ENGEO INCORPORATED

GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS

HAZMAT
94 JUN 15 PM 2:46

In Reply
Please Refer to:
3174-F7

June 7, 1994

Mr. Dick Alford
Livermore Valley Joint Unified School District
2900 Ladd Avenue
Livermore, CA 94550

Subject: Maintenance Yard
2900 Ladd Avenue
Livermore, California

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 sampling of the existing ground-water monitoring well (MW2) located on the subject property (Figure 1). The scope of services included the following:

- Purging of the monitoring well with the recovery of a ground-water sample
- Laboratory analysis of the ground-water sample for TPH as gasoline and BTEX.
- Preparation of this letter report

Ground-Water Sampling

Field work was conducted on May 12, 1994. 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 level was recorded at a depth of 31.12 feet from the top of well casing. The measured water level was 0.31 feet lower than a ground-water level recorded on April 20, 1993, (Referenced Report). Prior to sampling, approximately 6 casing volumes of water were removed from the well 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 sample was then decanted into precleaned laboratory glassware and cooled in an ice chest until delivery under a documented chain-of-custody to ChromaLab, Incorporated in San Ramon, California. A copy of the well sampling information forms and the chain of custody are provided as an attachment.

Laboratory Analysis

The ground-water sample was tested for total petroleum hydrocarbons as gasoline, (EPA 5030/8015) and benzene, toluene, ethylbenzene and xylenes (BTEX) (EPA 8020). 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)

Date	TPHg	B	T	E	X
4/20/93	4,500	340	110	8.0	630
5/12/94	7,000	520	220	35	410

The next sampling episode for MW2 will be undertaken at the time the proposed ground-water monitoring wells are sampled. 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.

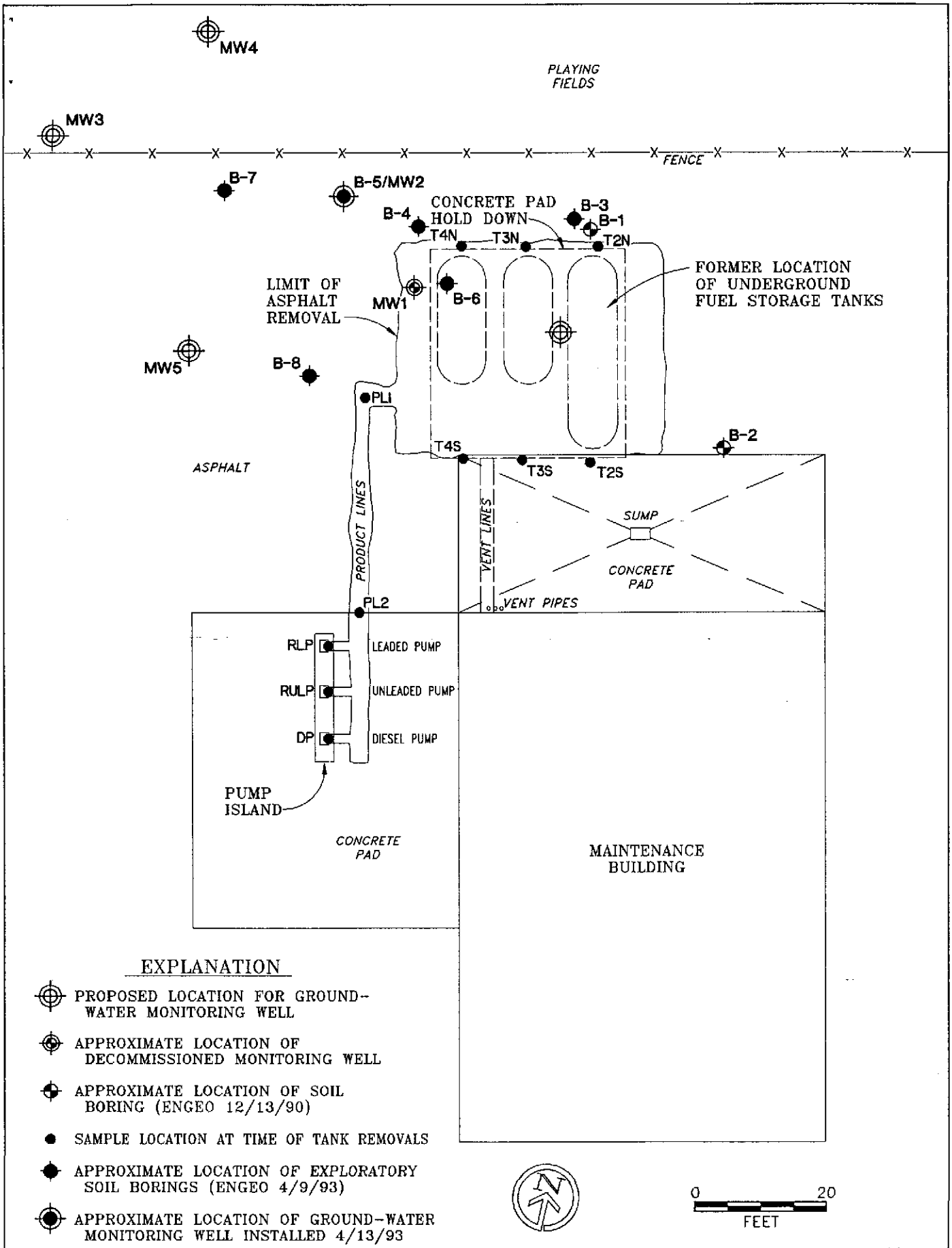
Very truly yours,

ENGEO INCORPORATED

Eric Harrell
Environmental Geologist

Reviewed by:

Brian Flaherty
Vice President
Director, Environmental Services



ENGEO INCORPORATED

REVISED MONITORING WELL LOCATIONS
L.V.J.U.S.D. MAINTENANCE YARD
2900 LADD AVENUE
LIVERMORE, CALIFORNIA

JOB NO.: 3174-F7	FIGURE NO. 1
DATE: JUNE 1994	
DRAWN BY: CS	CHECKED BY: RF

ENGEO INCORPORATED
GROUND-WATER SAMPLING INFORMATION

Job Name: L.V.J.U.S.D. Maintenance Yard	Job Number: 3174-F7
Location: 2900 Ladd Avenue	Date: May 12, 1994
Client: Livermore Valley Joint Unified School District	By: Eric Harrell

WELL INFORMATION

Well Number: MW-2	Diameter (in): 2.0
Total Depth (ft): 57.00 T.O.C.	Screen Length: 25 feet
Depth to Water (ft): 31.12 T.O.C.	Casing Volume (gal): 4.4

PURGING INFORMATION

Bailer: Pump: X (rate): Approx. 1.2 gal/min	Time: (init./fin) 13:45/14:11
Volume Removed (gal): 26.4	No. of Casing Vol: 6
pH Reading: 7.4	Temp (C): 21.0
Cond (μS): 760	eh (mV): -23.6

SAMPLE INFORMATION

Bailer: X Pump: (rate):	
Decon Procedure: Solvent	Acid
TSP	Dist. H_2O
Disposable X	Other

Sample	Time	Size	Presv.	Test	Comments
MW-2	14:16	(3)-40ml	Ice	Total petroleum hydrocarbons as gasoline, benzene, tolune, ethyl benzene and xylenes.	Slightly turbid

ENGEO INCORPORATED
WELL PURGING INFORMATION

Job Name: L.V.J.U.S.D. Maintenance Yard	Job No.: 3174-F7
Location: 2900 Ladd Avenue	Date: May 12, 1994
Client: Livermore Joint Unified School District	By: Eric Harrell
Well No.: MW-2	Total Depth (ft.): 57.00 T.O.C.
Depth to Water (ft.): 31.12 T.O.C.	Casing Volume (gal.): 4.35

Time	Volume Removed (Gal.)	Total Casing Volumes	Temp °C	Cond (μS)	pH	Comments
13:45	0	0	--	--	--	No sheen or floating product
13:49	4.4	1	22.3	670	7.5	Sand and silt
13:54	8.8	2	21.4	800	7.4	Turbid
13:58	13.2	3	21.1	750	7.4	Slightly turbid
14:02	17.6	4	21.0	750	7.4	Slightly turbid
14:07	22.0	5	21.2	750	7.4	Slightly turbid
14:11	26.4	6	21.0	760	7.4	Slightly turbid

CHROMALAB, INC.

Environmental Services (SDB)

May 20, 1994 ChromaLab File#: 9405192

ENGEO, INC.

Atten: Eric Harrell

Project: L.V.J.U.S.D. MAINTENANCE YARD **Project#:** 3174-F7
Received: May 13, 1994

re: 1 sample for Gasoline and BTEX analysis.

Matrix: WATER
Sampled on: May 12, 1994 *Analyzed on:* May 16, 1994
Method: EPA 5030/8015/602 *Run#:* 2885

Lab # SAMPLE ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
51477 MW2	7000	520	220	35	410
DETECTION LIMITS	50	0.5	0.5	0.5	0.5
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	108	99	114	116	120

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

T1 LIMS JACK 15:21:30

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

Sampling

SUBM #: 9405192
CLIENT: ENGEO
DUE: 05/20/94
REF: 16441

Order # 16441
192/51477

ENGEO INCORPORATED

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

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 3174-F7
PROJECT NAME: L.V.J.U.S.D. Maintinance Yard
SAMPLED BY: (SIGNATURE) Eric Harrell

SAMPLE NUMBER	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	CONTAINER SIZE	PRESERVATIVE	TPH – GASOLINE (EPA 8015/5030)	TPH – DIESEL (EPA 8015/3550/3510)	PURGEABLE AROMATICS BTEX (EPA 602, 3020)	PURGEABLE HALOCARBONS (EPA 501, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 625,8270)	TOTAL OIL & GREASE (SMWW 5520(F),)	OC PESTICIDES/PCB (EPA 608, 8080)	OP PESTICIDES (EPA 614/8140)	TITLE 26 METALS (17)	PRIORITY METALS (13)						REMARKS REQUIRED DETECTION LIMITS
MW2	5-12-94	14:16	water	3	40 ml	ice	X		X														

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
Eric Harrell	5/13/94 1341				
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 T.A.T.	

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