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October 5, 1994

UST Local Oversight Program  
Alameda County Health Agency  
Department of Environmental Health  
80 Swan Way, Suite 200  
Oakland, CA 94621

Attention: Ms. Susan Hugo ✓

Subject: Report of Quarterly Ground Water Monitoring  
Liquid Sugars UST Site  
1275 66th Street  
Emeryville, California  
CWEC: 20516-001-10

Ladies and Gentlemen:

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

#### DESCRIPTION OF SAMPLING ACTIVITIES

On August 17, 1994, Century West Engineering Corporation purged and sampled monitoring wells MW-1 and MW-2. 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 from both wells (MW-1 and MW-2) to check for the presence or absence of floating free product.



- The wells were 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 a sealed 55-gallon metal drum. 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 VOC 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

Ground water depth in the two wells was almost one foot deeper than during the previous quarterly sampling. Purged water from both monitoring wells exhibited slight hydrocarbon sheens and odors.

### Analytical Results

Ground water samples from the two wells were analyzed for total petroleum hydrocarbons as gasoline (TPH-gas by EPA Method 5030/8020); total petroleum hydrocarbons as diesel (TPH-diesel by EPA Method 3510 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	Depth to Water <sup>1</sup>	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) <sup>2</sup>	0.0056	0.0025
(West)	07/13/93	8.00 ft	0.70	1.5	0.032	0.0012	0.0033	0.0110
	11/02/93	8.95 ft	0.87	1.7	0.019	ND(.0005)	0.0066	0.0044
	02/15/94	7.91 ft	1.20	2.0	0.022	0.0018	0.01	0.0064
	05/18/94	7.65 ft	1.70	2.6 <sup>3</sup>	0.057	0.021	0.30	0.13
	08/17/94	8.51 ft	1.20	2.2 <sup>3</sup>	0.013	0.0019	0.0008	0.0082
MW-2	04/23/93	6.73 ft	1.10	2.1	0.320	0.0065	0.0082	0.013
(East)	07/13/93	8.38 ft	0.48	0.21	0.033	0.0025	0.0052	0.0047
	11/02/93	9.05 ft	0.43	1.8	0.016	0.0009	0.0019	0.0021
	02/15/94	6.82 ft	1.40	2.8	0.056	0.0029	0.0075	0.0071
	05/18/94	7.56 ft	0.54	3.0	0.024	0.0013	0.0026	0.0034
	08/17/94	8.50 ft	0.88	2.2 <sup>3</sup>	0.025	0.0030	0.0028	0.0086

1 - Depth to ground water table from top of casing.

2 - Not detected above the concentration expressed in the parentheses.

3 - NET Pacific lab report states: "The positive result has an atypical pattern for Diesel analysis."

## CONCLUSIONS

Ground water analytical results for this quarterly sampling continue to show low levels of petroleum hydrocarbons in ground water beneath the site. Hydrocarbon concentrations in the closest downgradient well, MW-2, were consistent with previous quarterly monitorings. Hydrocarbon concentrations in the further downgradient well, MW-1, which had been increasing in previous quarters, appear to have leveled off during this sampling.

UST Local Oversight Program  
Alameda County Health Care Services  
October 5, 1994  
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We appreciate this opportunity to present this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,



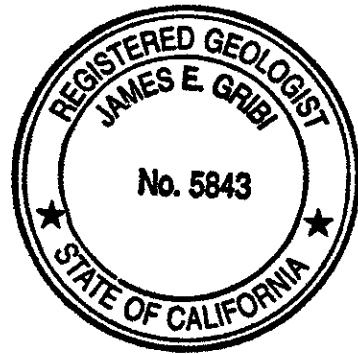
Robert Bogar  
Geologist

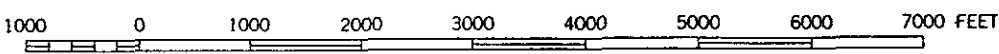
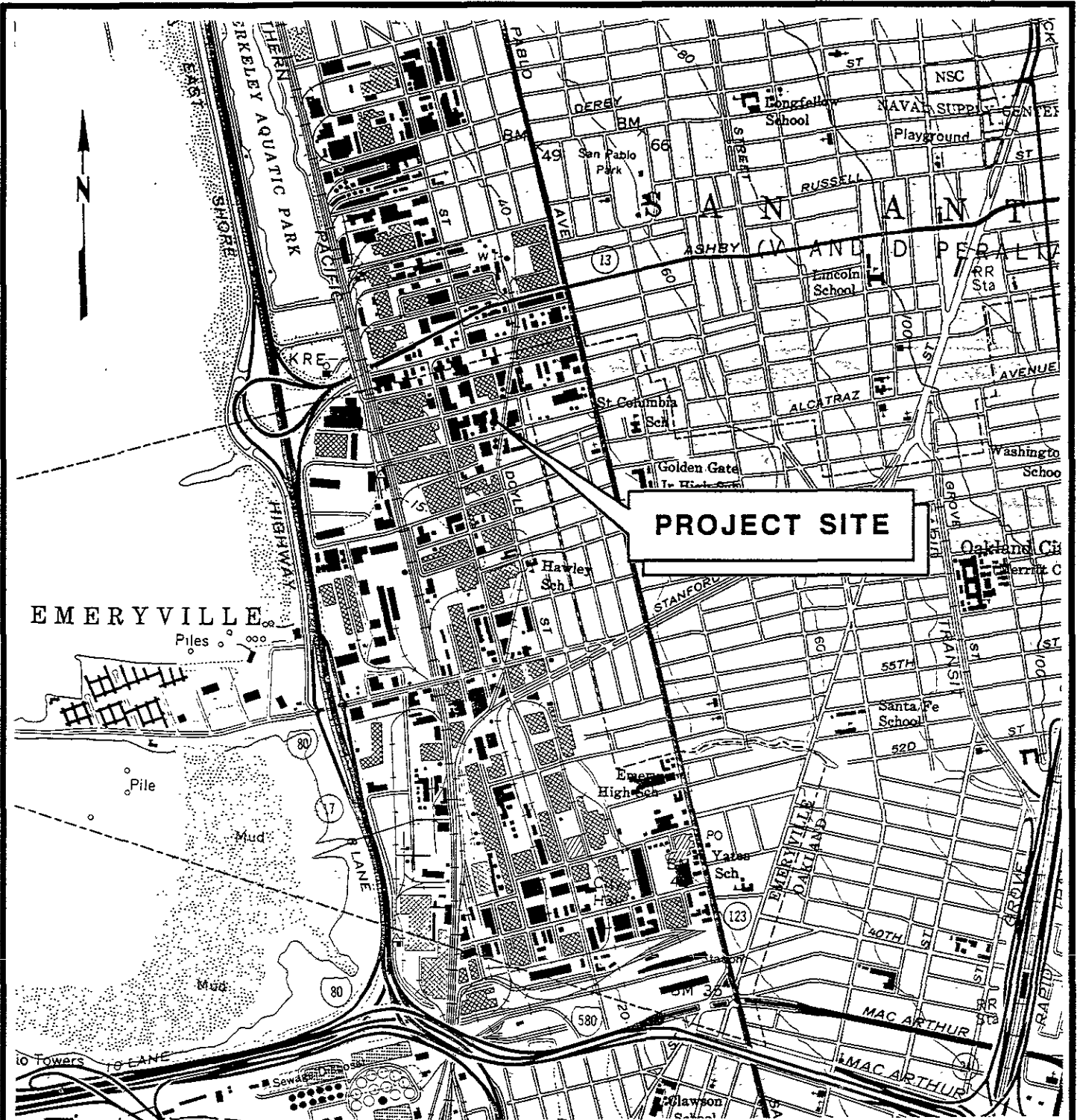
RB/JEG:cc  
Enclosure

cc: Mr. Mike Alo, Liquid Sugars, Inc.

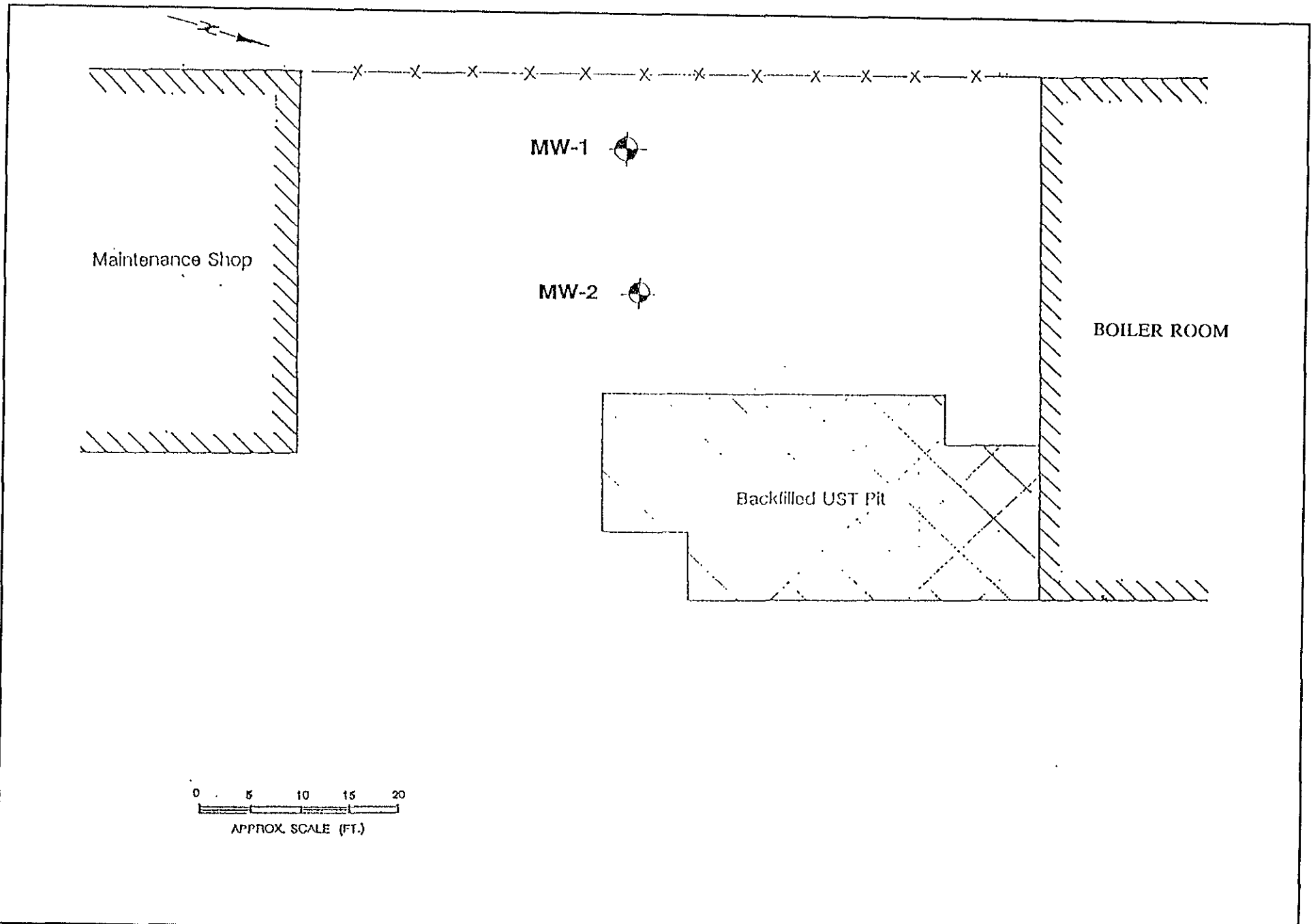


James E. Gribi  
Registered Geologist  
California No. 5843





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



DESIGNED BY :	DATE :
DRAWN BY :	SCALE :
CHECKED BY :	SEC. :
DRAWING NO. :	

CENTURY WEST  ENGINEERING

**FIGURE 2**  
**SITE PLAN**

CWEC: 20516-001-07

DRAWING NO.
SHEET NO.

**APPENDIX A**  
**GROUND WATER SAMPLING DATA SHEETS**

# CENTURY WEST ENGINEERING

## GROUNDWATER SAMPLING RECORD

\*\*\*\*\*

SAMPLE NO. MW-1 WELL NO. MW-1

PROJECT NAME LSI CGT PROJECT NO. 20516-C01-10

DATE 8/17 TIME \_\_\_\_\_ ELEV. TOP OF CASING \_\_\_\_\_

WELL DIAMETER \_\_\_\_\_ WELL DEPTH \_\_\_\_\_ SCREEN INTERVAL \_\_\_\_\_

H2O LEVEL INIT. 8.50 FIN. \_\_\_\_\_

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

LAB ANALYSIS \_\_\_\_\_ 0.163  
33

LABORATORY \_\_\_\_\_ PURGE/SAMPLE METHOD \_\_\_\_\_ 489

WEATHER CONDITIONS \_\_\_\_\_ 5.5 gals ≈ 53.79

\*\*\*\*\*

TIME	VOLUME PUMPED (GALS.)	PUMP RATE (GPM)	TEMP. (C)	COND.	pH	REMARKS (TURBIDITY)
0			65.5	1.10	6.37	51 murky/51 HC 0/51
1			64.5	1.05	6.38	" / SAME
2			63.5	1.14	6.48	" "
3			63.3	1.27	6.38	" "
4			63.6	1.32	"	"
5			63.1	1.58	6.38	"
6			63.3	1.32	6.38	SAME

SAMPLE CREW 2 55 gallon drums - Full (almost)

REMARKS \_\_\_\_\_

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



# CENTURY WEST ENGINEERING

## GROUNDWATER SAMPLING RECORD

[MW-1 (by Fence)]

\*\*\*\*\*

SAMPLE NO. MW-2 WELL NO. MW-2

PROJECT NAME 20516-001-10 PROJECT NO. LSI / 66th

DATE \_\_\_\_\_ TIME \_\_\_\_\_ ELEV. TOP OF CASING 4"

WELL DIAMETER \_\_\_\_\_ WELL DEPTH \_\_\_\_\_ SCREEN INTERVAL \_\_\_\_\_

H2O LEVEL INIT. 8.51 FIN. \_\_\_\_\_

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

LAB ANALYSIS Well 5 approx 20 ft deep ~ 11 feet H2O in well

LABORATORY \_\_\_\_\_ PURGE/SAMPLE METHOD \_\_\_\_\_

WEATHER CONDITIONS 65.3 x 3 x 11 =  $\frac{.653 \times 33}{.653} \approx 21.5$  gallons

\*\*\*\*\*

TIME	VOLUME PUMPED (GALS.)	PUMP RATE (GPM)	TEMP. (C)	COND.	pH	REMARKS (TURBIDITY)
	0		65.0	2.50	6.41	clear SL 0000 / NO SL
	4		65.4	2.11	6.47	SL murky SL 0 / NO SL
	8		65.6	1.99	6.38	CLEAR SL H2O / SCREEN
	12		65.7	1.91	"	" SAME / SCREEN
	16		65.2	1.72	6.37	" SAME / SCREEN
	20		65.4	1.81	6.37	" / SCREEN
	<u>24</u>		65.9	2.00	"	"

Well CAN DRY ~ 22 gallons

SAMPLE CREW \_\_\_\_\_

REMARKS \_\_\_\_\_

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

**APPENDIX B**

**LABORATORY DATA REPORTS AND  
CHAIN-OF-CUSTODY RECORDS**



NATIONAL  
ENVIRONMENTAL  
® TESTING, INC.

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

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


Date: 08/30/1994  
NET Client Acct. No: 75300  
NET Pacific Job No: 94.03652  
Received: 08/18/1994

Client Reference Information

LSI Project No: 20516-001-10

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:

  
Linda DeMartino  
Project Coordinator

  
Jim Hoch  
Operations Manager

Enclosure(s)





Client Name: Century West Engineering  
 Client Acct: 75300  
 NET Job No: 94.03652

Date: 08/30/1994  
 ELAP Cert: 1386  
 Page: 2

Ref: LSI Project No: 20516-001-10

SAMPLE DESCRIPTION: MW-1

Date Taken: 08/17/1994  
 Time Taken:  
 NET Sample No: 212158

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/26/1994
DILUTION FACTOR*	1						08/26/1994
as Gasoline	1.2		0.05	mg/L	5030		08/26/1994
METHOD 8020 (GC,Liquid)	--						08/26/1994
Benzene	13		0.5	ug/L	8020		08/26/1994
Toluene	1.9		0.5	ug/L	8020		08/26/1994
Ethylbenzene	0.8		0.5	ug/L	8020		08/26/1994
Xylenes (Total)	8.2		0.5	ug/L	8020		08/26/1994
SURROGATE RESULTS	--						08/26/1994
Bromofluorobenzene (SURR)	120			% Rec.	5030		08/26/1994
METHOD M8015 (EXT., Liquid)						08/19/1994	
DILUTION FACTOR*	1						08/22/1994
as Diesel	2.2	D-	0.05	mg/L	3510		08/22/1994

D- : The positive result has an atypical pattern for Diesel analysis.

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



Client Name: Century West Engineering  
 Client Acct: 75300  
 NET Job No: 94.03652

Date: 08/30/1994  
 ELAP Cert: 1386  
 Page: 3

Ref: LSI Project No: 20516-001-10

SAMPLE DESCRIPTION: MW-2

Date Taken: 08/17/1994

Time Taken:

NET Sample No: 212159

Parameter	Results	Flags	Reporting		Method	Date	Date
			Limit	Units		Extracted	Analyzed
TPH (Gas/BTXE, Liquid)							
METHOD 5030/M8015	--						08/26/1994
DILUTION FACTOR*	1						08/26/1994
as Gasoline	0.88		0.05	mg/L	5030		08/26/1994
METHOD 8020 (GC, Liquid)	--						08/26/1994
Benzene	25		0.5	ug/L	8020		08/26/1994
Toluene	3.0		0.5	ug/L	8020		08/26/1994
Ethylbenzene	2.8		0.5	ug/L	8020		08/26/1994
Xylenes (Total)	8.6		0.5	ug/L	8020		08/26/1994
SURROGATE RESULTS	--						08/26/1994
Bromofluorobenzene (SURR)	111			% Rec.	5030		08/26/1994
METHOD M8015 (EXT., Liquid)						08/19/1994	
DILUTION FACTOR*	1						08/22/1994
as Diesel	2.2	D-	0.05	mg/L	3510		08/22/1994

D- : The positive result has an atypical pattern for Diesel analysis.

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



Client Name: Century West Engineering  
Client Acct: 75300  
NET Job No: 94.03652

Date: 08/30/1994  
ELAP Cert: 1386  
Page: 4

Ref: LSI Project No: 20516-001-10

## 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	114.0	1.14	1.00	mg/L	08/26/1994	lss
Benzene	103.2	5.16	5.00	ug/L	08/26/1994	lss
Toluene	95.2	4.76	5.00	ug/L	08/26/1994	lss
Ethylbenzene	93.2	4.66	5.00	ug/L	08/26/1994	lss
Xylenes (Total)	95.3	14.3	15.0	ug/L	08/26/1994	lss
Bromofluorobenzene (SURR)	97.0	97	100	% Rec.	08/26/1994	lss
METHOD M9015 (EXT., Liquid)						
as Diesel	115.0	1150	1000	mg/L	08/22/1994	tts

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



Client Name: Century West Engineering  
Client Acct: 75300  
NET Job No: 94.03652

Date: 08/30/1994  
ELAP Cert: 1386  
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## METHOD BLANK REPORT

Parameter	Method			Date Analyzed	Analyst Initials
	Blank Amount Found	Reporting Limit	Units		
TPH (Gas/BTXE, Liquid)					
as Gasoline	ND	0.05	mg/L	08/26/1994	lss
Benzene	ND	0.5	ug/L	08/26/1994	lss
Toluene	ND	0.5	ug/L	08/26/1994	lss
Ethylbenzene	ND	0.5	ug/L	08/26/1994	lss
Xylenes (Total)	ND	0.5	ug/L	08/26/1994	lss
Bromofluorobenzene (SURR)	98		% Rec.	08/26/1994	lss
METHOD M8015 (EXT., Liquid)					
as Diesel	ND	0.05	mg/L	08/22/1994	tts

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



Client Name: Century West Engineering  
Client Acct: 75300  
NET Job No: 94.03652

Date: 08/30/1994  
ELAP Cert: 1386  
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Ref: LSI Project No: 20516-001-10

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike			Spike Amount	Sample Conc.	Matrix Spike		Units	Date Analyzed	Analyst Initials
	Matrix Spike % Rec.	Spike Dup % Rec.	RPD			Matrix Spike Conc.	Spike Dup. Conc.			
TPH (Gas/BTXE,Liquid)										
as Gasoline	115.0	101.0	13.0	1.00	ND	1.15	1.01	mg/L	08/26/1994	lss
Benzene	105.8	98.1	7.5	31.2	ND	33.0	30.6	ug/L	08/26/1994	lss
Toluene	104.6	99.2	5.2	48.2	ND	50.4	47.8	ug/L	08/26/1994	lss
METHOD M8015 (EXT., Liquid)										
as Diesel	112.5	111.0	1.3	2.00	ND	2.25	2.22	mg/L	08/22/1994	tts

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





Client Name: Century West Engineering  
Client Acct: 75300  
NET Job No: 94.03652

Date: 08/30/1994  
ELAP Cert: 1386  
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Ref: LSI Project No: 20516-001-10

## LABORATORY CONTROL SAMPLE REPORT

<u>Parameter</u>	<u>LCS</u>	<u>RPD</u>	<u>LCS</u>	<u>LCS</u>	<u>Units</u>	<u>Date</u>	<u>Analyst</u>
	<u>% Recovery</u>		<u>Amount</u>	<u>Amount</u>		<u>Analyzed</u>	<u>Initials</u>
			<u>Found</u>	<u>Expected</u>			
METHOD M8015 (EXT., Liquid) as Diesel	87.0		0.870	1.00	mg/L	08/22/1994	tts

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. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.
- dw : Result expressed as dry weight.
- 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 the 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., Rev. 1, December 1987.

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

