run#: 5364

Spl #	CLIENT	SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
77279	MW 2		0.17	8.9	4.5	2.1	17
77280	MW 3		N.D.	N.D.	N.D.	N.D.	N.D.
77281	MW 4		N.D.	N.D.	N.D.	N.D.	N.D.
Reporting Limits			0.05	0.5	0.5	0.5	0.5
Blank Result			N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)			108	95	97	99	103



Jack Kelly
Chemist



Ali Kharrazi
Organic Manager

115/77279-77281

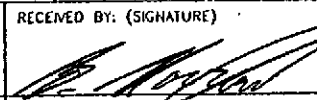
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ENGEO INCORPORATED

2401 CROW CANYON ROAD, SUITE 200
SAN RAMON, CALIFORNIA 94583
PHONE (510) 838-1600

CHAIN OF CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME																			
3174-F8		2900 Ladd Avenue																			
SAMPLED BY: (SIGNATURE)																					
Eric Harrell																					
SAMPLE NUMBER	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	CONTAINER SIZE	PRESERVATIVE	TPH - GASOLINE (EPA 8015/5030)	TPH - DIESEL (EPA 8015/5550/3510)	PURGEABLE AROMATICS BTX (EPA 602, 8020)	PURGEABLE MALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 824, 8240)	BASE/NEUTRALS, ACIDS (EPA 825, 8270)	TOTAL OIL & GREASE (SMWW 5520(F))	OC PESTICIDES/PCB (EPA 608, 6080)	OP PESTICIDES (EPA 614/8140)	TITLE 26 METALS (17)	PRIORITY METALS (13)				
MW2	2-8-95	17:26	aqueous	3	40 ml	ice	X		X												
MW3	2-8-95	13:14	aqueous	3	40 ml	ice	X		X												
MW4	2-8-95	15:49	aqueous	3	40 ml	ice	X		X												
RELINQUISHED BY: (SIGNATURE)							DATE/TIME		RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)			DATE/TIME		RECEIVED BY: (SIGNATURE)				
Eric Harrell							2-9-95 9:46														
RELINQUISHED BY: (SIGNATURE)							DATE/TIME		RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)			DATE/TIME		RECEIVED BY: (SIGNATURE)				
RELINQUISHED BY: (SIGNATURE)							DATE/TIME		RECEIVED FOR LABORATORY BY: (SIGNATURE)			DATE/TIME		REMARKS							
														5-Day TAT.							

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