

CET Environmental Services, Inc.

5845 Doyle Street, Suite 104 Emeryville, California 94608 Telephone. (510) 652-7001 Fax: (510) 652-7002

October 17, 1995

Ms. Amy Leech Alameda County Health Care Services Agency Department of Environmental Health Hazardous Materials Division 1131 Harbor Bay Parkway, Room 250 Alameda, CA 94502-6577 AICO Rec'd or

Subject:

Third Quarter 1995 Groundwater Monitoring Report 186 East Lewelling Boulevard, San Lorenzo, California

(CET Project No. 3679)

Dear Ms. Leech:

The following letter report, compiled by CET Environmental Services, Inc. (CET), describes the field activities and includes all laboratory analytical results associated with quarterly groundwater monitoring performed at the subject site during the third quarter of 1995. The groundwater monitoring activities described below were performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA) as described in the January 31, 1995, letter to Ms. Wai Yee Young, and Mr. and Mrs. Graffenstatte.

INTRODUCTION

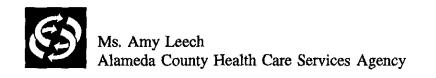
Site Location and Description

The subject site is located at 186 East Lewelling Boulevard in San Lorenzo, California. The location of the subject site is shown on Plate 1 (Attachment A) and specific site features are shown on Plate 2 (Attachment A). The site contains one building which is currently being utilized as an auto repair and maintenance shop. The site is enclosed by a perimeter security fence made of metal bars. The subject site lies approximately 0.5 miles east of Interstate Highway 880 and approximately 0.25 miles south of Highway 238.

Background

On September 5, 1990, three (3) underground storage tanks (USTs) were removed from the subject site. The three USTs included two 4,000-gallon gasoline tanks and one 350-gallon waste oil tank. The approximate locations of the former underground tank excavations and the former fuel pump island are shown on Plate 2, Attachment A. During the UST removal activities, four soil samples were collected from locations below the former gasoline USTs and one soil sample was collected from beneath the former waste oil UST. Analytical results,

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from samples collected below both the former gasoline USTs, indicated elevated levels of gasoline and several aromatic volatile organic compounds.

Groundwater monitoring wells MW1, MW2, and MW3 were installed on June 14 and 15, 1994, under the direction of CET personnel. The completed wells were developed by CET field personnel on June 21, 1994. The top-of-casing (TOC) elevations were surveyed relative to mean sea level (msl) on June 21, 1994, by a California-licensed surveyor. On June 23, 1994, CET personnel collected the first set of groundwater samples from the newly completed wells. All monitoring well drilling, installation, and groundwater sample activities are described in the July 26, 1994 CET Report addressed to the ACHCSA. Quarterly groundwater monitoring activities have been performed continuously since the First Quarter of 1995.

Hydrogeologic Setting and Site Hydrogeology

According to the Alameda County Flood Control and Water Conservation District (ACFCWCD) Report entitled *Geohydrology and Groundwater - Quality Overview, East Bay Plain Area, Alameda County, California* (report 205j, dated 1988), the subject site is located on alluvial fan deposits comprised of clays, silts, and sands interbedded with coarser sands and minor gravels.

The following description of the subsurface hydrogeologic conditions encountered in monitoring wells MW1, MW2, and MW3 is based on CET's soil boring logs. Asphalt was encountered from the surface to approximately 0.2 feet below ground surface (bgs) and was underlain by gravel and soil base fill (boreholes MW1 and MW3). The gravel base is underlain by silty fine sand (possibly engineered fill) to approximately 4.0 feet bgs, and silty clay to approximately 6 feet bgs in borehole MW2. These strata are underlain by a zone of clayey fine sand to a depth of approximately 14 feet (borehole MW1) and 12 feet bgs (boreholes MW2 and MW3). This zone was underlain by a layer of clean fine sand to a depth of approximately 15 feet bgs in borehole MW1 and to approximately 14 feet bgs in borehole MW2.

A zone of silty clay was encountered in borehole MW1 from approximately 15 feet to 21 feet bgs with a thin stringer of wet fine sand at a depth of approximately 18 feet bgs. A zone of clayey fine sand to sandy clay was encountered in borehole MW2 from approximately 14 feet to 21 feet bgs. Very moist to wet conditions were encountered beginning at a depth of approximately 19 feet bgs in MW2. A zone of fine sandy clay was encountered in borehole MW3 from approximately 12 feet to 21 feet bgs with a thin lens of saturated fine sand from approximately 20.5 feet to 21 feet bgs. These zones were underlain by very stiff to hard clay of high plasticity to depths of 22.5 feet bgs in borehole MW1 and 23.5 feet in boreholes MW2 and MW3 (the total depths explored). During drilling and well installation activities,

groundwater was first encountered at a depth of approximately 18 feet bgs in borehole MW1, 20 feet bgs in borehole MW2, and 21 feet bgs in borehole MW3. In summary, the water bearing zone appears to consist of interbedded lenticular deposits of clean fine sand, silty clays, and clayey fine sand to sandy clay, at depths ranging from approximately 17 feet to 21 feet bgs.

GROUNDWATER MONITORING SUMMARY

Groundwater Elevation Monitoring

Groundwater elevations for all site monitoring wells were measured by CET field personnel on September 11, 1995. Cumulative groundwater elevation data for these wells are presented in Table 1 (Attachment B). Groundwater elevations and contours for data recorded on September 11, 1995 are shown on Plate 3 (Attachment A). The calculated groundwater flow direction on September 11, 1995 was towards the west northwest at an approximate gradient of 0.005 feet per foot (ft/ft).

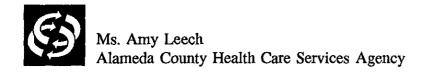
Groundwater Sample Collection

On September 11, 1995, a set of groundwater samples was collected from monitoring wells MW1, MW2, and MW3 by CET field personnel. Prior to collecting groundwater samples, all monitoring wells were purged by bailing until pH, conductivity, and temperature levels stabilized. A minimum of four well casing volumes were purged from each well. All three wells were purged and groundwater samples collected using a disposable polyethylene bailer and nylon rope. New nylon rope, was used for each well.

The appropriate number and type of sample containers were used for each sample collected, in accordance with the analytical laboratory requirements and EPA protocol. The bottles were filled by transferring an aliquot directly from the bailer. All sample bottles were pre-cleaned by the supplier according to EPA protocols.

To prevent cross contamination of groundwater samples all reusable equipment used in sampling was washed in a solution of trisodium phosphate (TSP) and tapwater, triple rinsed with purified water, and allowed to air dry prior to each use.

The samples were submitted to a California EPA Department of Toxic Substances Control (DTSC) accredited analytical laboratory in accordance with CET chain-of-custody protocol. Copies of the sample collection records are presented in Attachment C.



Laboratory Analytical Methods

The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), and the aromatic volatile organic compounds: benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) analytical Methods 5030/8015 and 602, respectively. The results of these analyses are discussed below.

Groundwater Sample Analytical Results

The cumulative groundwater analytical results for monitoring wells MW1, MW2, and MW3 are shown in Table 2 (Attachment B). Copies of the signed laboratory analytical reports and chain-of-custody records are presented in Attachment D.

Groundwater sample MW1 contained 0.05 mg/L TPH-G, and no BTEX analytes were detected at, or above, the test method detection limits of 0.05 μ g/L. Groundwater sample MW2 contained 39 mg/L TPH-G, 150 μ g/L benzene, 1,000 μ g/L toluene, 2,900 μ g/L ethylbenzene, and 13,000 μ g/L total xylenes. Groundwater sample MW3 contained 49 mg/L TPH-G, 190 μ g/L benzene, 330 μ g/L toluene, 4000 μ g/L ethylbenzene, and 12,000 μ g/L total xylenes.

In general, the analytical results of the current quarterly groundwater sampling are consistent with, and similar to, the prior reported chemical concentrations detected in groundwater samples from the subject site. The initially reported concentrations of 3.6 mg/L of TPH-G, 7.2 μ g/L of ethylbenzene and 2.6 μ g/L total xylenes in the June 6, 1994 sample from MW1, have not been confirmed. All subsequent samples from MW1 have contained trace (0.10 mg/L) to non-detectable (<0.05 mg/L) concentrations of TPH-G and non-detectable (<0.05 μ g/L) concentrations of BTEX.

The most recent sample from MW2 was reported to contain 39 mg/L TPH-G and 150, 1,000, 2,900, and 13,000 μ g/L of BTEX, respectively. The reported concentrations in the previous groundwater samples have ranged from 35 to 71 mg/L TPH-G, 150 to 310 μ g/L benzene, 710 to 1,300 μ g/L toluene, 2,100 to 2,900 μ g/L ethylbenzene, and 4,600 to 11,000 μ g/L total xylenes.

The most recent sample from MW3 was reported to contain 49 mg/L TPH-G and 190, 330, 4,000, and 12,000 μ g/L of BTEX, respectively. The reported concentrations in the previous groundwater samples have ranged from 42 to 93 mg/L of TPH-G, 270 to 550 μ g/L benzene, 94 to 230 μ g/L toluene, 3,300 to 3,800 μ g/L ethylbenzene, and 7,500 to 10,000 μ g/L total xylenes.

PLANNED ACTIVITIES

Quarterly groundwater monitoring activities, including groundwater level measurements and groundwater sample collection, sample analysis, and reporting will be performed during the fourth quarter of 1995.

It is anticipated that a remedial subsurface investigation will also be performed during the fourth quarter of 1995 in accordance with the CET February 27, 1995 Workplan entitled Work Plan For Delineation of Extent of Petroleum Hydrocarbons at 186 East Lewelling Boulevard, San Lorenzo, CA, and the June 7, 1995 Workplan Addendum. Two letters requesting off-site access to private property, and one letter requesting an encroachment permit from Alameda County Public Works, were mailed on August 4, 1995. Positive responses have been received regarding each of these letters, and field work has been scheduled to begin on October 17, 1995.

Limitations and uncertainties regarding this report are presented in Attachment E.

If you have any questions, please do not hesitate to contact the undersigned at (510) 6524 7001.

Aaron N. Stessmar

Project Mana

Sincerely,

CET ENVIRONMENTAL SERVICES, INC.

Benjamin Berman

Staff Scientist

Attachments

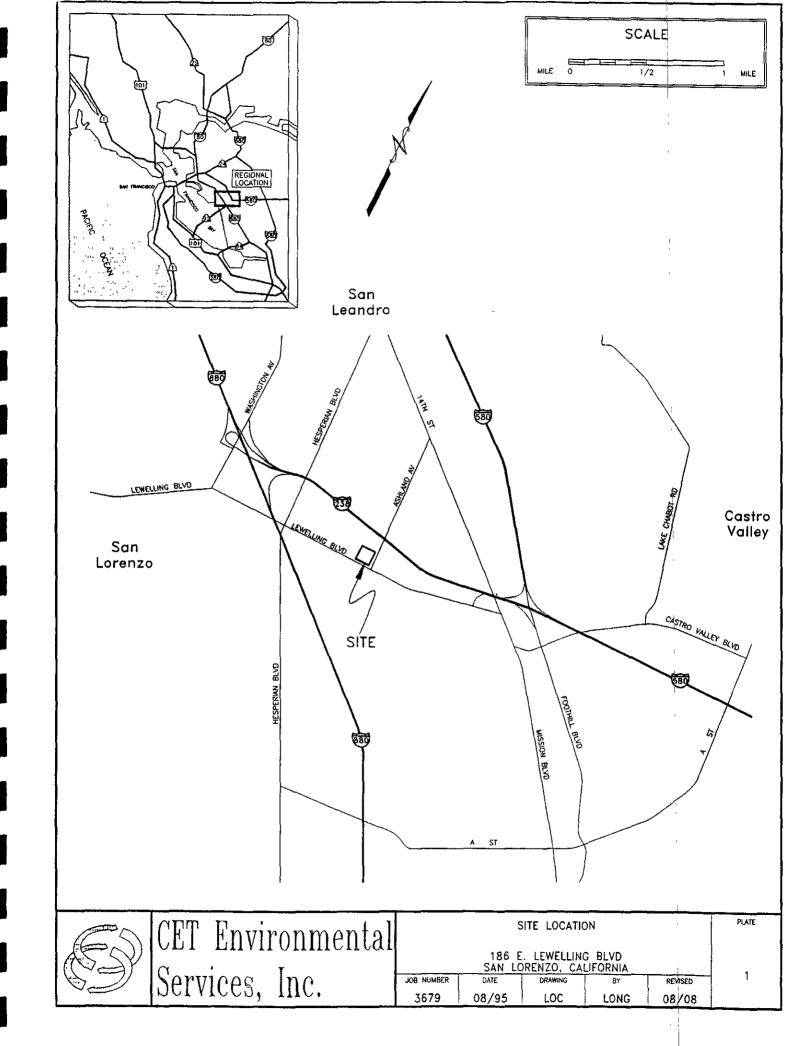
cc: Ms. Wai Yee Young

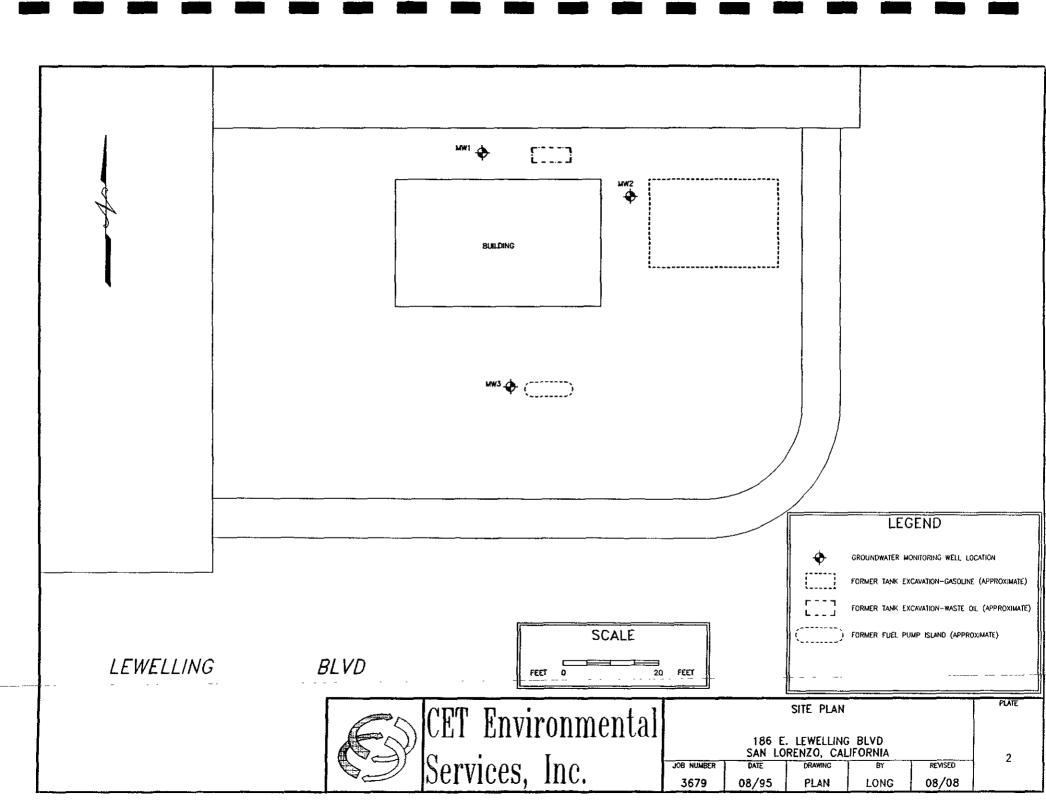
c/o Ms. Eva Young

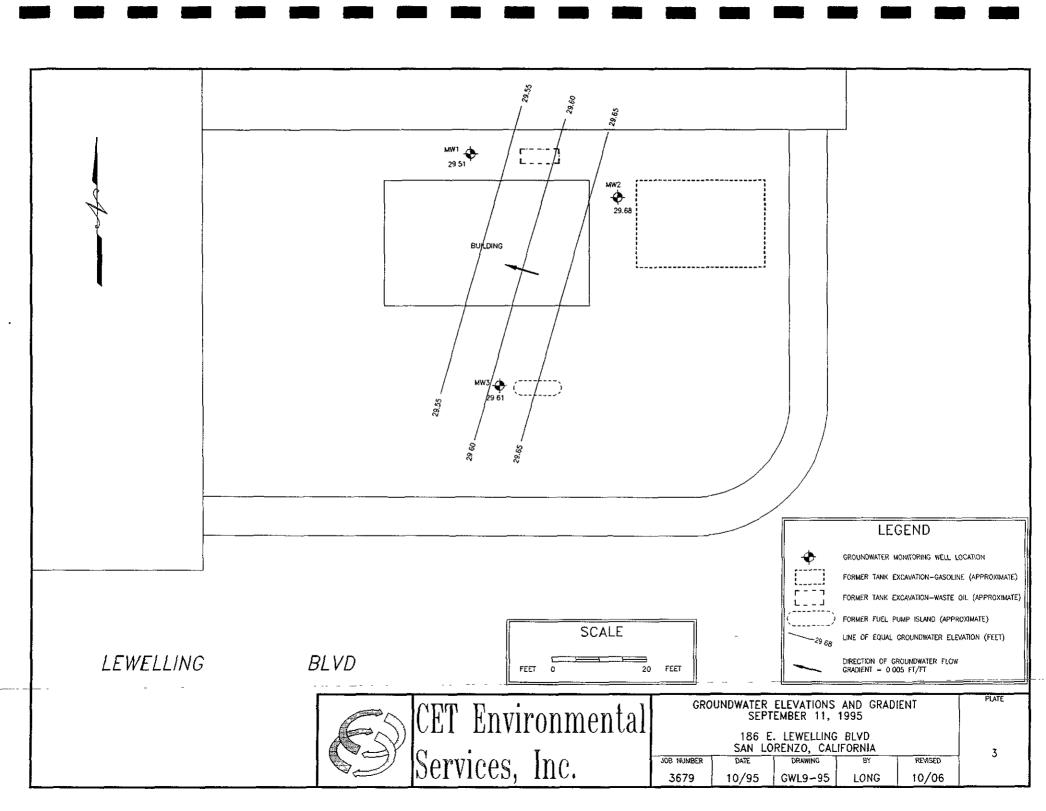


APPENDIX A

Plates









APPENDIX B

Tables



Table 1 - Summary of Groundwater Elevation
Data for Property Located at
186 E. Lewelling Boulevard
San Lorenzo, California
Project No. 3679

Well I.D.	TOC ^a Elevation (ft)	Measurement Date	Groundwater Depth ^b (ft)	Groundwater Elevation ^c (ft)	Direction of Groundwater Flow
					'
MW1	44.88	06/23/94	17.37	27.51	NW
		03/15/95	13.47	31.41	W-SW
		06/01/95	13.35	31.53	W-NW
		09/11/95	15.37	29.51	W-NW
MW2	45.26	06/23/94	16.75	28.51	NW
		03/15/95	13.74	31.52	W-SW
		06/01/95	13.52	31.74	W-NW
		09/11/95	15.58	29.68	W-NW
MW3	45.81	06/23/94	16.55	29.26	NW
		03/15/95	14.43	31.38	w-sw
		06/01/95	14.16	31.65	W-NW
		09/11/95	16.20	29.61	W-NW

a. TOC = top of well casing, TOC elevation was determined by a California licensed surveyor relative to a known benchmark referenced to mean sea level (msl).

b. Groundwater depth is measured from the TOC at the marked survey point.

c. Groundwater elevation is determined by subtracting the groundwater depth from the TOC elevation.



Table 2 - Summary of Groundwater Sample Analytical Results from Monitoring Wells MW1, MW2, & MW3 at Property Located at 186 E. Lewelling Boulevard San Lorenzo, California Project No. 3679

Well Sample/I.D.	Sample Collection Date	TPH-G ^a (mg/L) ^c	B ^b (μg/L) ^d	Τ ^b (μg/L)	E ^b (μg/L)	X ^b (μg/L)
MW1	06/23/94	3.6	<0.5	<0.5	7.2	2.6
******	03/15/95	<0.05	<0.5	<0.5	<0.5	<0.5
	06/01/95	0.10	<0.5	<0.5	<0.5	<0.5
	09/11/95	0.05	<0.5	<0.5	<0.5	<0.5
MW2	06/23/94	71	310	710	2600	4600
	03/15/95	35	150	1000	2100	10000
	06/01/95	49	210	1300	2900	11000
	09/11/95	39	150	1000	2900	13000
MW3	06/23/94	93	550	130	3300	7500
	03/15/95	46	330	94	3800	10,000
	06/01/95	42	270	230	3400	10,000
	09/11/95	49	190	330	4000	12000

a. TPH-G = Total Petroleum Hydrocarbons as Gasoline

b. BTEX = Benzene, Toluene, Ethyl Benzene, Total Xylenes

c. mg/L = Milligrams per Liter or parts per million

d. $\mu g/L = Micrograms per Liter or parts per billion$



APPENDIX C

Sample Collection Records

RECORD OF GROUNDWATER LEVEL MEASUREMENTS

	Pageof
Date Measured: 9 - 11 - 95	Job No.: 3664
Site Location: YOUNG PROP	
Well location map attached? Yes	
Method of Measurement: Electric	well sounder,
Other:	
Weather/Visibility:	
Notes:	
	-

Well I.D.	Time (24 hr)	G.W.L. (1/100 ft)	G.W.L.	B.O.W. (1/2ft)	Remarks
MW3	14:0	16.20	V	23.5	
MWZ	13:35	1558	V	23,5	
MWI	13:50	15.37	\ \ \ \ \ \ \ \ \	23.5	
					
<u>_</u>					

Measured	by	(Signature)	•	all	Ula	

SAMPLE COLLECTION RECORD - MONITOR WELL

		Job No.	3669	
Site Location: YOUNL PROP				'
No. of Containers:/ (Check one): Duplicates from well;				i Blanke:
Other (explain)				
W.L. (1/100'): 1000 Date: 9/11/95	Time: 19	13:50 193	B.O.W.(1/	2'): <u>23.5</u>
Method: Electric Well Sounder; 0	Other/			
Meters Calibrated: Date: 8/25	By:/	44		
Calculated Purge Volume (4 casing volumes):	<u>5</u> Ga	llons		
Purging Method: Disposable Bailer; Whale SuperSub 920 submersible pump			ecify	
Time Start Purging (24 hr):, Production of the Production		_		
Time Stop Purging (24 hr): 16:10, Pro	oduct: Y	1 KD S		-
Odor V / (N) Vanor				ON,
Odor: Y / $\hat{\mathbb{N}}$, Vapor: ppm / %LEL Time $H_2\hat{\mathbb{N}}$ Temp.	, Color:	TDS	C Turbid.	D.O.
Time H_20 Temp. (24 hr) (gai) (C) pH	, Color:	C	<u>(</u>	<u> </u>
Time H ₂ 0 Temp. (24 hr) (gai) (C) pH	, Color:	TDS	C Turbid.	D.O.
Time H ₂ 0 Temp. (24 hr) (gai) (C) pH	, Color:	TDS	C Turbid.	D.O.
Time H ₂ 0 Temp. (24 hr) (gal) (C) pH (5.55) (16:05) 4 19 7 6.55	, Color:	TDS	C Turbid.	D.O.
Time H_20 Temp. (24 hr) (gal) (C) pH (b: 0) 3	, Color:	TDS	C Turbid.	D.O.
Time H_20 Temp. (24 hr) (gal) (C) pH (b: 0) 3	, Color:	TDS	C Turbid.	D.O.
Time H_20 Temp. (24 hr) (gai) (C) pH (b: 0) 3 19 7 6.55 (b: 0) 4 19 7 6.47 (c) 11: 1. 5 196	, Color:	TDS	C Turbid.	D.O.
Time H ₂ 0 Temp. (24 hr) (gal) (C) pH (55 - 16:0) 4 19 7 65 - 19 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 7 7 7	, Color:	TDS	C Turbid.	D.O.
Time H ₂ 0 Temp. (24 hr) (gal) (C) pH	Cond. (uS)	TDS	C Turbid.	D.O.

SAMPLE COLLECTION RECORD - MONITOR WELL

Date: <u>9</u> - <u>11</u> - <u>95</u> S	Sample I.D.: <i>M k</i>	/2 Job	No.: 366	9
Site Location: YOUNG	PROP			
No. of Containers: 2 Duplicates from well Other (explain)	;	Travel Blank		d Blanks;
W.L. (1/100'): 15.57 D	ate: <u>9////</u> 95 -	Time: 13:55	B.O.W.(1/	2'); 235
Method: VElectric Wel	l Sounder;	Other/		
Meters Calibrated: Da	ate: <u> </u>	By: <u>А L</u>		· ·
Calculated Purge Volume (4	casing volumes):	Gallons		•
Purging Method: Dispose D				
Time Start Purging (24 hr): _		_		/ W ,
Odor: (V) N , Vapor:	ppm / %LEL	. , Color: <i>M</i>	IVRKY GRACA	<u>l</u> .
Odor: (Y/ N , Vapor: Time Stop Purging (24 hr): Odor: Y/ N , Vapor:	15.4°, Pr	oduct: Y/N	, Sheen: Y	√ Ø ,
Time Stop Purging (24 hr):	15.43, Pr ppm / %LEL Temp. (C)pH	oduct: Y / N ., Color: M Cond. TD	, Sheen: Y i	/ Ø, → D.O.
Time Stop Purging (24 hr):		coduct: Y / N Color: M Cond. TD: (uS) (ppr	Sheen: Y A URKY (RAM)	/ Ø, → D.O.
Time Stop Purging (24 hr):	15.4 Pr ppm / %LEL remp. (C)	coduct: Y / N Color: M Cond. TD: (uS) (ppr	Sheen: Y A URKY (RAM)	/ Ø, → D.O.
Time Stop Purging (24 hr):	15.4°, Pr ppm / %LEL remp. (C)	Cond. TD: (us) (ppr	Sheen: Y A URKY (RAM)	/ Ø, → D.O.
Time Stop Purging (24 hr):	15.4°, Pr ppm / %LEL remp. (C)	Cond. TD: (us) (ppr	Sheen: Y A URKY (RAM)	/ Ø, → D.O.
Time Stop Purging (24 hr): Odor: Y/I N , Vapor: Time H ₂ 0 T (24 hr) (gal) 15: 27 4 15: 43 Sample Collection Time (24)	15.4°, Pr ppm / %LEL remp. (C)	Cond. TD: (us) (ppr	Sheen: Y A URKY (RAM)	/ Ø, → D.O.

SAMPLE COLLECTION RECORD - MONITOR WELL

·	12_	oumpio.	· · · · · · · · · · · · · · · · · · ·	1005	טא מסנ.	3669	
Site Location:_	YOUN	16 PROF)	· · · · · · · · · · · · · · · · · · ·			
No. of Containe Duplicate Other (ex	es from we	ell	;	Travel			d Blanks;
W.L. (1/100'):	162)	Date:	1/11/95	Time:	14:03	B.O.W.(1/	(2):
Method:	Electric V	Vell Sound	ler;	Other/			
Meters Calibrate	ed:	Date:	8/25	Ву:	L	 	
Calculated Purg	e Volume	(4 casing	y volumes):	: <u>6</u> G	allons		1
Purging Method Whale St			•			ecify	
Time Start Purg							
Time Stop Purgi	ing (24 hr)	: 147	<u>, </u>	roduct: Y	/ŵ⊅, s	Sheen: Y	/ N),
	ing (24 hr) Vapor: H ₂ 0 (gal)): <u> Ψ;</u> pr Temp. (C)	pH 6.35	Cond. (uS) 13 4	MURICO TDS	Sheen: Y	D.O.
Time Stop Purgi Odor: (Y) / N, Time (24 hr) 4: 30	Vapor: H ₂ 0 (gal)	: pr 	pH 6.35 6.50	Cond. (uS) 1330	MURICO TDS	Sheen: Y	/ N, D.O.

SPLFRM.MW



APPENDIX D

Laboratory Analytical Reports

CHROMALAB, INC.

Environmental Services (SDB)

September 25, 1995

Submission #: 9509091

CET ENVIRONMENTAL SERVICES, INC

Atten: Aaron Stessman

Project: YOUNG PROP

Project#: 3669-001

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Received: September 11, 1995

re: 3 samples for Gasoline and BTEX analysis.

Method: EPA 5030/8015M/602/8020

Sampled: September 11, 1995 Matrix: WATER

Run: 8591-1

Analyzed: September 22, 1995

Spl # Sample ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
102182 MW1	0.05	N.D.	N.D.	N.D.	N.D.
102183 MW2	39	150	1000	2900	13000
For above sample:	Detection li	imit: btex=25	ug/l & gasoli:	1e=2.5mg/l	
102184 MW3	49	190	330	4000	12000
For above sample:	Detection li	imit: btex=25	ug/l & gasoli:	ne=2.5mg/l	
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 (%)	92	99	99	100	100

Billy/Thach

Chemist

Ali Kharrazi Organic Manager CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name CE7	Date/Time Received ////	95 1620
Project YOUNG PROP	Received by PSolc State	te / Time
Reference/Subm #23812/950909/	Carrier name	
Checklist completed 9/12/95 by: Signature / Date	Logged in by Matrix / Z O Initials	9/11/95 s / Date
Shipping container in good condition?	NA	YesNo
Custody seals present on shipping contain	ner? Intact Broken	YesNo
Custody seals on sample bottles?	Intact Broken	YesNo
Chain of custody present?		Yes No
Chain of custody signed when relinquished	l and received?	Yes No
Chain of custody agrees with sample label		YesNo
Samples in proper container/bottle?		YesNo
Samples intact?		YesNo
Sufficient sample volume for indicated to	est?	YesNo
VOA vials have zero headspace?	NA	Yes No
Trip Blank received?	NA	Yes No
All samples received within holding time	?	YesNo
Container temperature?	ive	1
pH upon receiptpH adjusted	Check performed by:	NA_
Any NO response must be detailed in the applicable, they should be marked NA.	comments section below.	If items are no
Client contacted?	Date contacted?	
Person contacted?	Contacted by?	
Regarding? Checked by	Chemist	<u> </u>
Corrective Action:		

SMPLRECD.CK

011/102182-102101

CHROMALAB, INC.

SUBM #: 9509091 REP: GC

CLIENT: CET

DUE: 09/25/95

REF #:23812



Chain of Custody

DATE 9/11/95 PAGE 1 OF _ Environmental Services (SDB) (DOHS 1094) **ANALYSIS REPORT** PROJ MGR AARON STESSMAN (EPA 5030, 8015) TPH - Casoline (5030, 8015) w/BTEX (EPA 602, 8020) PURGEABLE HALOCARBONS (EPA 601, 8010) COMPANY ('t' 7 ENV Ž VOLATILE ORGANICS (EPA 624, 8240, 524.2) BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525) PURGEABLE AROMATICS BTEX (EPA 602, 8020) NUMBER OF CONTAINERS Zn, l ADDRESS _ C-MFRY VZ (11). TOTAL RECOVERABLE HYDROCARBONS (EPA PRIORITY POLLUTANT METALS (13) TPH - Diesel, TEPH (EPA 3510/3550, 8015) TOTAL OIL & GREASE (EPA 5520, B+F, E+F) LUFT METALS: Cd, Cr, Pb, ah on 652-7:01 CAM METALS (17) (EPA 608, 8080) EXTRACTION (TCLP, STLC) TOTAL LEAD (PHONE NO.) SAMPLERS (SIGNATURE) PESTICIDES (FAX NO.) MATRIX PRESERV. SAMPLE ID. DATE TIME 9/11 MW 1100 His 16:10 9/4 MWZ 15:40 4 MWY 9/11 . 1 1450 PROJECT INFORMATION SAMPLE RECEIPT RELINQUISHED BY RELINQUISHED BY RELINQUISHED BY PROJECT NAME COLLY TY 16.15
(SIGNATURE)
(SIGNATURE)
(SIGNATURE)
(PRINTED NAME)
(PATE)
(CFT (N. **TOTAL NO OF CONTAINERS** YOUN PROP (SIGNATURE) (SIGNATURE) (TIME) **HEAD SPACE** 3669-001 REC'D GOOD CONDITION/COLD (PRINTED NAME) (PRINTED NAME) P.O. # CONFORMS TO RECORD STANDARD COMPANY COMPANY (COMPANY) TAT 48 72 OTHER 2 RECEIVED BY (LABORATORY) 3

COAN JOHN 16, 20

(TIME) (SIGNATURE) (TIME)

FEDRO SOLIS 9/11/97

(DATE) (PRINTED NAME) (DATE)

CHRUMALAB 1MC 5-DAY RECEIVED BY RECEIVED BY SPECIAL INSTRUCTIONS/COMMENTS. (SIGNATURE) (SIGNATURE) (TIME) 10 DAY TAT (PRINTED NAME) (DATE) (PRINTED NAME) (COMPANY) (COMPANY)



APPENDIX E

Limitations & Uncertainties



LIMITATIONS AND UNCERTAINTY

This report was prepared in general accordance with the accepted principals and standards of practice of environmental consulting which exists in northern California at the time the investigation was conducted and within the scope of service outlined in our proposal. It should be recognized that the definition and evaluation of surface and subsurface environmental conditions is a difficult and inexact science. Judgements leading to conclusions and recommendations generally are made with an incomplete knowledge of the conditions present. Any opinions presented apply to site conditions existing at the time of the inspection and those reasonably foreseeable; they cannot necessarily apply to site changes made of which the inspector could not observe and has not had the opportunity to evaluate.

Changes in the conditions of the subject property can occur with time, because of the natural processes or the works of man, on the subject site or on adjacent properties. It is further possible that variations and/or changes in the soil and/or groundwater conditions could exist beyond the points explored for this investigation. Also, changes in groundwater conditions could occur sometime in the future due to variations in tides, rainfall, temperature, local or regional water use or other factors. Changes in applicable engineering and construction standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly the data presented in the assessment may be invalidated, wholly or in part, by changes beyond the control of the consultant. If the client wishes to reduce the uncertainty beyond the level associated with this study, CET Environmental Services, Inc. should be notified for additional consultation.

The discussion and recommendations presented in this report are based on information which may include: 1) information and data provided by third party consultants, 2) the exploratory test borings drilled at the site, 3) the observations of field personnel, 4) the results of labratory analyses, and 5) interpretations of federal, state, and local regulations and/or ordinances. Any conclusions presented are based on the assuption that conditions do not deviate from those observed during the assessment. It is recognized that the assessment is not intended to be a definitive study of environmental conditions at the site. It is understood that other conditions may exist at the site which could not be identified from the limited information discovered within the scope of the assessment.

Chemical analytical data, if included in this report, have been obtained from state certified laboratories. The analytical methods employed by the laboratories were in accordance with procedures suggested by the U. S. Environmental Protection Agency and/or State of California. CET Environmental Services, Inc. is not responsible for laboratory errors in procedures or reporting.

CET has conducted this investigation in a manner consistent with the level of care and skill ordinarily exercised by members of the environmental consulting profession currently practicing under similar condidtions in northern California. CET has prepared this report for the client's (and assigned parties) exclusive use for this particular project. No other warranties, expressed or implied, as to the professional advice provided are made.