centurywest
ENGINEERING CORPORATION

August 25, 1995

UST Local Oversight Program
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Attention: Ms. Susan Hugo

Subject: Report of Quarterly Ground Water Monitoring
Liquid Sugars UST Site
1275 66th Street
Emeryville, California
CWEC: 20516-001-12

Ladies and Gentlemen:

This letter report documents the eighth quarterly monitoring of two ground water monitoring wells at the subject site in Emeryville, California (see Figures 1 and 2). This report summarizes the work performed and the results of this monitoring event.

DESCRIPTION OF SAMPLING ACTIVITIES

On May 19, 1995, Century West Engineering Corporation purged and sampled monitoring wells MW-1 and MW-2 at the subject site. Purging and sampling of each of the wells was conducted in accordance with California LUFT Field Manual guidelines as follows:

- After unlocking and opening both of the monitoring wells on site, the water level was measured to the nearest 0.01 foot with an electronic probe.
- Using a disposable PVC bailer, a single bail of ground water was taken to check for the presence or absence of floating free product.

7950 Dublin Blvd., Suite 203 Dublin, California 94568 Phone: (510) 551-7774 FAX: (510) 551-7776

- Each well was purged of approximately three well volumes. During purging, temperature, pH, conductivity, and turbidity of the well water were periodically monitored and recorded until they stabilized. All purged water was stored onsite in sealed 55-gallon metal drums. Ground water sampling data sheets for each well are contained in Appendix A.

- After purging the required volume, ground water was poured directly from the bailer into two one-liter amber jars and four 40-ml VOA vials. Each container was then tightly sealed with teflon lined septums, making sure that no air bubbles were present in the containers. Each container was then labeled and placed in cold storage for transport to the analytical laboratory under formal chain-of-custody.

RESULTS OF QUARTERLY MONITORING

Hydrologic Conditions

Purged water from both monitoring wells exhibited moderate to strong hydrocarbon odors and hydrocarbon sheen during sampling.

Analytical Results

Ground water samples from the two wells were analyzed for total petroleum hydrocarbons as gasoline (TPH-gas by EPA Method 5030/8015 Modified); total petroleum hydrocarbons as diesel (TPH-diesel by EPA Method 8015 Modified); and benzene, toluene, ethylbenzene and xylenes (BTEX by EPA Method 602/8020). Table 1 summarizes these analytical results. Laboratory data reports and chain-of-custody records are contained in Appendix B.

Table 1
SUMMARY OF GROUND WATER ANALYTICAL RESULTS
Liquid Sugars, Inc. 66th Street Site

Well Number	Sample Date	Water Depth[1]	Constituent (ppm) TPH-gas	TPH-diesel	B	T	E	X
MW-1	04/23/93	6.72 ft	0.64	0.99	0.0063	ND(.0005)[2]	0.0056	0.0025
(West)	07/13/93	8.00 ft	0.70	1.50	0.0320	0.0012	0.0033	0.0110
	11/02/93	8.95 ft	0.87	1.70	0.0190	ND(.0005)	0.0066	0.0044
	02/15/94	7.91 ft	1.20	2.00	0.0220	0.0018	0.0100	0.0064
	05/18/94	7.65 ft	1.70	2.60[3]	0.0570	0.0210	0.3000	0.1300
	08/17/94	8.51 ft	1.20	2.20[3]	0.0130	0.0019	0.0008	0.0082
	12/22/94	6.58 ft	1.10	2.40[4,5]	0.0270	0.0069	0.0014	0.0059
	05/09/95	6.73 ft	1.20	2.00[4,5]	0.0140	0.0082	0.0120	0.0062
MW-2	04/23/93	6.73 ft	1.10	2.10	0.3200	0.0065	0.0082	0.0130
(East)	07/13/93	8.38 ft	0.48	0.21	0.0330	0.0025	0.0052	0.0047
	11/02/93	9.05 ft	0.43	1.80	0.0160	0.0009	0.0019	0.0021
	02/15/94	6.82 ft	1.40	2.80	0.0560	0.0029	0.0075	0.0071
	05/18/94	7.56 ft	0.54	3.00	0.0240	0.0013	0.0026	0.0034
	08/17/94	8.50 ft	0.88	2.20[3]	0.0250	0.0030	0.0028	0.0086
	12/22/94	6.23 ft	0.61[6]	3.10[4,5]	0.0036	0.0033	0.0054	0.0016
	05/09/95	6.71 ft	2.30	5.20	0.0150	0.0060	0.0110	0.0130

1 - Depth to ground water from top of casing.
2 - Not detected above the concentration expressed in the parentheses.
3 - Lab results state: "The positive result has an atypical pattern for Diesel analysis."
4 - Lab results state: "The positive result appears to be a heavier hydrocarbon than Diesel."
5 - Lab results state: "The positive result appears to be a lighter hydrocarbon than Diesel."
6 - Lab results state: "The positive result appears to be a heavier hydrocarbon than Gasoline."

CONCLUSIONS

Both field and laboratory analytical results from this quarterly monitoring continue to show low levels of dissolved-phase gasoline and diesel range hydrocarbons in ground water downgradient from the former USTs.

We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

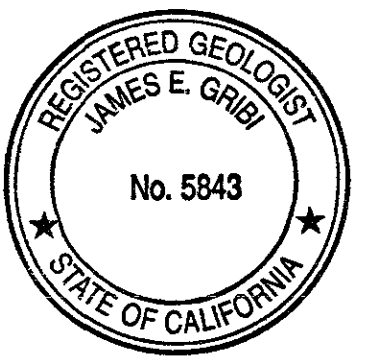
Very truly yours,

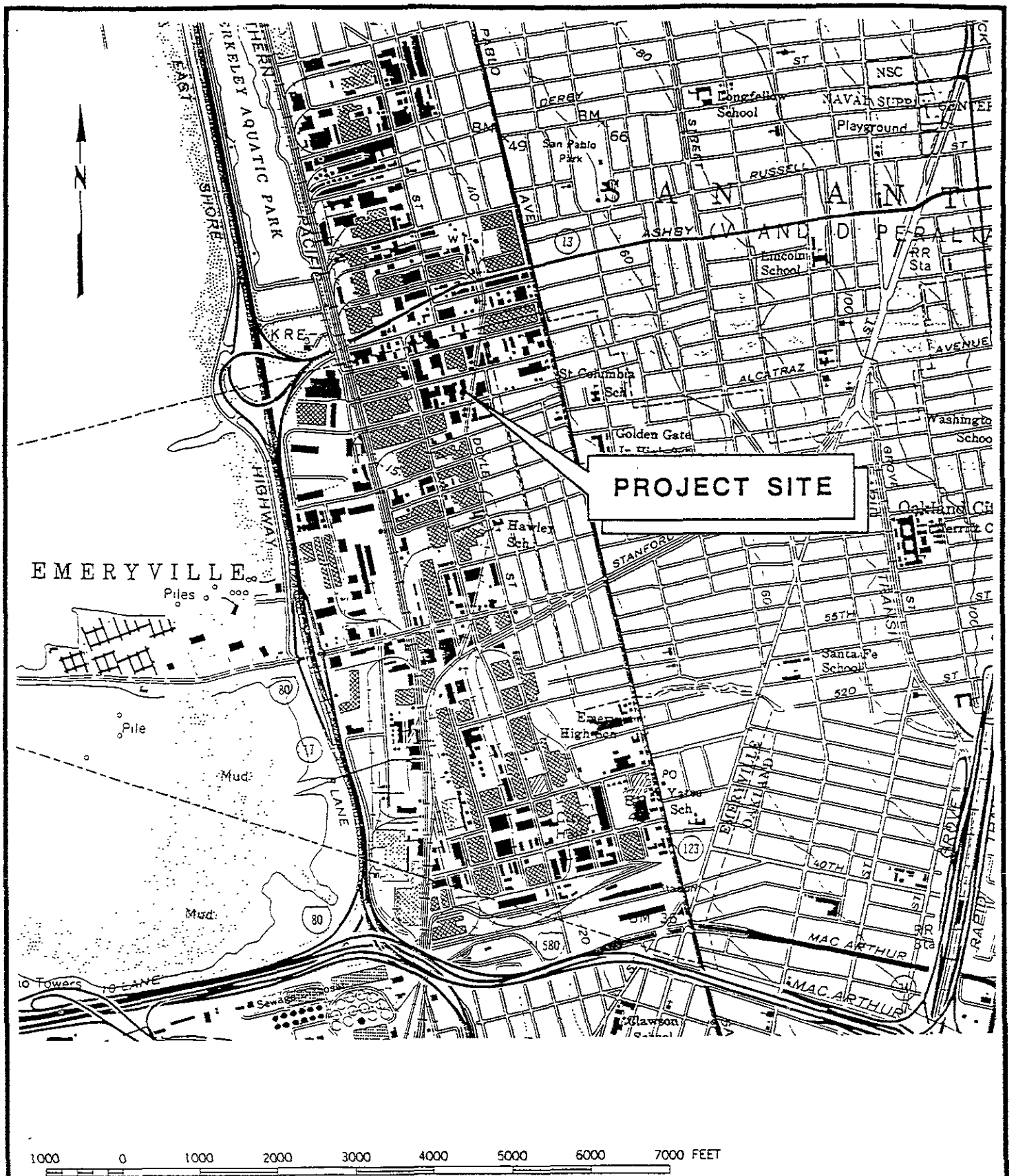
Robert Bogar
Geologist

James E. Gribi
Registered Geologist
California No. 5843

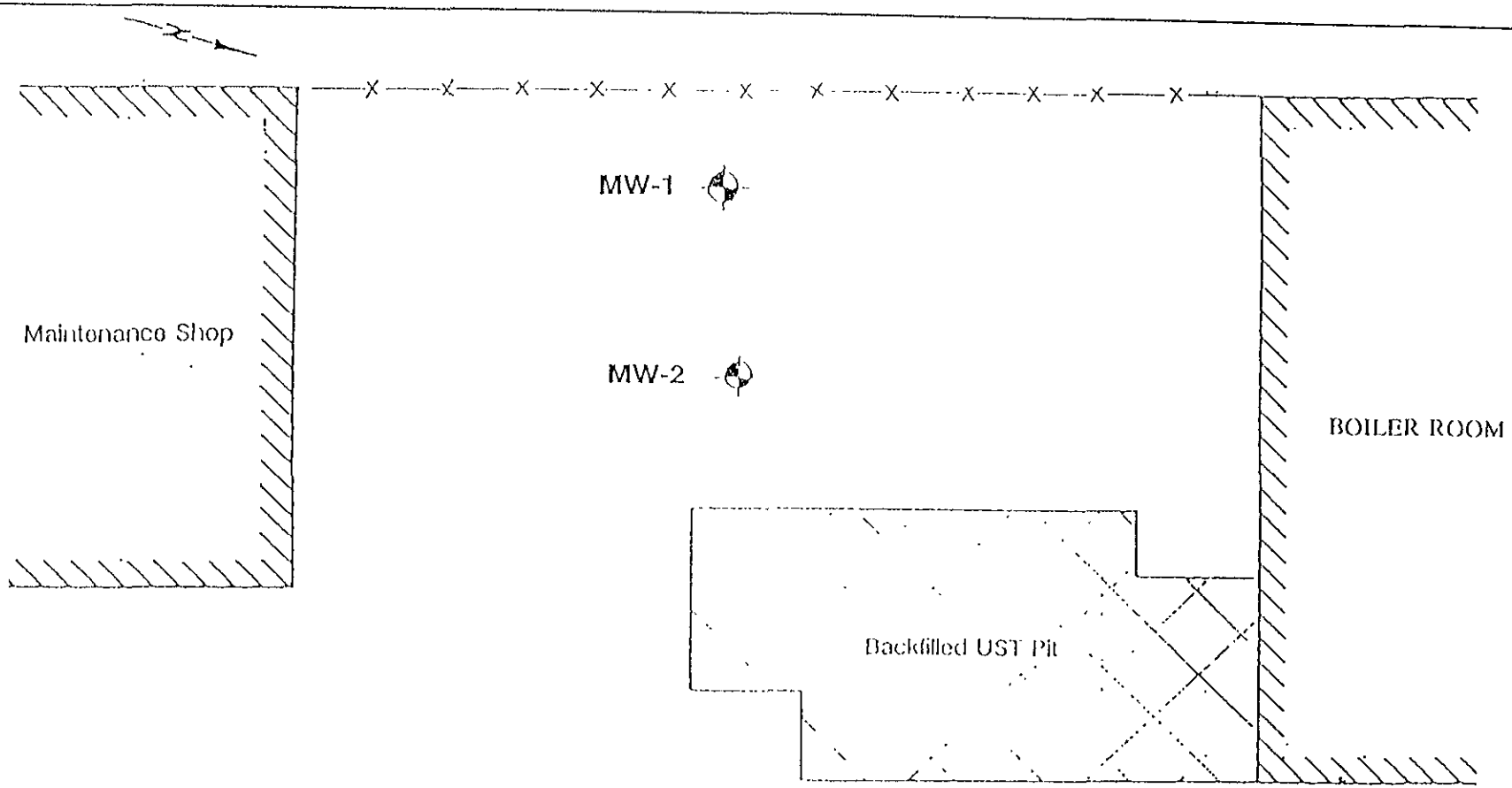
RB/JEG:cc
Enclosure

c Mr. Mike Alo, Liquid Sugars, Inc.





DESIGNED BY:	CHECKED BY:	Figure 1 SITE VICINITY MAP CWEC 20516-001-03	DATE:	FIGURE:
DRAWN BY:	SCALE:		CENTURY WEST ENGINEERING	
DWG. NO.:				



DESIGNED BY :	DATE :	CENTURY WEST ENGINEERING	FIGURE 2 SITE PLAN CWEC: 20516-001-07
DRAWN BY :	SCALE :		DRAWING NO SHEET NO
CHECKED BY :	SEC. :		
DRAWING NO. :			

APPENDIX A

GROUND WATER SAMPLING DATA SHEETS

CENTURY WEST ENGINEERING

GROUNDWATER SAMPLING RECORD

****

SAMPLE NO. ____________ WELL NO. MW-1

PROJECT NAME LSI PROJECT NO. ____________

DATE 5/19 TIME ____________ ELEV. TOP OF CASING ____________

WELL DIAMETER ________ WELL DEPTH ________ SCREEN INTERVAL ________

H2O LEVEL INIT. ________ FIN. ________

CALC. PURGE H2O COL. ______ FT. (X) ** = ______ (X) 3 = ______ GALS.

LAB ANALYSIS ____________

LABORATORY ____________ PURGE/SAMPLE METHOD ____________

WEATHER CONDITIONS ____________

****

TIME	VOLUME PUMPED (GALS.)	PUMP RATE (GPM)	TEMP. (C)	COND.	pH	REMARKS (TURBIDITY)
		1	61.8	1.21	6.85	clear to sl murky sl odor/sheen
		2	60.7	1.12	6.80	murky - mod odor/sh
		4	59.7	1.21	6.82	same
		6	59.5	1.26	"	

SAMPLE CREW ____________

REMARKS ____________

** (2" = 0.163 GAL/FT) (4" = 0.653 GAL/FT)

Century West Engineering Corporation / Engineers and Scientists
East 429 Third Avenue / Spokane, Washington 99202 / (509) 838-3810 / Fax: (509) 624-0355

CENTURY WEST ENGINEERING

GROUNDWATER SAMPLING RECORD

****

SAMPLE NO.________ WELL NO. MW-2

PROJECT NAME LSI PROJECT NO.________

DATE 5/19 TIME________ ELEV. TOP OF CASING________

WELL DIAMETER________ WELL DEPTH________ SCREEN INTERVAL________

H20 LEVEL INIT.________ FIN.________

CALC. PURGE H20 COL.________FT. (X) ** =________ (X) 3 =________GALS.

LAB ANALYSIS________

LABORATORY________ PURGE/SAMPLE METHOD________

WEATHER CONDITIONS________

****

TIME	VOLUME PUMPED (GALS.)	PUMP RATE (GPM)	TEMP. (C)	COND.	pH	REMARKS (TURBIDITY)
	4		62.9	1.72	6.88	clear sheen - st odor
	7		63.4	1.83	7.02	[illegible] (sa[illegible]
	12		63.7	2.2[illegible]	7.03	
	16		63.7	2.07	"	"
	20		63.[illegible]	2.24	7.06	"
	34		62.9	2.30	7.20	"

SAMPLE CREW MW-2 MW-1

REMARKS 6.71 6.73

** (2" = 0.163 GAL/FT) (4" = 0.653 GAL/FT)

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APPENDIX B

LABORATORYDATA REPORTS AND CHAIN-OF-CUSTODY RECORDS

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

Jim Gribi
Century West Engineering
7950 Dublin Blvd., Ste 210
Dublin, CA 94568

Date: 06/02/1995
NET Client Acct. No: 75300
NET Job No: 95.02083
Received: 05/23/1995

Client Reference Information

LSI (Oakland) Proj. No. 20516-001-12

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:

Ken Larson
Division Manager

Judy Ridley
Project Coordinator

Enclosure(s)

Ref: LSI (Oakland) Proj. No. 20516-001-12

SAMPLE DESCRIPTION: MW-1
Date Taken: 05/19/1995
Time Taken:
NET Sample No: 242669

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						05/31/1995	2883
DILUTION FACTOR*	1						05/31/1995	2883
as Gasoline	1.2		0.05	mg/L	5030		05/31/1995	2883
METHOD 8020 (GC,Liquid)	--						05/31/1995	2883
Benzene	14		0.5	ug/L	8020		05/31/1995	2883
Toluene	8.2		0.5	ug/L	8020		05/31/1995	2883
Ethylbenzene	12		0.5	ug/L	8020		05/31/1995	2883
Xylenes (Total)	6.2		0.5	ug/L	8020		05/31/1995	2883
SURROGATE RESULTS	--						05/31/1995	2883
Bromofluorobenzene (SURR)	115			% Rec.	5030		05/31/1995	2883
METHOD M8015 (EXT., Liquid)						05/25/1995		
DILUTION FACTOR*	1						05/26/1995	1000
as Diesel	2.0	DL,DH	0.05	mg/L	3510		05/26/1995	1000

DH : The positive result appears to be a heavier hydrocarbon than Diesel.
DL : The positive result appears to be a lighter hydrocarbon than Diesel.

Ref: LSI (Oakland) Proj. No. 20516-001-12

SAMPLE DESCRIPTION: MW-2
Date Taken: 05/19/1995
Time Taken:
NET Sample No: 242670

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						05/31/1995	2883
*DILUTION FACTOR**	1						05/31/1995	2883
as Gasoline	2.3		0.05	mg/L	5030		05/31/1995	2883
METHOD 8020 (GC,Liquid)	--						05/31/1995	2883
Benzene	15		0.5	ug/L	8020		05/31/1995	2883
Toluene	6.0		0.5	ug/L	8020		05/31/1995	2883
Ethylbenzene	11		0.5	ug/L	8020		05/31/1995	2883
Xylenes (Total)	13		0.5	ug/L	8020		05/31/1995	2883
SURROGATE RESULTS	--						05/31/1995	2883
Bromofluorobenzene (SURR)	128	MI		% Rec.	5030		05/31/1995	2883
METHOD M8015 (EXT., Liquid)						05/25/1995		
DILUTION FACTOR*	5						05/26/1995	1000
as Diesel	5.2		0.2	mg/L	3510		05/26/1995	1000

MI : Matrix interference suspected.

Ref: LSI (Oakland) Proj. No. 20515-001-12

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
TPH (Gas/BTXE,Liquid)							
as Gasoline	86.0	0.43	0.50	mg/L	05/31/1995	aal	2883
Benzene	106.8	5.34	5.00	ug/L	05/31/1995	aal	2883
Toluene	97.2	4.86	5.00	ug/L	05/31/1995	aal	2883
Ethylbenzene	93.0	4.65	5.00	ug/L	05/31/1995	aal	2883
Xylenes (Total)	100.0	15.0	15.0	ug/L	05/31/1995	aal	2883
Bromofluorobenzene (SURR)	87.0	87	100	% Rec.	05/31/1995	aal	2883
METHOD M8015 (EXT., Liquid)							
as Diesel	103.0	1030	1000	mg/L	05/26/1995	tts	1000

Ref: LSI (Oakland) Proj. No. 20516-001-12

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	05/31/1995	aal	2883
Benzene	ND	0.5	ug/L	05/31/1995	aal	2883
Toluene	ND	0.5	ug/L	05/31/1995	aal	2883
Ethylbenzene	ND	0.5	ug/L	05/31/1995	aal	2883
Xylenes (Total)	ND	0.5	ug/L	05/31/1995	aal	2883
Bromofluorobenzene (SURR)	85		% Rec.	05/31/1995	aal	2883
METHOD M8015 (EXT., Liquid)						
as Diesel	ND	0.05	mg/L	05/26/1995	tts	1000

Ref: LSI (Oakland) Proj. No. 20516-001-12

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch	Sample Spiked
TPH (Gas/BTXE,Liquid)											242722
as Gasoline	100.0	80.0	22.1	0.50	ND	0.50	0.40	mg/L	05/31/1995	2883	242722
Benzene	128.0	124.0	3.2	7.5	ND	9.6	9.3	ug/L	05/31/1995	2883	242722
Toluene	101.9	991.2	2.6	25.9	ND	26.4	25.7	ug/L	05/31/1995	2883	242722
METHOD M8015 (EXT., Liquid)											242542
as Diesel	115.0	140.0	19.6	2.00	8.4	10.7	11.2	mg/L	05/26/1995	1000	242542

Client Name: Century West Engineering
Client Acct: 75300
NET Job No: 95.02083

Date: 06/02/1995
ELAP Cert: 1386
Page: 7

Ref: LSI (Oakland) Proj. No. 20516-001-12

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	Duplicate LCS % Recovery	RPD	LCS Amount Found	Duplicate LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch
METHOD M8015 (EXT., Liquid) as Diesel	63.4			0.634		1.00	mg/L	05/26/1995	tts	1000

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 [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.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

SANTA ROSA DIVISION, 435 TESCONI CIRCLE, SANTA ROSA, CA 95401
(707) 526-7200 PHONE (707) 526-9623 FAX

CHAIN OF CUSTODY RECORD

COMPANY: Century West Engineering
ADDRESS: 7950 Dublin Blvd
PHONE: (510) 551-7774 FAX: -7776
PROJECT NAME/LOCATION: LSI (OAKLAND)
PROJECT NUMBER: 20816-001-12
PROJECT MANAGER: J GRIBI

SAMPLED BY: Bob Bozor (PRINT NAME) SIGNATURE: Bob Bozor
(PRINT NAME) SIGNATURE

ANALYSES: TPH-G/BTEX; Diesel

TURNAROUND TIME 10 DAY (S)

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP	# OF CONTAINERS	MATRIX	PRESERVED Y/N	TPH-G/BTEX	Diesel	COMMENTS
5/19		MW-1 (2 Voas, 2 Am)			4	L	Y	✓	✓	
"		MW-2 (")			4	L	Y	✓	✓	

Seal intact @ 1515 5/22/95 BH

RESULTS TO:

INVOICE TO:

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Bob Bozor	5/22/95 1010	Betty Harvey	Betty Harvey	5/22/95 1515	
RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED FOR LABORATORY BY
				5/23/95 0900	[illegible signature]

METHOD OF SHIPMENT

REMARKS: TEMP.: 0°C