



CALIF CONTRACTOR # 513857 A CORPORATION  
REGISTERED GEOLOGISTS

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30101 Agoura Court, Ste. 200  
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(818) 865-9200  
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February 23, 1994

RE: USA Station #57 ground water monitoring, Oakland, Alameda County, CA on 1/27/94 for USA Gasoline Corporation.

#### LOCATION

The site, USA Gasoline Corporation Station #57 is located at 10700 MacArthur Boulevard, Oakland, Alameda County, California and lies in proj. Sec. 24; T2S; R3W; MDB&M at an elevation of approximately 65 feet above mean sea level. This station is currently inactive and not in service.

#### PURPOSE & SCOPE

To sample, document and chain-of-custody deliver the water samples from ground water monitor wells S-1 and S-2 to a State of California certified laboratory.

#### PROCEDURES

Depth to water were recorded for the wells, see Table 1, prior to purging and sampling by a Western Geo-Engineers (WEGE) geotechnician on January 27, 1994. The ground water at this site is shallow, the current depth is 16.72 feet to 17.87 feet below ground surface (BGS), for S-1 and S-2 respectively.

Western Geo-Engineers purged the wells before collecting ground water samples; this was completed only after water temperature, pH, and conductivity had stabilized. The "purged water" was "contained" in a labeled, secured 55 gallon drum on site. Ground water samples were collected from S-1 and S-2 on January 27, 1994. The samples were analyzed for Total Fuel Hydrocarbons as Gasoline and Volatile Aromatic Hydrocarbons (BTEX), utilizing EPA Methods 5030, & 602 respectively.

The water samples were preserved in containers prepared and provided by Matrix Environmental Laboratories, Rancho Cordova, California. Each sample was placed in a zip lock bag and deposited in an ice chest containing enough ice to maintain a 4°C temperature to preserve the samples. The samples were delivered to a California State Certified Laboratory and signed over to the lab using standard chain-of-custody procedures. Field notes describing the collection of water samples are included in Appendix A.

#### CHEMICAL ANALYSIS RESULTS

The water samples were analyzed at Matrix Environmental Laboratories (DHS #1676). The analytical results for water samples from S-1 were 6.9 ppm for TPH,G with Benzene at 880 ppb and Below Detection Limits (BDL) for TPH,D. In addition, Petroleum Hydrocarbons were detected in S-2 with TPH,G at 15 ppm, 660 ppb Benzene and Below Detection Limits for TPH,D. Analyses run and sample location are tabulated in Table 1. The analytical laboratory report is presented in Appendix B.


#### LIMITATIONS

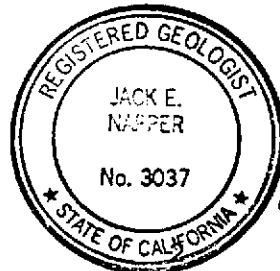
This report is based upon the following:

- A. The observations of field personnel.
- B. The results of laboratory analyses performed by a state certified laboratory.
- C. Referenced documents.
- D. Our understanding of the regulations of the State of California, Alameda County and the City of Oakland.

The services performed by Western Geo-Engineers, a corporation, under California Registered Geologist #3037 and/or Contractors Licence #513857, have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California and the Oakland area. Our work and/or supervision of remediation and/or abatement operations, active or preliminary, at this site is in no way meant to imply that we are owners or operators of this site. Please note that known soil and/or ground water contamination must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

Sincerely,

  
Vern A. Bennett  
Project Geologist



  
Jack E. Napper  
Registered Geologist #3037

WEGE: TABLE 1

USA PETROLEUM CORPORATION

NAPA, CALIFORNIA

GROUND WATER INFORMATION & WATER SAMPLE RESULTS

SAMPLE ID	DATE SAMPLED	DEPTH TO WATER IN FEET (BGS)	SAMPLING COMPANY	CERTIFIED LAB	TPH,G ppm (mg/L)	TPH,D ppm (mg/L)	BENZENE ppb (ug/L)	TOLUENE ppb (ug/L)	ETHYL BENZENE ppb (ug/L)	XYLENE ppb (ug/L)	PRODUCT THICKNESS IN FEET
S-1	01/27/94	16.72	WEGE	MATRIX	6.9	<0.05	880	<15	<15	<45	
S-2	01/27/94	17.87	WEGE	MATRIX	15	<0.05	660	230	470	1600	SHEEN

WEGE= WESTERN GEO-ENGINEERS

\*SHEEN= PETROLEUM HYDROCARBONS AS DISSOLVED CONSTITUENTS FOUND

" " OR BLANK, SAMPLE NOT TAKEN: PRODUCT IN WELL

AND/OR SAMPLE NOT RUN OR DATA AVAILABLE

MATRIX=FORMERLY CHEMTECH, (DHS #1676)

BGS= BELOW GROUND SURFACE, TAKEN FROM TOC (TOP OF CASING).

PPM= PARTS PER MILLION (mg/L-milligrams/liter)

PPB=PARTS PER BILLION (ug/L-micrograms/liter)

TFH= TOTAL FUEL HYDROCARBONS (GASOLINE)

EPA METHOD 5030 USED FOR TFH (G)

TPH,D= TOTAL PETROLEUM HYDROCARBONS AS DIESEL

EPA METHOD M8015 USED FOR TPH,D

EPA METHOD 602 USED FOR (BTEX); BENZENE, TOLUENE, ETHYL BENZENE, XYLENE



# WESTERN GEO-ENGINEERS

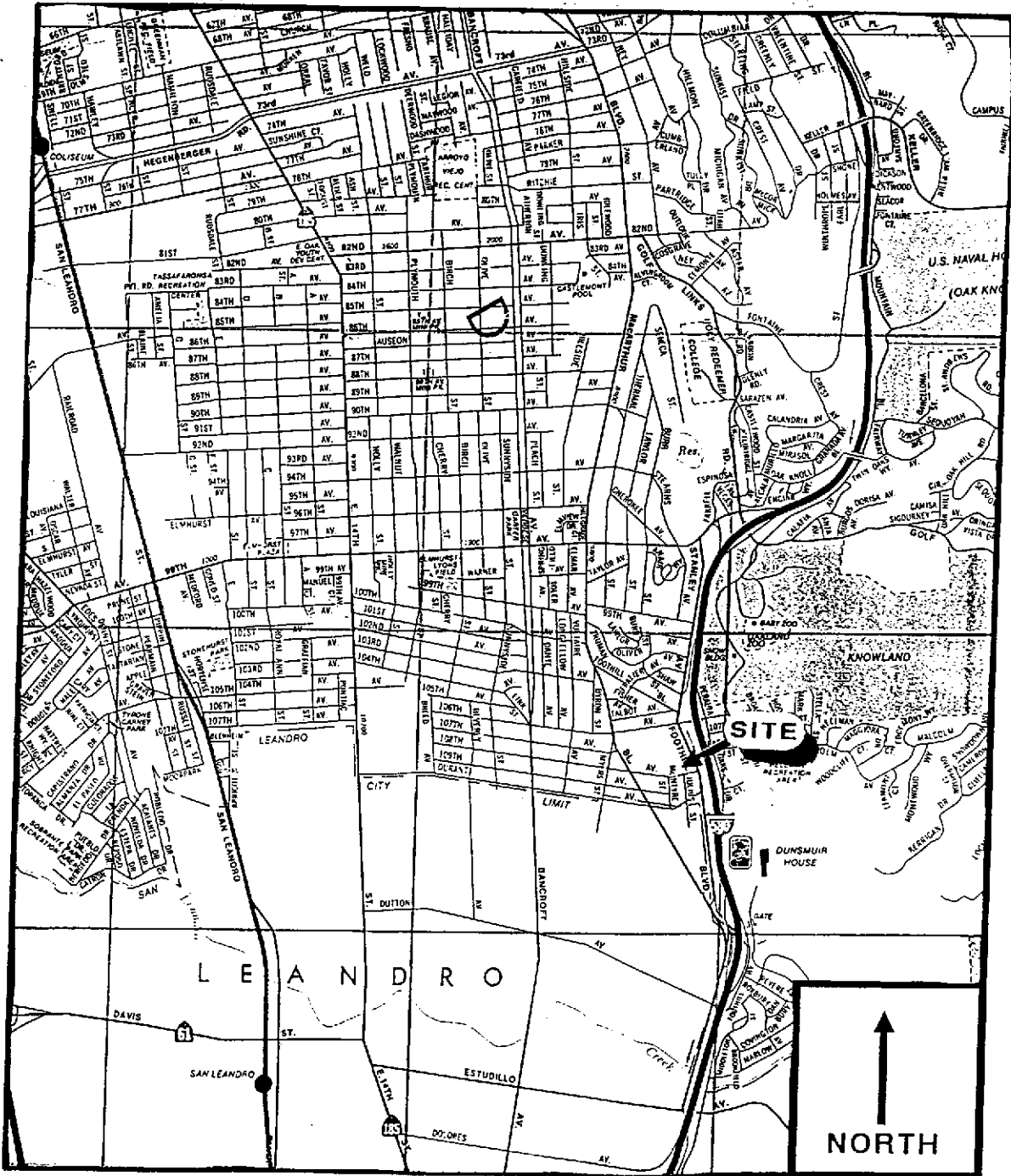


FIGURE 1, AAA, SITE LOCATION MAP

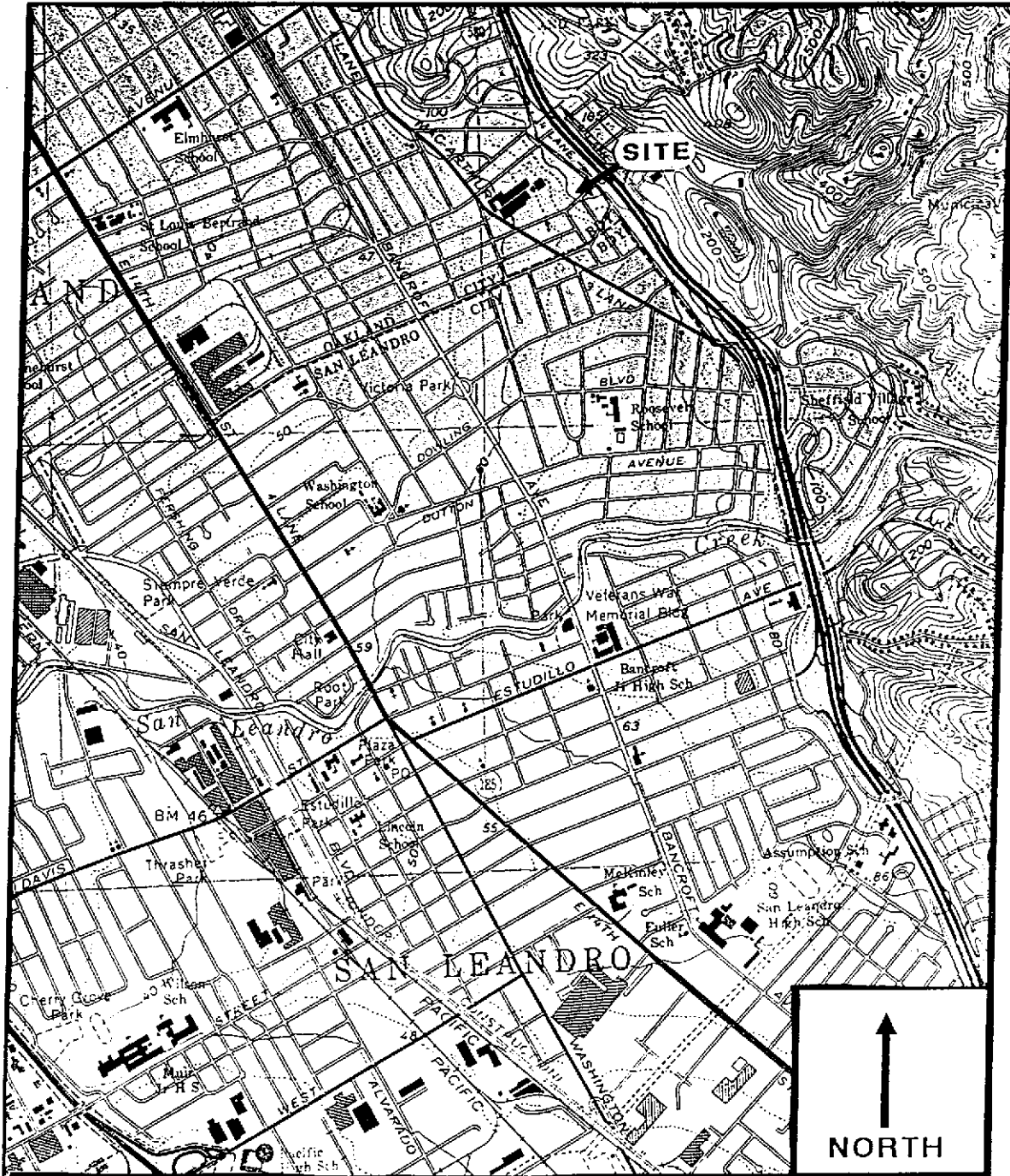
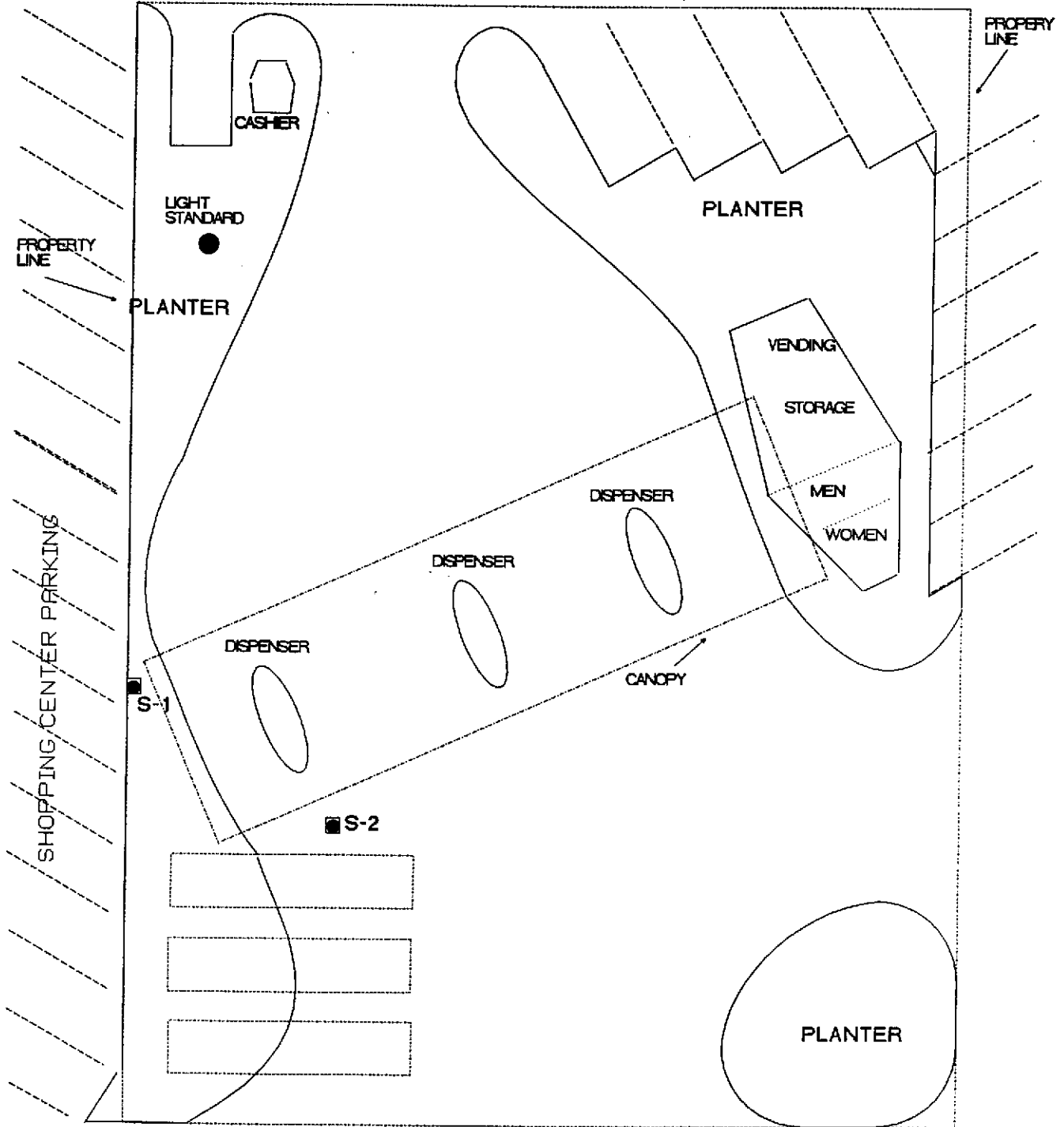
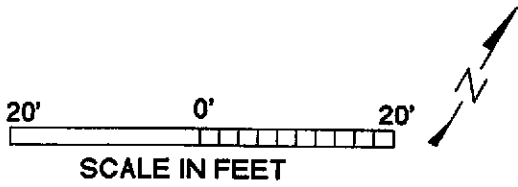


FIGURE 2, USGS TOPO SHEET SITE LOCATION MAP

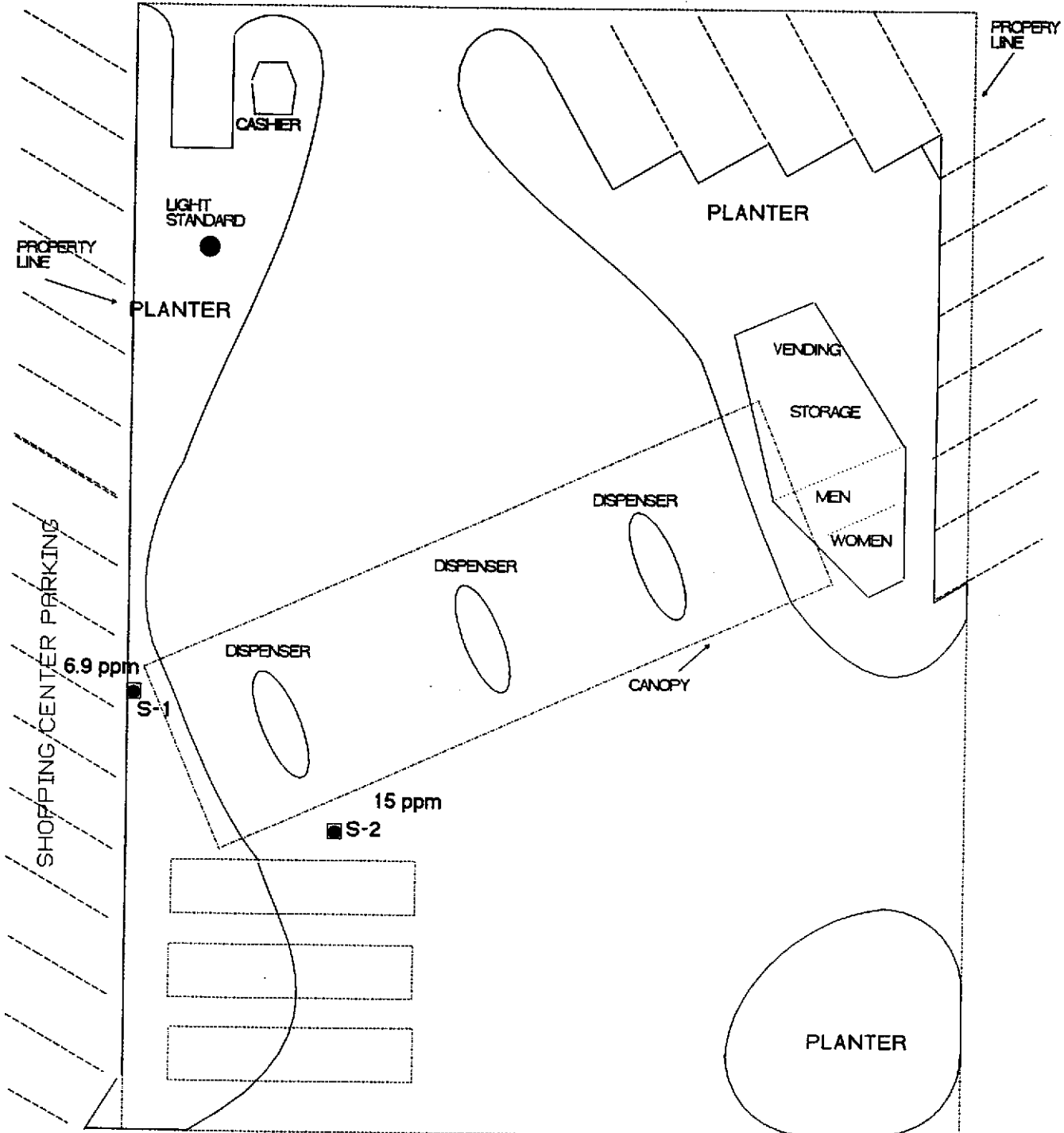
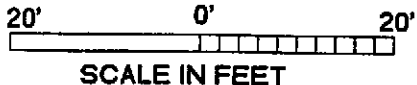
USA GASOLINE CORPORATION  
STATION #57  
10700 MACARTHUR BLVD.,  
OAKLAND, CA  
SITE BASE MAP

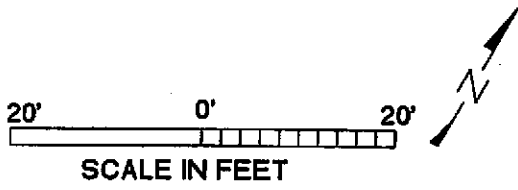
FIGURE 3  
1/26/94



USA GASOLINE CORPORATION  
STATION #57  
10700 MACARTHUR BLVD.,  
OAKLAND, CA  
Ground Water TFH (ppm)

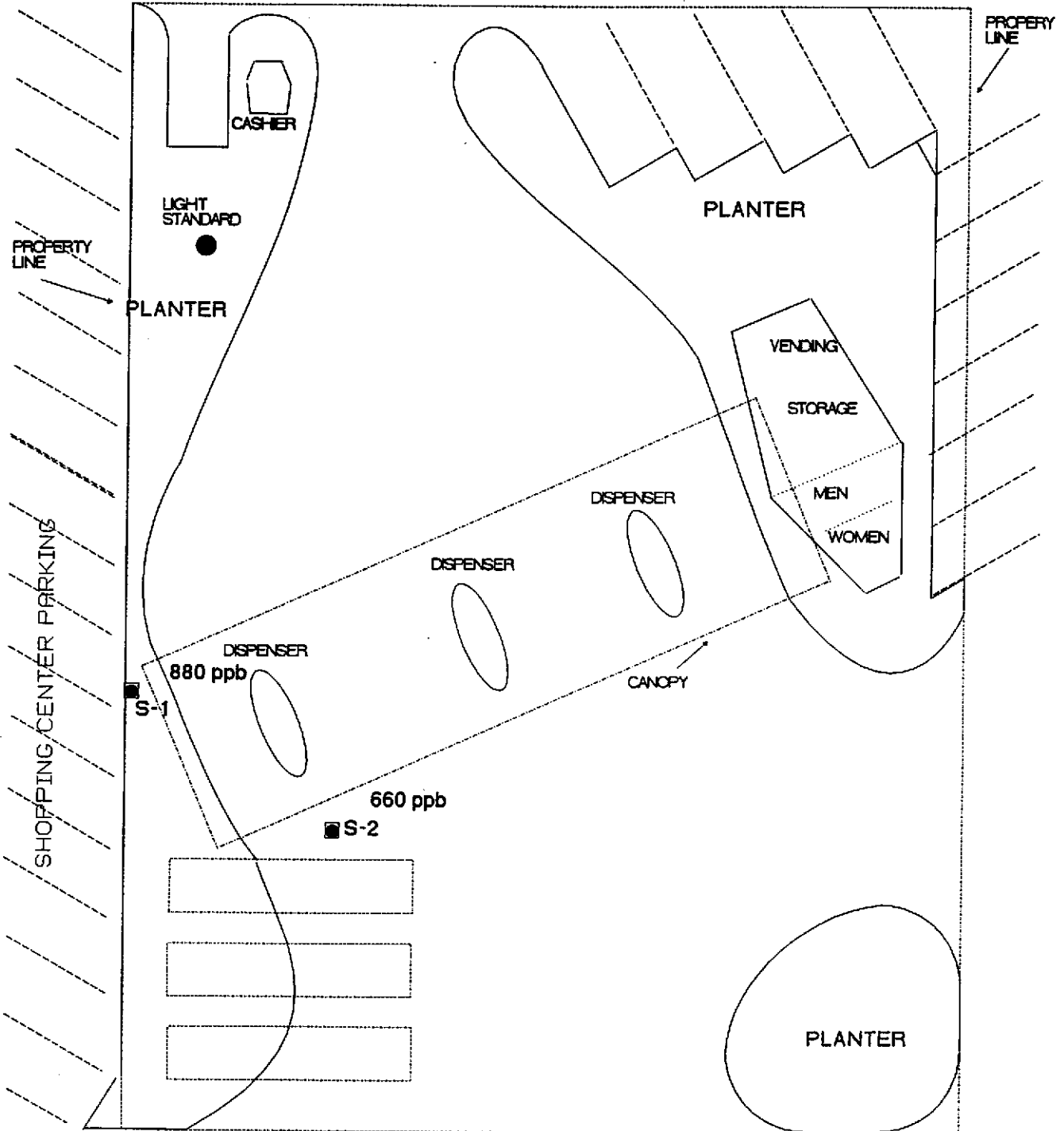
FIGURE 4  
1/27/94





**FIGURE 5**  
1/27/94

**USA GASOLINE CORPORATION**  
**STATION #57**  
**10700 MACARTHUR BLVD.,**  
**OAKLAND, CA**  
**Ground Water Benzene (ppb)**





**APPENDIX A**

**GROUND WATER SAMPLING  
FILED NOTES**

**JANUARY 27, 1994**

**USA GASOLINE CORP. STA. #57  
10700 MACARTHUR BOULEVARD,  
OAKLAND, CA.**

# WELL SAMPLING DATA SHEET

SITE U.S.A. #57	DATE 1-27-99	TIME 12:15
WELL S-1	SAMPLED BY. W. Woolf	
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER 16.72		
FLUID ELEVATION		
BAILER TYPE		
PUMP		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.

*24. Meter Malfunction  
Drive to measure  
on battery bailed  
No water*

FINAL VOLUME PURGED 15 gallons
TIME SAMPLED 12:50
SAMPLE ID. S-1
SAMPLE CONTAINERS 4-Vol 1 liter
ANALYSIS TO BE RUN TPH BTEX
LABORATORY Matrix
NOTES: water cloudy Bio odor purged and let recharge before sampling

## WELL SAMPLING DATA SHEET

SITE U.S.A. # <i>87</i>	DATE <i>1-27-94</i>	TIME <i>11:40</i>
WELL <i>S-2</i>	SAMPLED BY. <i>W. Woodhuff</i>	
WELL ELEVATION		
PRODUCT THICKNESS <i>Visible beads of Product</i>		
DEPTH TO WATER <i>17.87</i>		
FLUID ELEVATION		
BAILER TYPE		
PUMP		

WELL PURGING RECORD				
TIME	VOLUME REMOVED	TEMP.	pH	COND.

*PH malfunction due to air bubbles in water. Bubbled volume.*

FINAL VOLUME PURGED <i>16 gallons</i>
TIME SAMPLED <i>12:35</i>
SAMPLE ID. <del>87</del> <i>S-2</i>
SAMPLE CONTAINERS <i>LI-VOA</i>
ANALYSIS TO BE RUN <i>TPH RTEX</i>
LABORATORY <i>Matrix</i>
NOTES: <i>Flouring product visible &amp; sampled after purging and release</i>

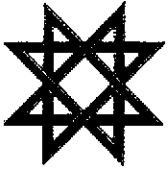
**APPENDIX B**

**MATRIX ENVIRONMENTAL  
LABORATORIES**

**GROUND WATER RESULTS  
S-1 AND S-2**

**JANUARY 27, 1994**

**USA GASOLINE CORP. STA. #57  
10700 MACARTHUR BOULEVARD,  
OAKLAND, CA.**



**MATRIX**

ENVIRONMENTAL LABORATORIES INC.

Western GEO  
1386 Beamer Street  
Woodland, Ca 95776

2/9/94

ATTN: Vern Bennett

Re: Project: U.S.A. # 57  
Lab Reference Number: 4319  
Date Samples Received: 1/28/94  
No. Samples Received: 10

The samples were received by Matrix Environmental Laboratories intact and in good condition. Samples conformed to required sampling protocols for the requested analyses and were accompanied by required documentation.

Please call if we can be of further assistance.

Sincerely,

Charles R. Todd, *for*  
Laboratory Director



# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: BTEX, EPA 602

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: N/A  
Lab ID: Method Blank

Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT (ppb)
BENZENE	ND	0.3
TOLUENE	ND	0.3
ETHYLBENZENE	ND	0.3
XYLENES	ND	0.9
SURROGATE RECOVERY	94%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: N/A  
Lab ID: Method Blank

Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
GASOLINE	ND	50.
SURROGATE RECOVERY	89%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.



# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: BTEX, EPA 602

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: S -1  
Lab ID: 940327

Date Sampled: 1/27/94  
Date Received: 1/28/94  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT (ppb)
BENZENE	880.	15
TOLUENE	ND	15
ETHYLBENZENE	ND	15
XYLENES	ND	45
SURROGATE RECOVERY	100%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 50 ratio and the reporting limits adjusted accordingly

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: S - 1  
Lab ID: 940327

Date Sampled: 1/27/94  
Date Received: 1/28/94  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
GASOLINE	6,900.	250.
SURROGATE RECOVERY	84%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 5 ratio and the reporting limits adjusted accordingly

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: BTEX, EPA 602

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: S - 2  
Lab ID: 940332

Date Sampled: 1/27/94  
Date Received: 1/28/94  
Date Extracted: N/A  
Date of Analysis: 2/7/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT (ppb)
BENZENE	660.	30
TOLUENE	230.	30
ETHYLBENZENE	470.	30
XYLENES	1,600.	90
SURROGATE RECOVERY	103%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1:100 ratio and the reporting limits adjusted accordingly

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: S - 2  
Lab ID: 940332

Date Sampled: 1/27/94  
Date Received: 1/28/94  
Date Extracted: N/A  
Date of Analysis: 2/7/94  
Matrix: WATER

COMPOUND	ug/L (ppb)	REPORTING LIMIT ug/L (ppb)
GASOLINE	15,000.	5,000.
SURROGATE RECOVERY	89%	ACCEPTABLE RANGE 70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 100 ratio and the reporting limits adjusted accordingly

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: TPH-GASOLINE SPIKE SUMMARY

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: N/A  
Lab ID: MS/MSD

Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	CONC SPIKED ug/L (ppb)	CONC MEASURED		PERCENT RECOVERY		RPD
		MS	MSD	MS	MSD	
GASOLINE	20.00	18.78	18.38	94%	92%	2%

MS= MATRIX SPIKE  
MSD= MATRIX SPIKE DUPLICATE  
RPD= RELATIVE PERCENT DIFFERENCE  
CONC= CONCENTRATION

# MATRIX ENVIRONMENTAL LABORATORIES

## ANALYSIS: BTEX SPIKE SUMMARY

CLIENT: Western GEO  
CONTACT: V. Bennett  
COC No: 4319  
Project No: U.S.A. # 57  
Sample ID: N/A  
Lab ID: MS/MSD

Date Sampled: N/A  
Date Received: N/A  
Date Extracted: N/A  
Date of Analysis: 2/8/94  
Matrix: WATER

COMPOUND	CONC SPIKED ug/L (ppb)	CONC MEASURED		PERCENT RECOVERY		
		MS	MSD	MS	MSD	RPD
BENZENE	10.00	8.32	8.12	83%	81%	2%
TOLUENE	10.00	8.14	8.16	81%	82%	0%
ETHYL BENZENE	10.00	8.17	8.15	82%	81%	0%
TOTAL XYLENES	30.00	24.64	24.85	82%	83%	1%

MS= MATRIX SPIKE  
MSD= MATRIX SPIKE DUPLICATE  
RPD= RELATIVE PERCENT DIFFERENCE  
CONC= CONCENTRATION

# MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742

PHONE (916) 635-3962 FAX (916) 635-9331

## ANALYSIS: TPH-D, EPA 8015 mod.

*Client:* Western GEO  
*Contact:* V. Bennett  
*COC No:* 4319  
*Project No:* USA # 57  
*Matrix:* WATER

*Date Sampled:* 1/27/94  
*Date Received:* 1/28/94  
*Date Extracted:* 2/4/94  
*Date of Analysis:* 2/8/94

Lab ID	Sample ID	Diesel mg/L (ppm)	REPORTING LIMIT mg/L (ppm)
Method Blank	N/A	ND	.05
940330	S-1	ND	.05
940335	S-2	ND	.05

NOTE: (ND) =NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

# MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742

PHONE (916) 635-3962 FAX (916) 635-9331

## ANALYSIS: TPH MATRIX SPIKE SUMMARY

Client: Western GEO  
Contact: V. Bennett  
COC No: 4319  
Project No: USA # 57  
Matrix: WATER

Date Sampled: N/A  
Date Received: N/A  
Date Extracted: 2/4/94  
Date of Analysis: 2/8/94

COMPOUND	CONC SPIKED (mg/L)	CONC MEASURED		PERCENT RECOVERY		RPD
		LCS	LCSD	LCS	LCSD	
DIESEL	100	88	87	88%	87%	1%

LCS= LABORATORY CONTROL SPIKE  
LCSD= LABORATORY CONTROL SPIKE DUPLICATE  
RPD= RELATIVE PERCENT DIFFERENCE  
CONC= CONCENTRATION