REPORT OF RECENT EXCAVATION AND SAMPLING ACTIVITIES

Liquid Sugars, Inc. Site
1266 66th Street
Emeryville, California

GA Project No. 149-02-02

Prepared for:

Liquid Sugars, Inc.
P O Box 96
Oakland, California, 94604

Prepared by:

Gribi Associates
1350 Hayes Street, Suite C-14
Benicia, CA 94510
(707)748-7743

September 1, 1999

September 1, 1999

San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Attention: Derek Lee

Subject: Report of Recent Excavation and Sampling Activities
Liquid Sugars, Inc., 1266 66th Street
Emeryville, California
GA Project No. 149-02-02

Ladies and Gentlemen:

Gribi Associates is pleased to submit this brief letter report on behalf of Liquid Sugars, Inc. (LSI) documenting recently-completed soil excavation and sampling at the LSI property located at 1266 66th Street in Emeryville, California (see Figure 1 and Figure 2). Soil excavation and sampling activities were conducted in order to investigate the possible presence of a large-diameter well, as recalled by a long-time LSI employee.

Background

A long-time LSI employee recalled the possible presence of a large-diameter well in the old Diamond Alkali shop building, previously located in the approximate location of the LSI boiler room on the north side of the site. He further stated that prior to construction of the LSI boiler room, this well was filled in with a wide variety of debris, possibly including drummed materials. We also talked to the contractor who graded the ground surface prior to construction of the boiler room in the mid-1970s. He remembered a near-surface gravel drain area surrounded by a shallow circular metal sheath, which he removed during grading activities.

In order to investigate the possible presence of a well or drain area, LSI contracted Gribi Associates to excavate and sample a series of trenches in the suspect area, immediately north from existing LSI above ground tanks and beneath the removed LSI boiler room.

Description of Soil Excavation and Sampling Methods

A series of nine trenches were excavated on July 28 and 29, 1999 by Delta Scrap & Salvage under the direction of Mr. Jim Gribi of Gribi Associates. These trenches were excavated to a total a total depth of about seven feet below depth, and excavated soil was either moved around inside the excavated trenches or temporarily stockpiled adjacent to the excavation area. A total of six soil

samples, T-1W, T-2-M, T-3-W, T-4-S, T-6-M, and T-8-M, were collected during excavation on July 28 and 29, 1999. These samples were collected directly from the backhoe bucket.

Based on the detection of diesel- and motor oil-range hydrocarbon in soil samples T-1W and T-2M, two deeper soil samples, T-1.2-W and T-2.2-M, were collected in the vicinity of the two previous samples. In both locations, a clean hand auger was used to bore down to about eight feet in depth, and a soil sample was collected directly from the hand auger.

Soil samples were collected directly from the backhoe bucket and hand auger using the following method: (1) Exposed soil was scraped away; (2) A clean 2-inch by 6-inch brass tube was completely filled with undisturbed soil, taking care to minimize excess void in the tube; (3) The tube was then quickly sealed with aluminum foil and plastic end caps, wrapped tightly with tape and labeled; and (4) The sealed tube was immediately placed in cold storage for transport to the laboratory. All sampling equipment was thoroughly cleaned and decontaminated between each sample collection by triple rinsing; first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water.

All soil samples were analyzed for the following parameters:

USEPA 8015M Total Petroleum Hydrocarbons as Gasoline (TPH-G)
USEPA 8020/602 Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
USEPA 8020/602 Methyl-t-butyl Ether (MTBE)
USEPA 8015M Total Petroleum Hydrocarbons as Diesel/Motor Oil (TPH-D/MO)
USEPA 8260B Halogenated Volatile Organic Compounds (HVOCs)

All laboratory analyses were conducted by Acculabs, Inc., a California-certified analytical laboratory, with one-week turn around on lab results.

Results of Investigation

Soils encountered during excavation activities generally consisted of concrete slab and fill material down to about three feet in depth, followed by grey green to grey brown clayey silts and occasional gravels down to about six feet in depth, followed by reddish brown silty clays down to about eight feet in depth. A layer of loose gravel with wood and metal debris, extending from about three feet to four feet in depth, was encountered on the east side of the excavation, beneath the southeast corner of the removed LSI boiler room. This gravel material, which exhibited slight to moderate hydrocarbon odors and staining, was localized in both vertical and lateral extent. Soils immediately southwest from this gravel layer exhibited some hydrocarbon odors and staining from about three to seven feet in depth; however, these hydrocarbon-impacted soils did not appear to extend a significant distance vertically or laterally.

Laboratory analytical results are summarized in Table 1. The laboratory data reports and chain-of-custody records for soil analyses are contained in Appendix A.

Table 1
SUMMARY OF ANALYTICAL RESULTS FROM SOIL EXCAVATION ACTIVITIES
Liquid Sugars Inc., 1266 66th Street

Sample ID	Sample Depth	Concentration (ppm)								
		TPH-D	TPH-MO	TPH-G	B	T	E	X	MTBE	HVOCs
Soil Samples Collected on July 28-29, 1999										
T-1-W	5.0 ft	**480**	**180**	**4.1**[1]	<0.0050	**0.0089**	**0.0074**	<0.0050	<0.050	<0.0050[2]
T-2-M	6.0 ft	**410**	**170**	**4.9**[1]	<0.0050	**0.015**	<0.0050	<0.0050	<0.050	**0.0091**[3]
T-3-W	7.0 ft	<2.0	<10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.1480**[4]
T-4-S	7.0 ft	<2.0	<10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.0090**[5]
T-6-M	7.0 ft	<2.0	<10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.010**[6]
T-8-M	7.0 ft	<2.0	<10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.0095**[7]
Soil Samples Collected on August 16, 1999										
T-1.2-W	8.0 ft	**21**	**11**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.0396**[8]
T-2.2-M	8.0 ft	**27**	**15**	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	**0.0072**[9]

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethyl benzene
X = Xylene
MTBE = Methyl-t-Butyl Ether
HVOCs = Halogenated Volatile Organic Compounds. Includes 28 individual analytes.
<0.0050 = Not detected above the expressed value.

[1] = Acculabs, Inc. laboratory report states "Product is not typical gasoline."
[2] = No detectable levels of 28 HVOC analytes.
[3] = 0.0091 ppm of Methylene Chloride.
[4] = 0.0080 ppm of Methylene Chloride and 0.14 ppm of 1,2-Dichloroethane (1,2-DCA).
[5] = 0.0090 ppm of Methylene Chloride.
[6] = 0.0100 ppm of Methylene Chloride.
[7] = 0.0095 ppm of Methylene Chloride.
[8] = 0.032 ppm of 1,2-DCA and 0.0076 ppm of Naphthalene.
[9] = 0.0072 ppm of Naphthalene.

Conclusions

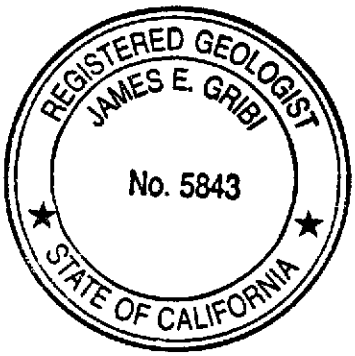
Two of the soil samples, T-1-W and T-2-M, contained low to moderate levels of diesel- and motor oil-range hydrocarbons. However, deeper soil samples, T-1.2-W and T-2.2-M, contained significantly lower levels of diesel- and motor oil-range hydrocarbons Both field and laboratory analytical results indicate that these diesel- and motor oil-impacted soils are localized, possibly related to a drain in the former Diamond Alkali shop building (as evidenced by gravel and wood debris on the east side of the excavation).

The only detections of chlorinated solvents in any of the soil samples were 0.14 ppm of 1,2-DCA in the T-3-W soil sample and 0.032 ppm of 1,2-DCA in the T-1.2-W soil sample. These low levels of 1,2-DCA do not appear to indicate a significant problem in this area of the site, particularly given that the grab groundwater sample from the downgradient Geomatrix B-1 boring contained only 0.0018 ppm of 1,2-DCA.

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

Very truly yours,

James E. Gribi
Registered Geologist
California No. 5843

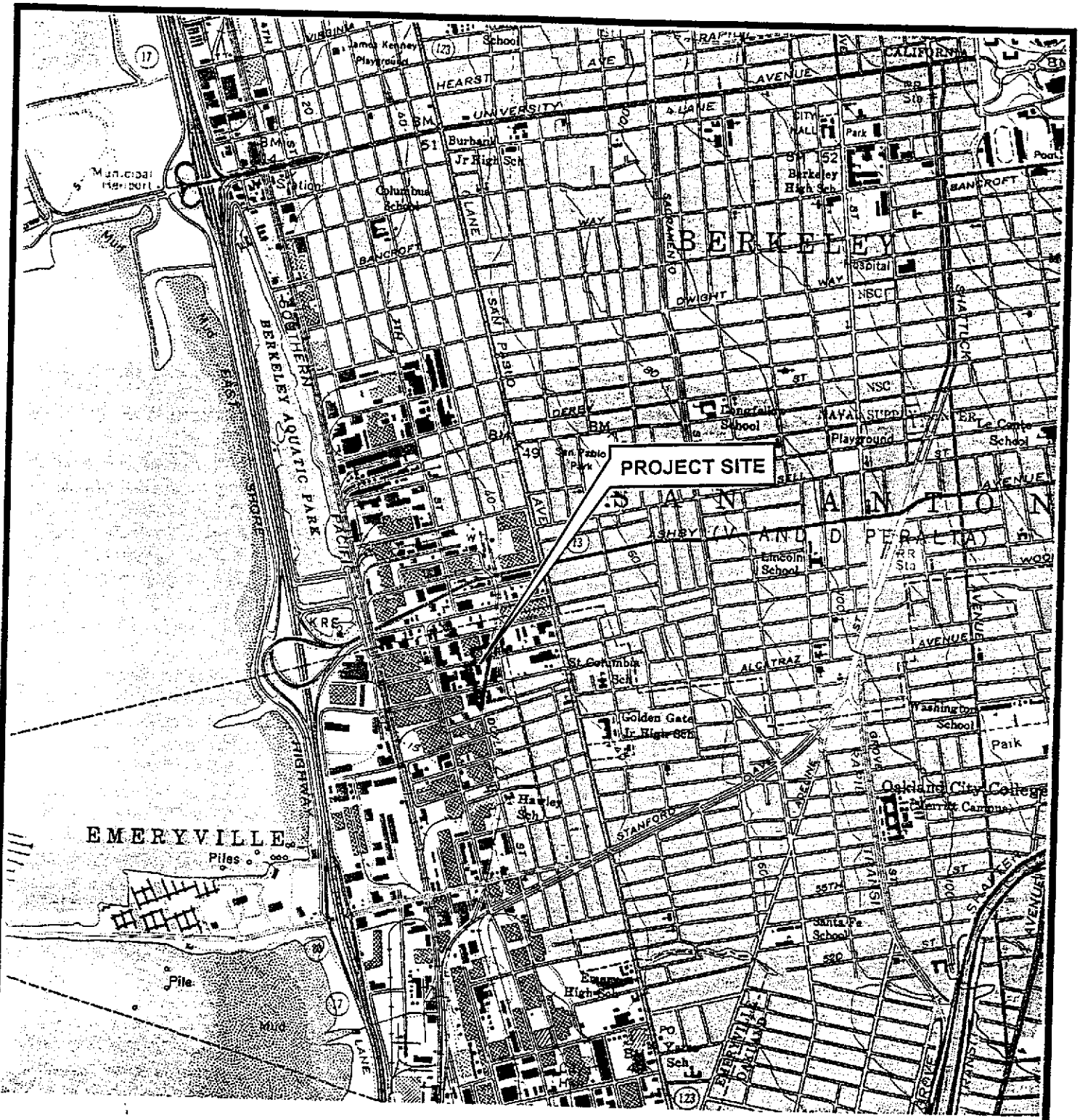


Stanton Stubbs
Environmental Scientist

JEG:ct
Enclosure

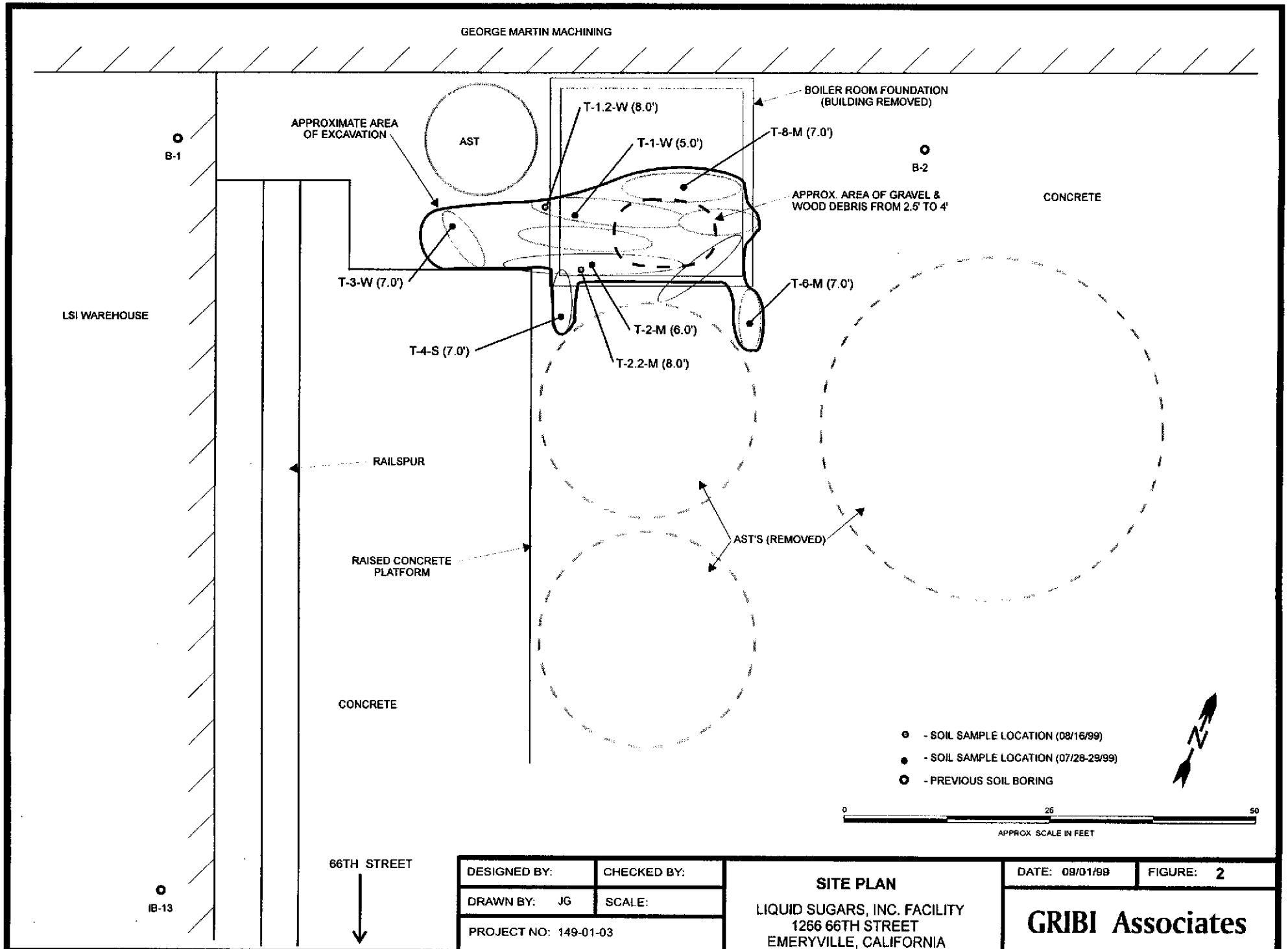
c Mr. Rory Campbell, Hansen, Bridgett, Marcus, Vlahos & Rudy, LLP
Mr. Mike Alo, Liquid Sugars, Inc.

File: C:\MyFiles\Reports\lsi-n-exc.rp1.wpd



TOPOGRAPHY FROM USGS OAKLAND, WEST, CALIFORNIA
7.5-MINUTE QUADRANGLE MAPS, (TOPO! 1997).

DESIGNED BY:	CHECKED BY:	SITE VICINITY MAP	DATE: 11/09/98	FIGURE: 1
DRAWN BY: JG	SCALE: 1:24,000			
PROJECT NO: 149-01-01		LIQUID SUGARS, INC. EMERYVILLE, CALIFORNIA	GRIBI Associates	



DESIGNED BY:	CHECKED BY:	**SITE PLAN**	DATE: 09/01/99 FIGURE: 2
DRAWN BY: JG	SCALE:	LIQUID SUGARS, INC. FACILITY 1266 66TH STREET EMERYVILLE, CALIFORNIA	**GRIBI Associates**
PROJECT NO: 149-01-03			

APPENDIX A

LABORATORY DATA REPORTS AND CHAIN-OF-CUSTODY RECORDS

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
August 06, 1999

Jim Gribi
Gribi Associates
1350 Hayes Street, #C-14
Benicia, CA 94510

Subject : 6 Soil samples
Project Name : LSI-NORTH
Project Number : 149-02-02

Dear Mr. Gribi,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Acculabs - Davis is certified by the State of Arizona (AZ0583) and the State of California (# 2330). If you have any questions regarding procedures or results, please call me at 530-757-0920.

Sincerely,

Tom Kwoka

Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Subject : 6 Soil samples
Project Name : LSI-NORTH
Project Number : 149-02-02

Sample Log 20396
August 06, 1999

Case Narrative

Sample Analysis: EPA 8260

Several of the samples show low level hits for Methylene Chloride. While it does not appear in the method blank, it is a known laboratory contaminant.

Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

August 3, 1999
Sample Log 20396

MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99, 07/29/99
Received : 07/29/99
Matrix : Soil

SAMPLE	Date Analyzed	(MRL) mg/kg	Measured Value mg/kg
T-1-W (5.0')	08/03/99	(.050)	<.050
T-2-M (6.0')	08/03/99	(.050)	<.050
T-3-W (7.0')	08/03/99	(.050)	<.050
T-4-S (7.0')	08/03/99	(.050)	<.050
T-6-M (7.0')	08/04/99	(.050)	<.050
T-8-M (7.0')	08/05/99	(.050)	<.050

Approved By:

Tom Kwoka
Lab Director

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

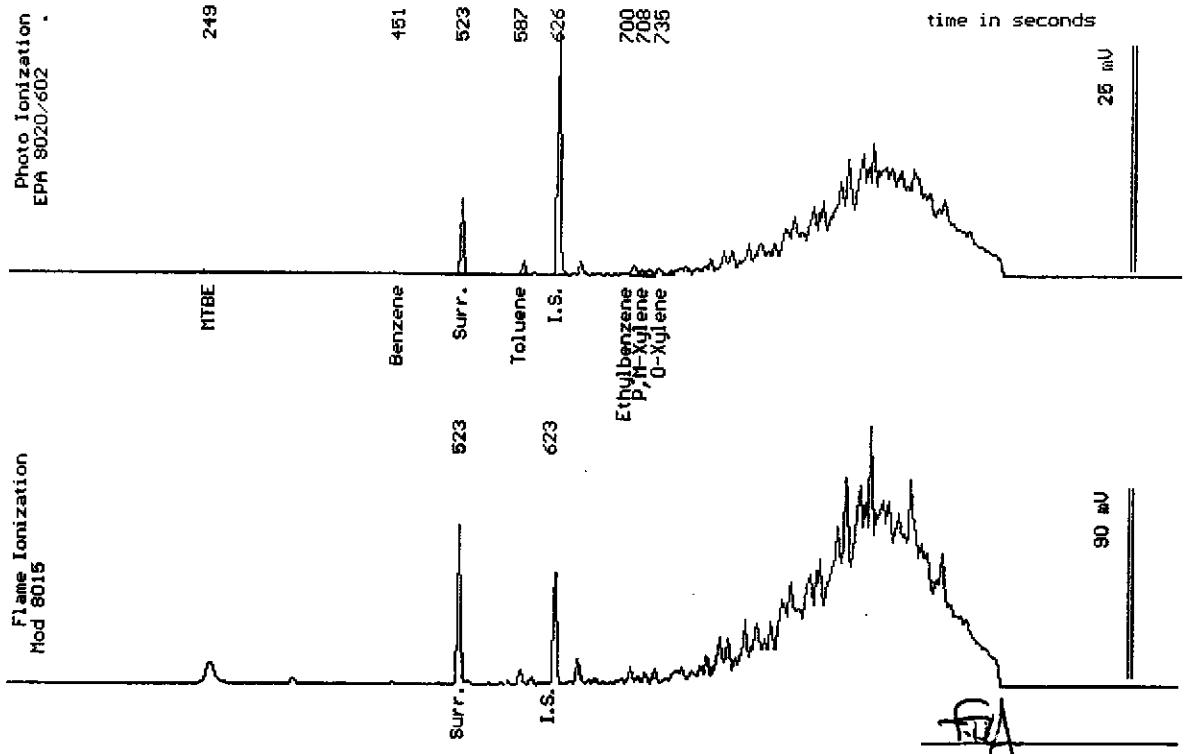
Sample Log 20396
20396-01

Sample: **T-1-W (5.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Dilution : 1:1 Run Log : 2182V
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	.0089
Ethylbenzene	(.0050)	.0074
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	4.1 *
Surrogate Recovery		102 %

* Product is not typical gasoline.



Date Analyzed: 08-03-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

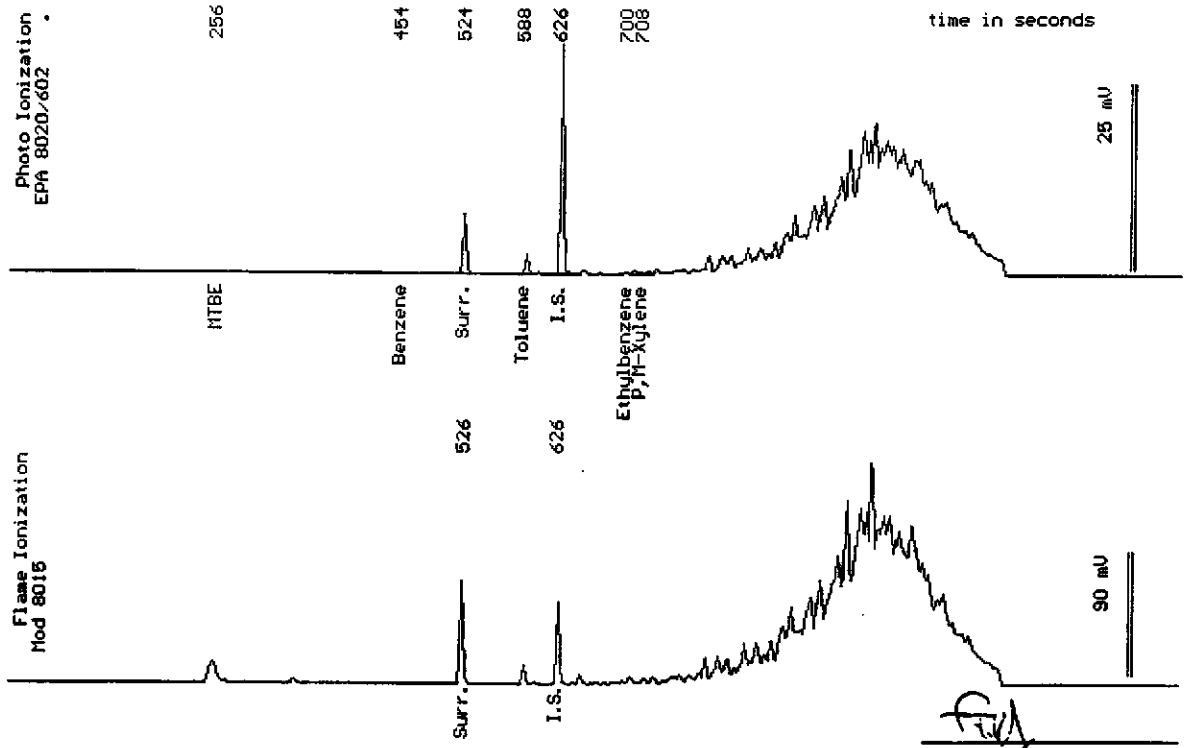
Sample Log 20396
20396-02

Sample: **T-2-M (6.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Dilution : 1:1 Run Log : 2182V
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	.015
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	4.9 *
Surrogate Recovery		103 %

* Product is not typical gasoline.



Date Analyzed: 08-03-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Rodolsky
Senior Chemist

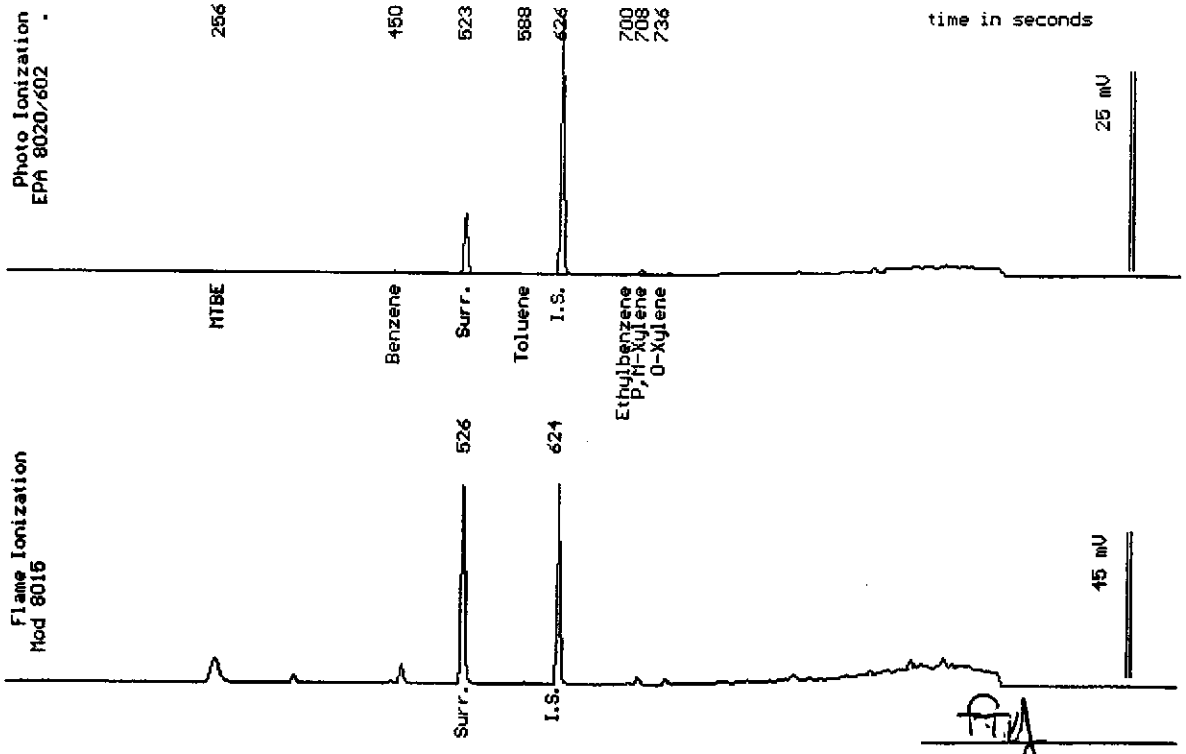
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
20396-03

Sample: **T-3-W (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Dilution : 1:1 Run Log : 2182V
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		99 %



Date Analyzed: 08-03-99
Column : 0.53mm X 60m Restek Rtx-1301

Steuart Pogolsky
Senior Chemist

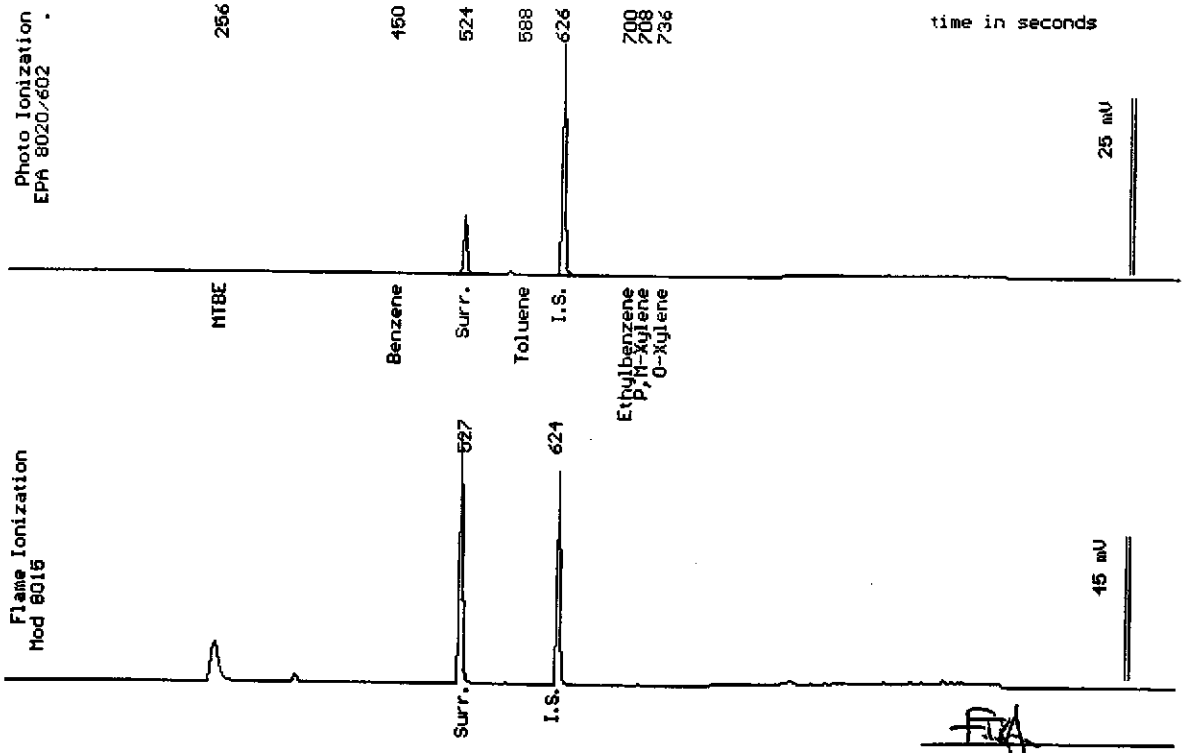
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
20396-04

Sample: T-4-S (7.0')

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Dilution : 1:1 Run Log : 2182V
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		100 %



Date Analyzed: 08-03-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Podolsky
Senior Chemist

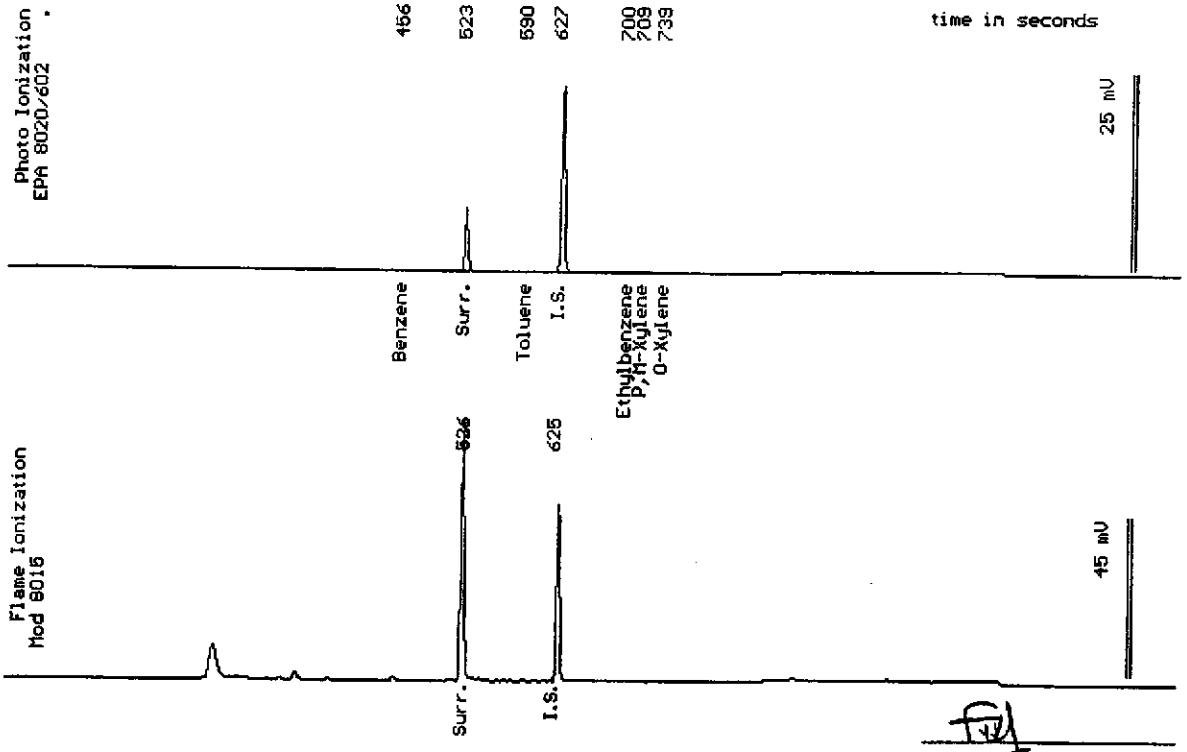
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
20396-05

Sample: **T-6-M (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Dilution : 1:1 Run Log : 2182X
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		99 %



Date Analyzed: 08-04-99
Column : 0.53mm X 60m Restek Rtx-1301

Steuart Podolsky
Senior Chemist

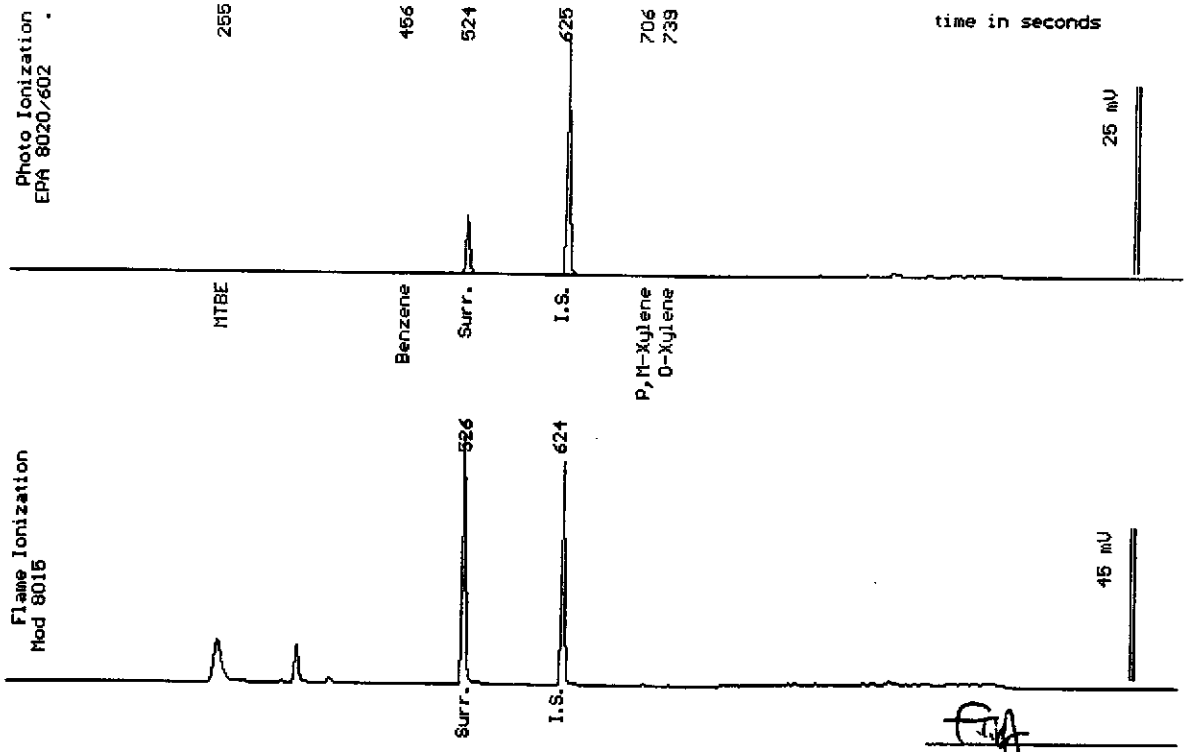
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
20396-06

Sample: **T-8-M (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Dilution : 1:1 Run Log : 2182Y
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		99 %



Date Analyzed: 08-05-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Podolsky
Senior Chemist

Acculabs Inc.

August 3, 1999
Sample Log 20396

QC Report for EPA 8020 & Modified EPA 8015
Run Log : 2182V
From : LSI-NORTH (Proj. # 149-02-02)
Sample(s) Received : 07/29/99

Parameter	Matrix Spike % Recovery	Matrix Spike Duplicate % Recovery	RPD *
Benzene	103	108	5
Ethylbenzene	100	105	5

No gasoline spike recovery due to high gas in spiked sample.

* RPD = Relative Percent Difference

Parameter	Laboratory Control Sample % Recovery
Benzene	96
Ethylbenzene	96
Gasoline	105

Parameter	Method Blank
Benzene	<0.005 mg/Kg
Toluene	<0.005 mg/Kg
Ethylbenzene	<0.005 mg/Kg
Total Xylenes	<0.005 mg/Kg
TPH as Gasoline	<1.0 mg/kg

Tom Kwok
Lab Director

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

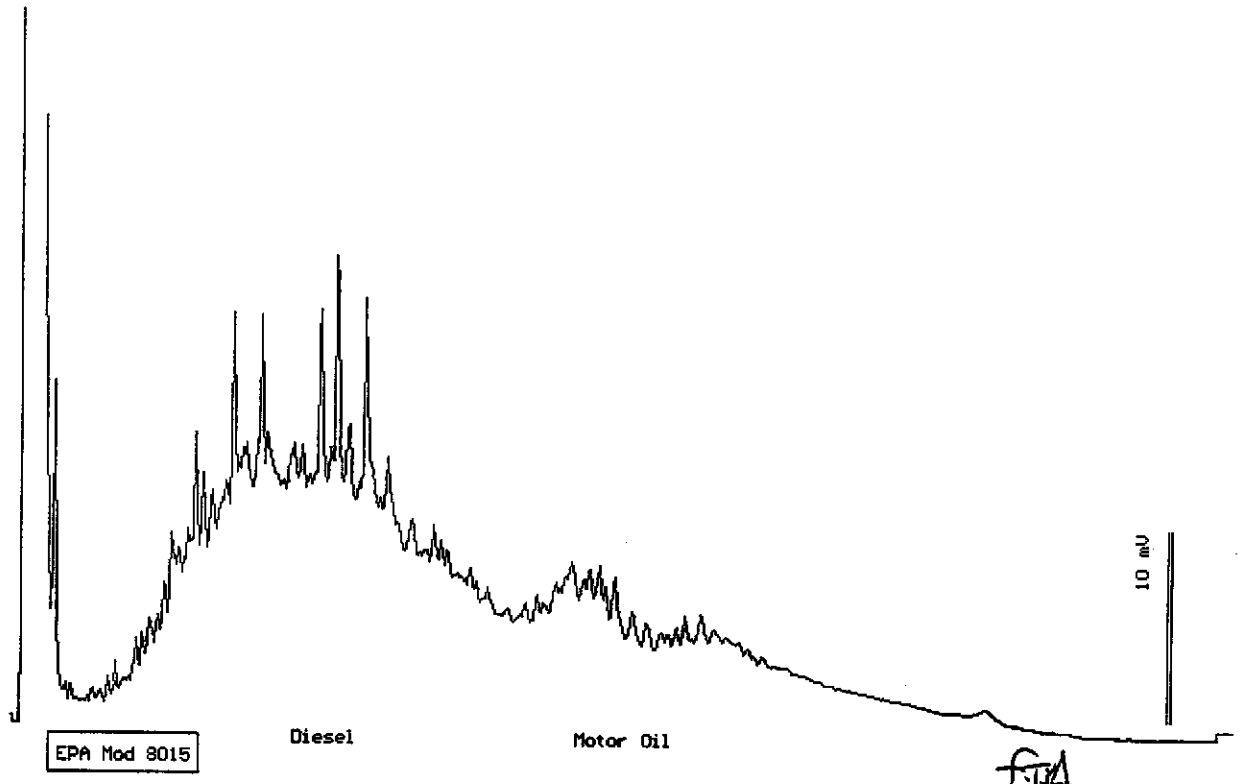
Sample Log 20396
20396-01

Sample: **T-1-W (5.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Extracted: 08/05/99
Dilution : 1:25
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(25)	480
TPH as Motor Oil	(50)	180



Date: 08-06-99 Time: 01:56:02
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

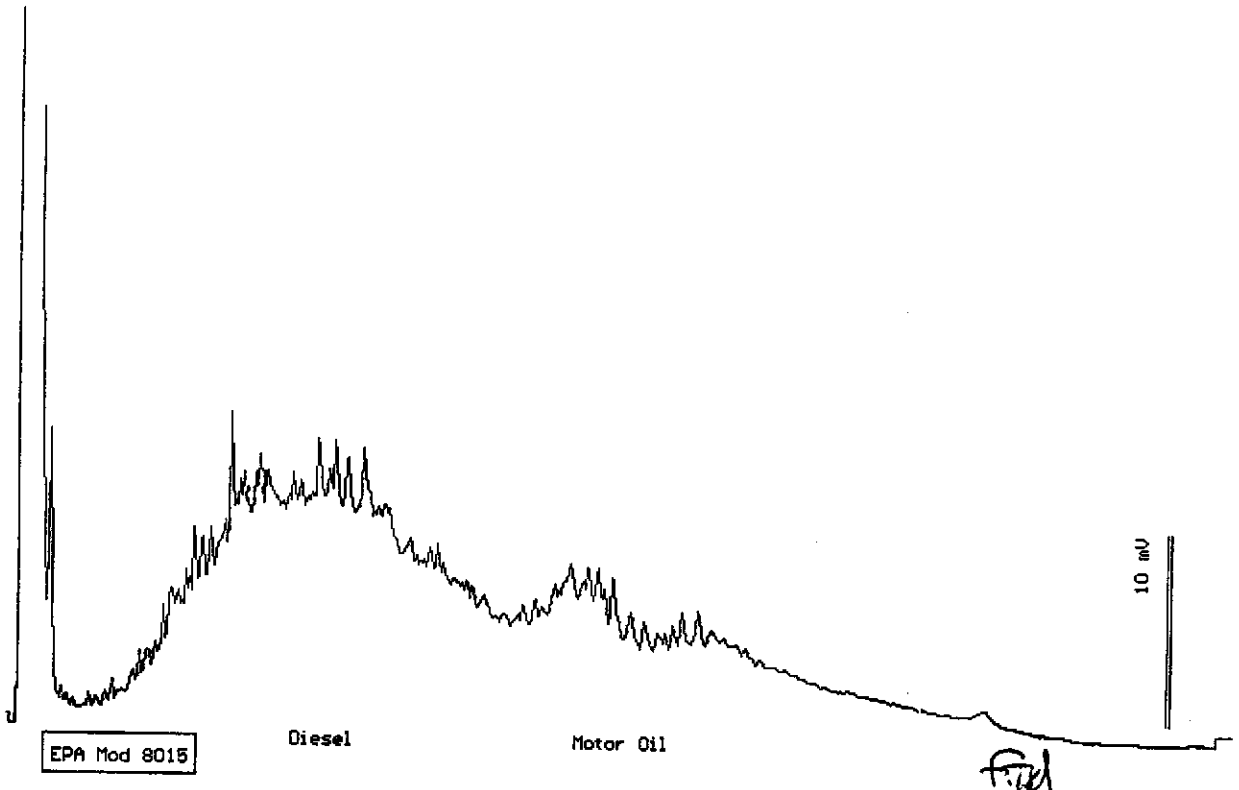
Sample Log 20396
20396-02

Sample: **T-2-M (6.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Extracted: 08/05/99
Dilution : 1:25
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(25)	410
TPH as Motor Oil	(50)	170



Date: 08-06-99 Time: 02:29:29
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

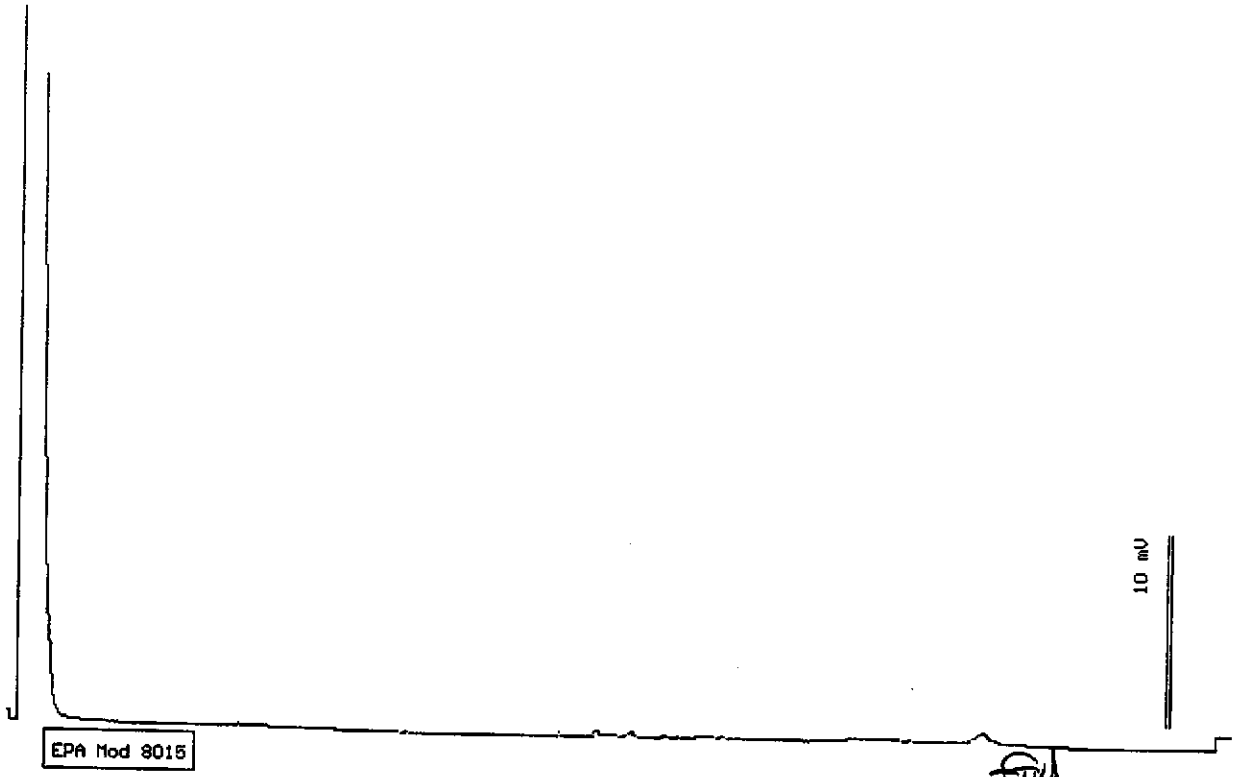
Sample Log 20396
20396-03

Sample: **T-3-W (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/28/99
Extracted: 08/05/99
Dilution : 1:2
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(2.0)	<2.0
TPH as Motor Oil	(10)	<10



Date: 08-06-99 Time: 03:02:58
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stevart Radolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

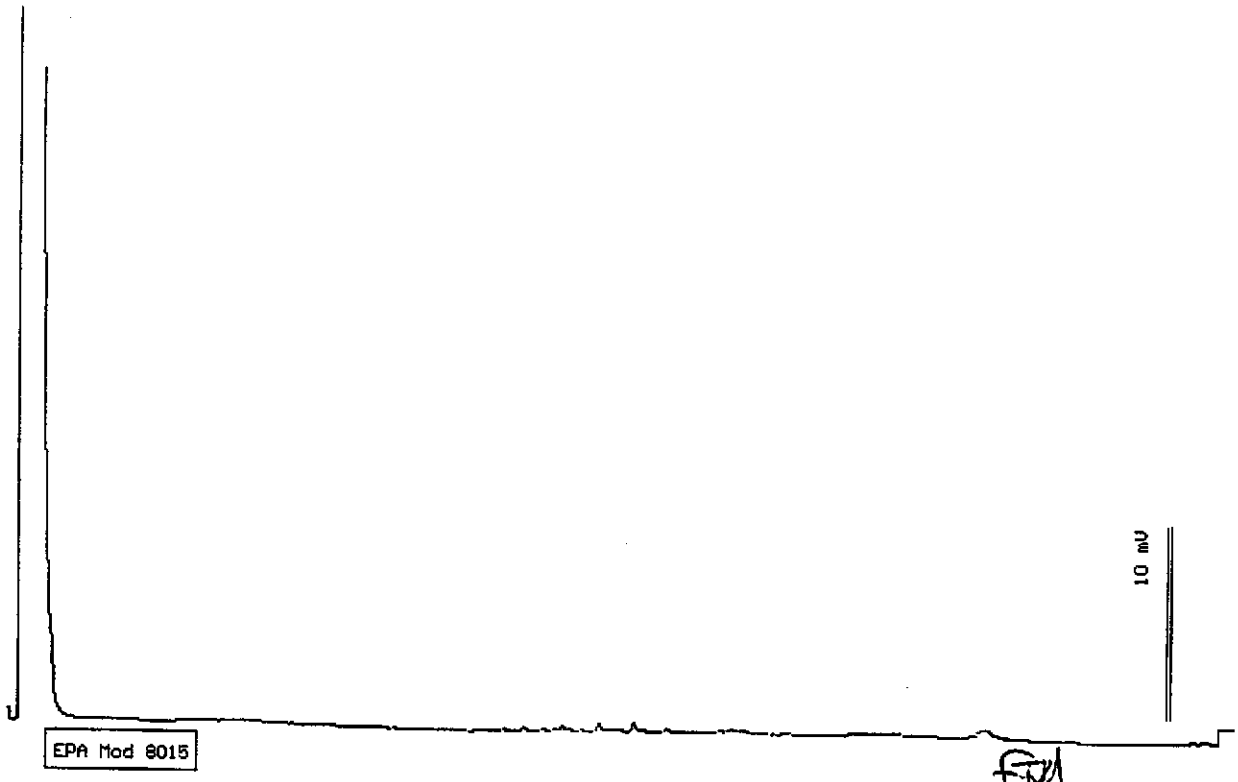
Sample Log 20396
20396-04

Sample: **T-4-S (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Extracted: 08/05/99
Dilution : 1:2
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(2.0)	<2.0
TPH as Motor Oil	(10)	<10



Date: 08-06-99 Time: 03:36:42
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20396
20396-05

Sample: **T-6-M (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Extracted: 08/05/99
Dilution : 1:2
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(2.0)	<2.0
TPH as Motor Oil	(10)	<10

Date: 08-06-99 Time: 05:50:48
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Steuart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

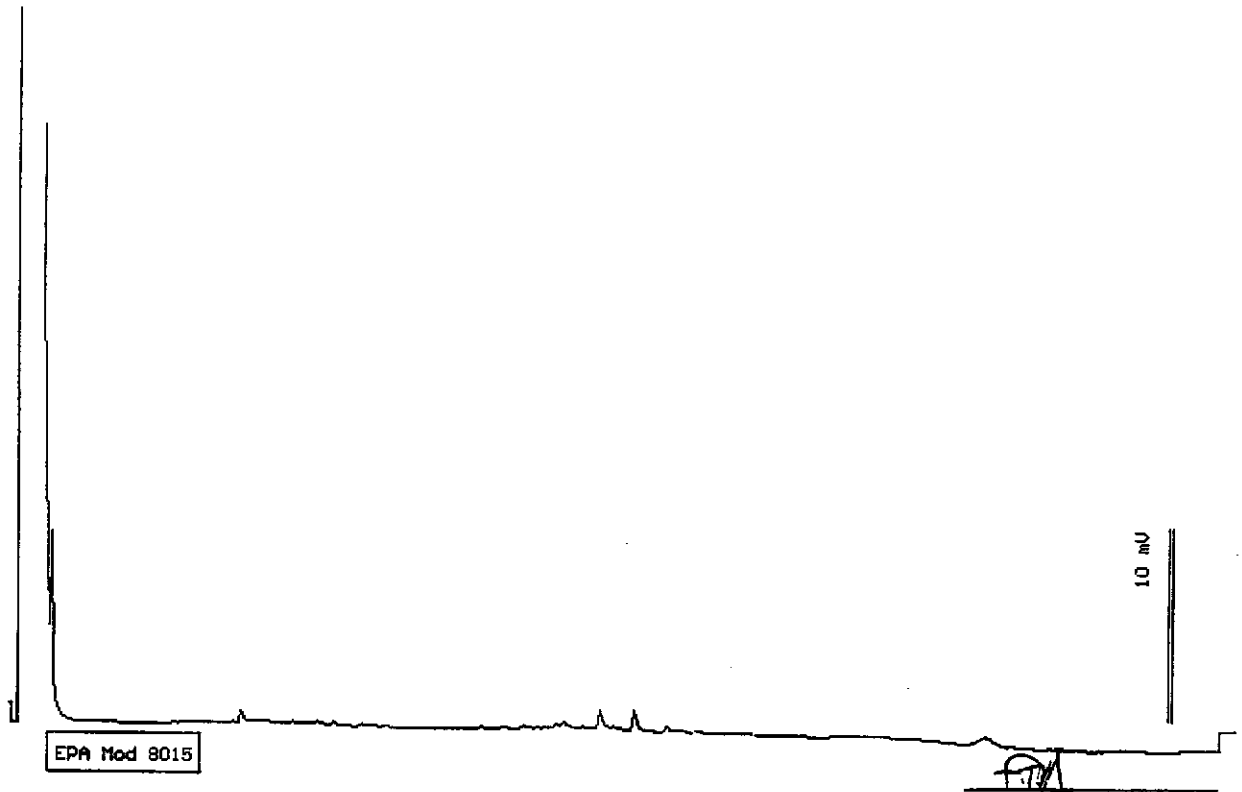
Sample Log 20396
20396-06

Sample: **T-8-M (7.0')**

From : LSI-NORTH (Proj. # 149-02-02)
Sampled : 07/29/99
Extracted: 08/05/99
Dilution : 1:2
Matrix : Soil

QC Batch : DS990707
Run Log : 7447D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(2.0)	<2.0
TPH as Motor Oil	(10)	<10



Date: 08-06-99 Time: 06:24:25
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stevart Podolsky
Senior Chemist

Acculabs Inc.

August 6, 1999

QC Report
TPH Diesel by 8015 Mod

QC Batch: DS990707

Matrix: Soil

Spike and Spike Duplicate Results

Parameter	Matrix Spike (%Rec)	Matrix Spike Dup. (%Rec)	RPD %
TPH as Diesel	105	103	2

Laboratory Control Spike

Parameter	Laboratory Control Spike (%Rec)
TPH as Diesel	103

Method Blank

Parameter	MDL(mg/Kg)	Measured Value(mg/Kg)
TPH as Diesel	(1.0)	<1.0
TPH as Motor Oil	(10)	<10

Tom Kwoka
Lab Director

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-1-W (5.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-01

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	0.0050	<0.0050	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	**0.0050**	**0.0086**	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-1-W (5.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-01

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		75	% Recovery
Toluene-d8		90	% Recovery
4-Bromofluorobenzene		117	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-2-M (6.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-02

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	**0.0050**	**0.0091**	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	**0.0050**	**0.019**	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-2-M (6.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-02

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		100	% Recovery
Toluene-d8		96	% Recovery
4-Bromofluorobenzene		111	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-3-W (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-03

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	**0.0050**	**0.0080**	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	**0.0050**	**0.14**	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-3-W (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/28/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-03

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		97	% Recovery
Toluene-d8		92	% Recovery
4-Bromofluorobenzene		99	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-4-S (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-04

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	**0.0050**	**0.0090**	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-4-S (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-04

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		98	% Recovery
Toluene-d8		90	% Recovery
4-Bromofluorobenzene		97	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-6-M (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-05

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	**0.0050**	**0.010**	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-6-M (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/02/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-05

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		98	% Recovery
Toluene-d8		97	% Recovery
4-Bromofluorobenzene		112	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.

Davis

1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-8-M (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/03/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-06

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	**0.0050**	**0.0095**	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20396
August 03, 1999

Sample Name : **T-8-M (7.0')**

Project Name : LSI-NORTH
Project Number : 149-02-02
Sample Date : 07/29/99
Date Analyzed : 08/03/99

Date Received : 07/29/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20396-06

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	0.0050	<0.0050	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		95	% Recovery
Toluene-d8		94	% Recovery
4-Bromofluorobenzene		101	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc. - Davis

EPA 8260B QC Report

Matrix: Soil	Date Analyzed: 8/2/99
QC Batch: VS990802	QC Limits Set: 4/12/99

Parameter	Spike Conc mg/Kg	LCS % Rec	LCSD % Rec	RPD	Control Chart Limits Lower	Control Chart Limits Upper
1,1-Dichloroethene	0.050	119	120	0.5	33	113
Benzene	0.050	117	118	1.0	86	128
Trichloroethene	0.050	107	109	1.2	70	106
Toluene	0.050	88	88	0.1	52	129
Chlorobenzene	0.050	105	106	0.6	87	112

Parameter	Control Chart Limits Lower	Control Chart Limits Upper
Dibromofluoromethane	71	138
Toluene-d8	54	131
4-Bromofluorobenzene	41	122

Tom Kwoka
Laboratory Director

C:\EXCEL\QC\VS990802.XLS

Acculabs Inc.

[ ] 3902 E. University Dr. Phoenix AZ 85034 602-437-0979 Fax 437-0826
[ ] 710 E. Evans Blvd. Tucson AZ 85713 520-884-5811 Fax 884-5812
[ ] 2020 W. Lone Cactus Dr. Phoenix AZ 85027 602-780-4800 Fax 780-7695
[ ] 4663 Table Mountain Dr. Golden CO 80403 303-277-9514 Fax 277-9512
[ ] 992 Spice Islands Dr. Sparks NV 89431 702-355-0202 Fax 355-0817
[ ] 1046 Olive Drive #2 Davis CA 95616 530-757-0920 Fax 753-6091

Lab Number: 20396

Report Due Date: 8-5-99

Client	Gribi Associates			PUBLIC WATER SUPPLY INFORMATION	
Address	1350 Hayes Street, Ste C-14			System Name	
City, State & Zip	Benicia, CA 94510			PWS No.	Report to State/EPA Y N
Contact	Jim Gribi			POE No.	DWR No.
Phone	707/748-7743	Project Name	LSI-NORTH	Collection Point	
Fax	707/748-7763	Project Number	149-02-02	Collector's Name	
P.O. Number		Fax Results	(Y) N	Page 1 of 1	Location (City)

SAMPLE TYPE CODES

DW = drinking water; WW = waste water; MW = monitoring well; HW = hazardous waste; TB = travel blank; SD = solid; SO = soil; SL = sludge

Compliance Monitoring Y N

TURNAROUND TIME REQUESTED

(Standard) RUSH Special

Lab Director Approval

CLIENT'S SAMPLE ID/LOCATION	Date	Time	Sample Type	Containers	TPH-GBTEX/MTBE	TPH-D/MO	CHLOR. HCS (8260B)	HOLD	Spl. No.
T-1 - W (5.0')	7/28/99		S	1	X	X	X		01
T-2 - M (6.0')	7/28/99		S	1	X	X	X		02
T-3 - W (7.0')	7/29/99		S	1	X	X	X		03
T-4 - S (7.0')	7/29/99		S	1	X	X	X		04
T-6 - M (7.0')	7/29/99		S	1	X	X	X		05
T-8 - M (7.0')	7/29/99		S	1	X	X	X		06

SAMPLE RECEIPT			Date	Time	Samples Relinquished By	Samples Received By
Received Cold	Y	N	7/29	18:00		
Custody Seals	Y	N				
Seals Intact	Y	N				
No. of Containers						

Acculabs' terms are: Net 40 (Payment must be received by the date shown on the invoice or any discount is void)

c:\excel\forms\chain.xls

Acculabs Inc.

Davis

1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20454
August 26, 1999

Jim Gribi
Gribi Associates
1350 Hayes Street, #C-14
Benicia, CA 94510

Subject : 2 Soil Samples
Project Name : LSI-North
Project Number : 149-02-02

Dear Mr. Gribi,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Acculabs - Davis is certified by the State of Arizona (AZ0583) and the State of California (# 2330). If you have any questions regarding procedures or results, please call me at 530-757-0920.

Sincerely,

Tom Kwoka

Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Subject : 2 Soil Samples
Project Name : LSI-North
Project Number : 149-02-02

Sample Log 20454
August 26, 1999

Case Narrative

Analysis: EPA 8260B

Sample T-2.2-M (8.0') had the Toluene-d8 surrogate recovery exceed control chart limits.

Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20454

MTBE (Methyl-t-butyl ether) By EPA Method 8020/602

From : LSI-North (Proj. # 149-02-02)
Sampled : 08/16/99
Received : 08/17/99
Matrix : Soil

SAMPLE	Date Analyzed	(MRL) mg/kg	Measured Value mg/kg
T-1.2-W (8.0')	08/25/99	(.050)	<.050
T-2.2-M (8.0')	08/24/99	(.050)	<.050

Approved By:

Tom Kwoka
Lab Director

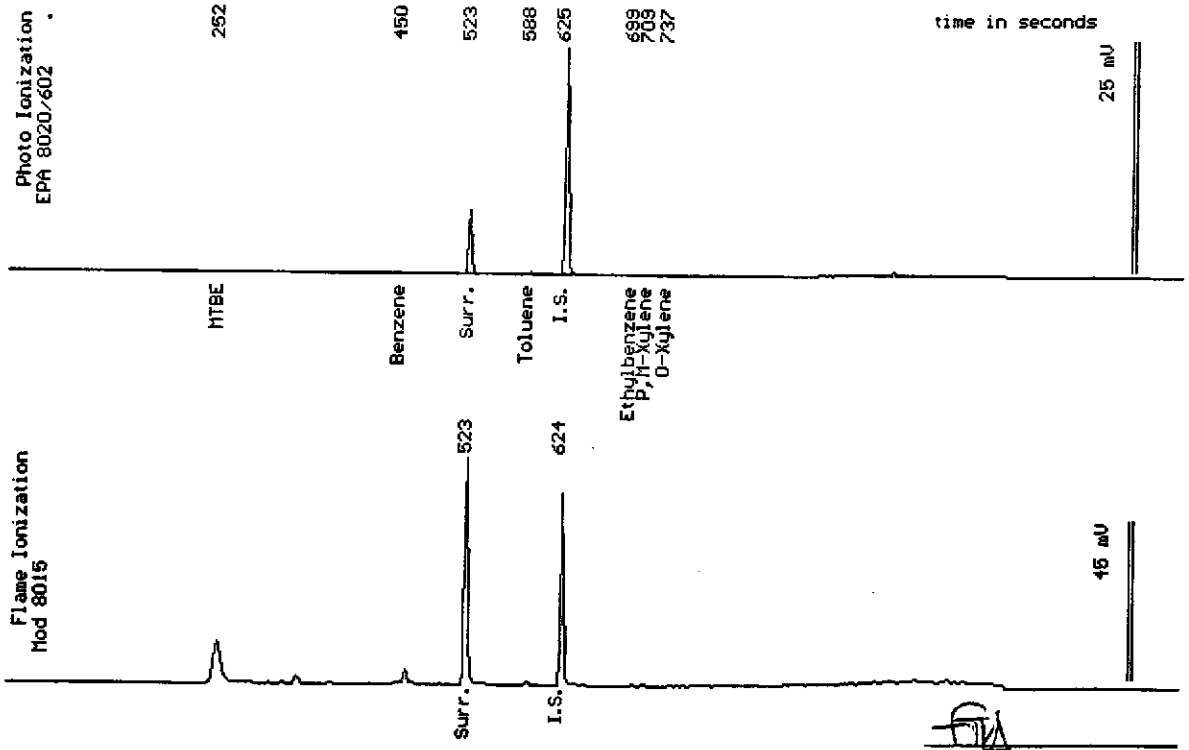
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20454
20454-01

Sample: **T-1.2-W (8.0')**

From : LSI-North (Proj. # 149-02-02)
Sampled : 08/16/99
Dilution : 1:1 Run Log : 2183M
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		104 %



Date Analyzed: 08-25-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Podolsky
Senior Chemist

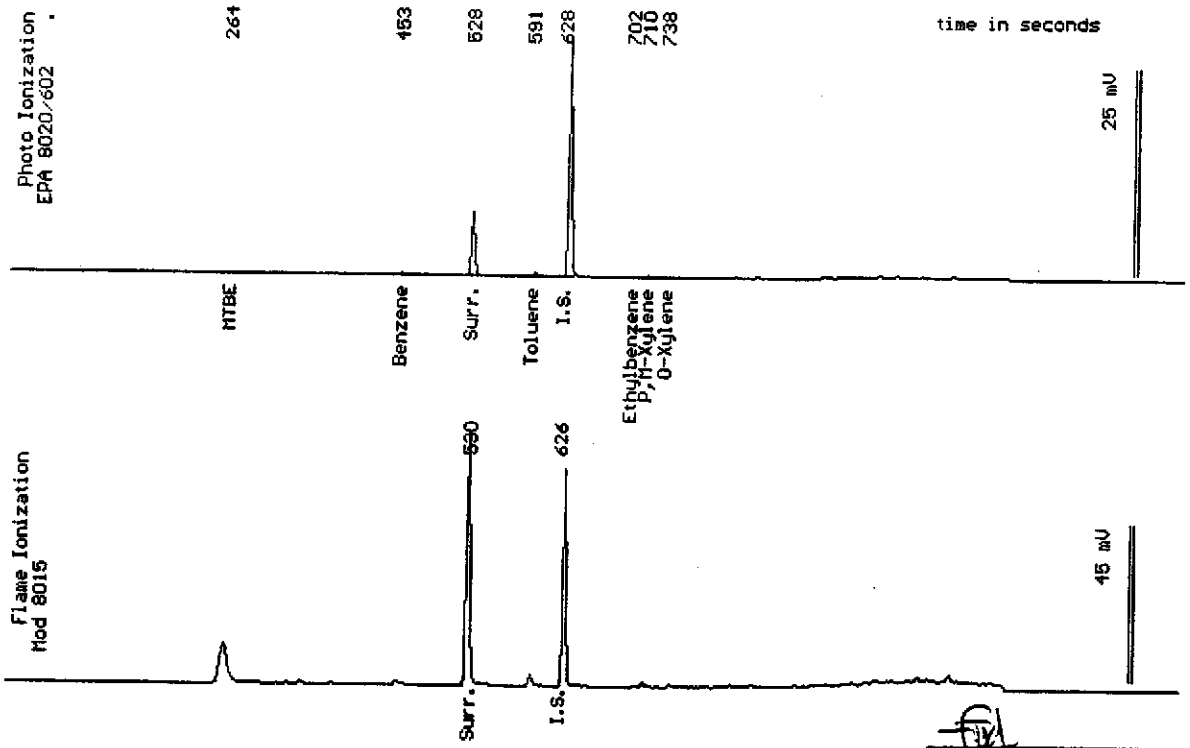
Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20454
20454-02

Sample: T-2.2-M (8.0')

From : LSI-North (Proj. # 149-02-02)
Sampled : 08/16/99
Dilution : 1:1 Run Log : 2183K
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(1.0)	<1.0
Surrogate Recovery		103 %



Date Analyzed: 08-24-99
Column : 0.53mm X 60m Restek Rtx-1301

Stewart Podolsky
Senior Chemist

Acculabs Inc.

August 26, 1999
Sample Log 20454

QC Report for EPA 8020 & Modified EPA 8015
Run Log : 2183K
From : LSI-North (Proj. # 149-02-02)
Sample(s) Received : 08/17/99

Parameter	Matrix Spike % Recovery	Matrix Spike Duplicate % Recovery	RPD *
Benzene	101	100	1
Ethylbenzene	102	102	0
TPH as Gasoline	119	115	4

* RPD = Relative Percent Difference

Parameter	Laboratory Control Sample % Recovery
Benzene	99
Ethylbenzene	103
Gasoline	102

Parameter	Method Blank
Benzene	<0.005 mg/Kg
Toluene	<0.005 mg/Kg
Ethylbenzene	<0.005 mg/Kg
Total Xylenes	<0.005 mg/Kg
TPH as Gasoline	<1.0 mg/kg

Tom Kwoka
Lab Director

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

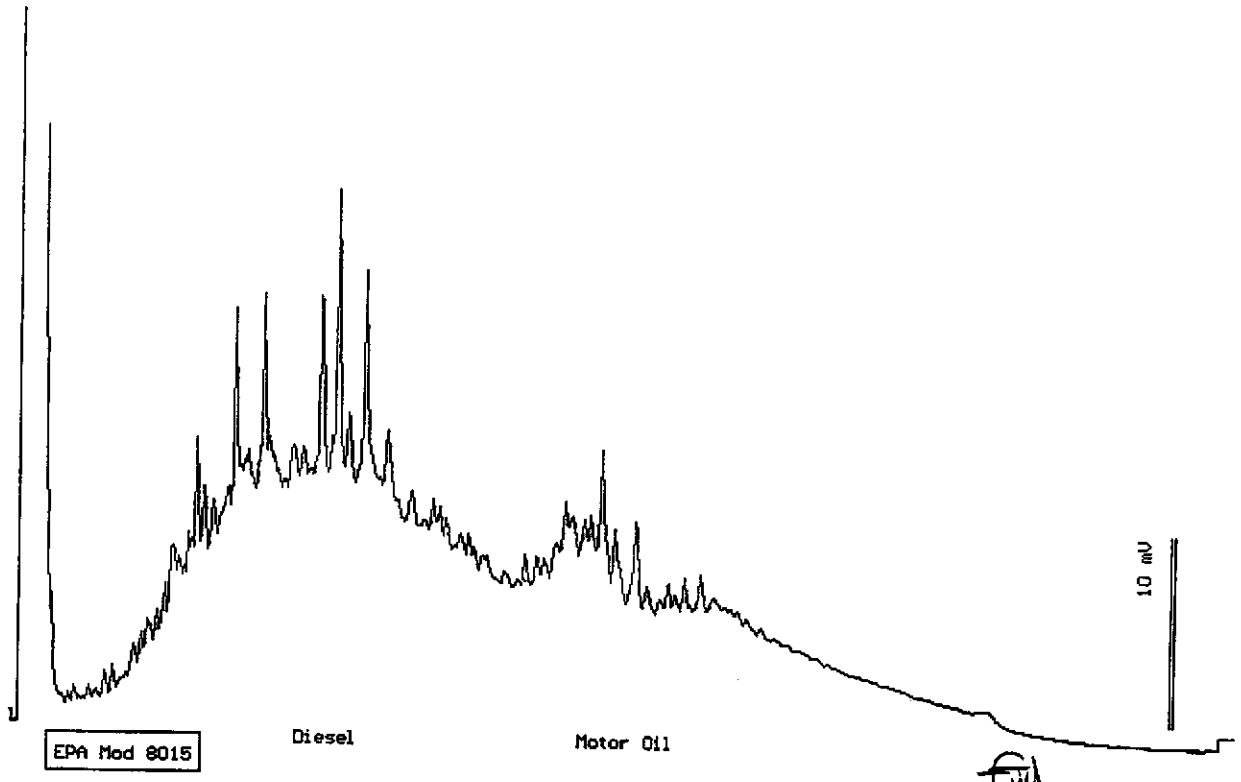
Sample Log 20454
20454-01

Sample: **T-1.2-W (8.0')**

From : LSI-North (Proj. # 149-02-02)
Sampled : 08/16/99
Extracted: 08/19/99
Dilution : 1:1
Matrix : Soil

QC Batch : DS990803
Run Log : 7448D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(1.0)	21
TPH as Motor Oil	(10)	11



Date: 08-19-99 Time: 14:20:58
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

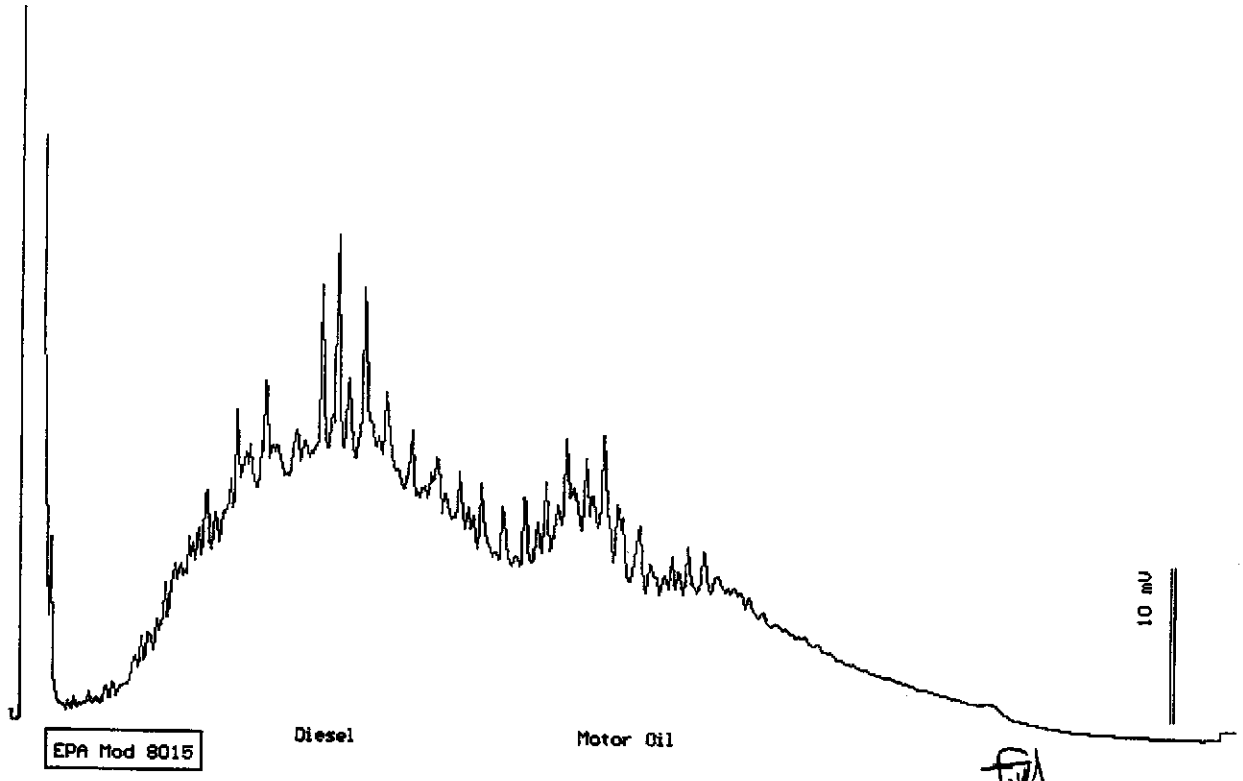
Sample Log 20454
20454-02

Sample: **T-2.2-M (8.0')**

From : LSI-North (Proj. # 149-02-02)
Sampled : 08/16/99
Extracted: 08/19/99
Dilution : 1:1
Matrix : Soil

QC Batch : DS990803
Run Log : 7448D

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Diesel	(1.0)	27
TPH as Motor Oil	(10)	15



Date: 08-19-99 Time: 14:54:58
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Acculabs Inc.

August 19, 1999

QC Report
TPH Diesel by 8015 Mod

QC Batch: DS990803

Matrix: Soil

Spike and Spike Duplicate Results

Parameter	Matrix Spike (%Rec)	Matrix Spike Dup. (%Rec)	RPD %
TPH as Diesel	111	105	6

Laboratory Control Spike

Parameter	Laboratory Control Spike (%Rec)
TPH as Diesel	105

Method Blank

Parameter	MDL(mg/Kg)	Measured Value(mg/Kg)
TPH as Diesel	(1.0)	<1.0
TPH as Motor Oil	(10)	<10

Tom Kwoka
Lab Director

Acculabs Inc.

Davis

1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20454
August 26, 1999

Sample Name : **T-1.2-W (8.0')**

Project Name : LSI-North
Project Number : 149-02-02
Sample Date : 08/16/99
Date Analyzed : 08/26/99

Date Received : 08/17/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20454-01

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	0.0050	<0.0050	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	**0.0050**	**0.032**	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.

Davis

1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20454
August 26, 1999

Sample Name : **T-1.2-W (8.0')**

Project Name : LSI-North
Project Number : 149-02-02
Sample Date : 08/16/99
Date Analyzed : 08/26/99

Date Received : 08/17/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20454-01

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	**0.0050**	**0.0076**	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		93	% Recovery
Toluene-d8		96	% Recovery
4-Bromofluorobenzene		89	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20454
August 26, 1999

Sample Name : **T-2.2-M (8.0')**

Project Name : LSI-North
Project Number : 149-02-02
Sample Date : 08/16/99
Date Analyzed : 08/26/99

Date Received : 08/17/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20454-02

Parameter	MRL	Measured Conc.	Units
Dichlorodifluoromethane	0.010	<0.010	mg/Kg
Chloromethane	0.010	<0.010	mg/Kg
Vinyl Chloride	0.010	<0.010	mg/Kg
Bromomethane	0.010	<0.010	mg/Kg
Chloroethane	0.010	<0.010	mg/Kg
Trichlorofluoromethane	0.0050	<0.0050	mg/Kg
1,1-Dichloroethene	0.0050	<0.0050	mg/Kg
Methylene Chloride	0.0050	<0.0050	mg/Kg
trans-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
1,1-Dichloroethane	0.0050	<0.0050	mg/Kg
cis-1,2-Dichloroethene	0.0050	<0.0050	mg/Kg
2,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Chloroform	0.0050	<0.0050	mg/Kg
Bromochloromethane	0.0050	<0.0050	mg/Kg
1,1,1-Trichloroethane	0.0050	<0.0050	mg/Kg
1,2-Dichloroethane	0.0050	<0.0050	mg/Kg
1,1-Dichloropropene	0.0050	<0.0050	mg/Kg
Carbon Tetrachloride	0.0050	<0.0050	mg/Kg
Benzene	0.0050	<0.0050	mg/Kg
1,2-Dichloropropane	0.0050	<0.0050	mg/Kg
Trichloroethene	0.0050	<0.0050	mg/Kg
Dibromomethane	0.0050	<0.0050	mg/Kg
Bromodichloromethane	0.0050	<0.0050	mg/Kg
cis-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
trans-1,3-Dichloropropene	0.0050	<0.0050	mg/Kg
Toluene	0.0050	<0.0050	mg/Kg
1,1,2-Trichloroethane	0.0050	<0.0050	mg/Kg
1,3-Dichloropropane	0.0050	<0.0050	mg/Kg
Dibromochloromethane	0.0050	<0.0050	mg/Kg
Tetrachloroethene	0.0050	<0.0050	mg/Kg
1,2-Dibromoethane	0.0050	<0.0050	mg/Kg
Chlorobenzene	0.0050	<0.0050	mg/Kg
1,1,1,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc.
Davis
1046 Olive Drive, Davis CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

EPA 8260B

Sample Log 20454
August 26, 1999

Sample Name : **T-2.2-M (8.0')**

Project Name : LSI-North
Project Number : 149-02-02
Sample Date : 08/16/99
Date Analyzed : 08/26/99

Date Received : 08/17/99
Dilution : 1:1
Sample Matrix : Soil
Lab Number : 20454-02

Parameter	MRL	Measured Conc.	Units
Ethylbenzene	0.0050	<0.0050	mg/Kg
P-& M-Xylene	0.0050	<0.0050	mg/Kg
Bromoform	0.0050	<0.0050	mg/Kg
O-Xylene	0.0050	<0.0050	mg/Kg
Styrene	0.0050	<0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	0.0050	<0.0050	mg/Kg
1,2,3-Trichloropropane	0.0050	<0.0050	mg/Kg
Isopropylbenzene	0.0050	<0.0050	mg/Kg
Bromobenzene	0.0050	<0.0050	mg/Kg
2-Chlorotoluene	0.0050	<0.0050	mg/Kg
n-Propylbenzene	0.0050	<0.0050	mg/Kg
4-Chlorotoluene	0.0050	<0.0050	mg/Kg
1,3,5-Trimethylbenzene	0.0050	<0.0050	mg/Kg
tert-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2,4-Trimethylbenzene	0.0050	<0.0050	mg/Kg
sec-Butylbenzene	0.0050	<0.0050	mg/Kg
1,3-Dichlorobenzene	0.0050	<0.0050	mg/Kg
p-Isopropyltoluene	0.0050	<0.0050	mg/Kg
1,4-Dichlorobenzene	0.0050	<0.0050	mg/Kg
1,2-Dichlorobenzene	0.0050	<0.0050	mg/Kg
n-Butylbenzene	0.0050	<0.0050	mg/Kg
1,2-Dibromo-3-chloropropane	0.0050	<0.0050	mg/Kg
1,2,4-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Naphthalene	**0.0050**	**0.0072**	mg/Kg
Hexachlorobutadiene	0.0050	<0.0050	mg/Kg
1,2,3-Trichlorobenzene	0.0050	<0.0050	mg/Kg
Dibromofluoromethane		80	% Recovery
Toluene-d8		143	% Recovery
4-Bromofluorobenzene		108	% Recovery

MRL = Method Reporting Limit Conc. = Concentration

B = Analyte was detected in Method Blank.

E = Concentration exceeded calibration range.

Approved By : Tom Kwoka

Acculabs Inc. - Davis

EPA 8260B QC Report

Matrix: Soil	Date Analyzed: 8/25/99
QC Batch: VS990825	QC Limits Set: 8/18/99

Parameter	Spike Conc mg/Kg	LCS % Rec	LCSD % Rec	RPD	Control Chart Limits Lower	Control Chart Limits Upper
1,1-Dichloroethene	0.050	118	122	3.0	27	125
Benzene	0.050	110	109	1.0	82	127
Trichloroethene	0.050	97	100	3.5	68	111
Toluene	0.050	84	83	1.5	59	129
Chlorobenzene	0.050	97	97	0.2	88	112

Parameter	Control Chart Limits Lower	Control Chart Limits Upper
Dibromofluoromethane	75	122
Toluene-d8	72	120
4-Bromofluorobenzene	51	120

Tom Kwoka
Laboratory Director

C:\EXCEL\QC\VS990825.XLS

Acculabs Inc.

[ ] 3902 E. University Dr. Phoenix AZ 85034 602-437-0979 Fax 437-0826
[ ] 710 E. Evans Blvd. Tucson AZ 85713 520-884-5811 Fax 884-5812
[ ] 2020 W. Lone Cactus Dr. Phoenix AZ 85027 602-780-4800 Fax 780-7695
[ ] 4663 Table Mountain Dr. Golden CO 80403 303-277-9514 Fax 277-9512
[ ] 992 Spice Islands Dr. Sparks NV 89431 702-355-0202 Fax 355-0817
[ ] 1046 Olive Drive #2 Davis CA 95616 530-757-0920 Fax 753-6091

Lab Number: 20454
Report Due Date:

Client	Gribi Associates			PUBLIC WATER SUPPLY INFORMATION	
Address	1350 Hayes Street, Ste C-14			System Name	
City, State & Zip	Benicia, CA 94510			PWS No.	Report to State/EPA Y N
Contact	Jim Gribi			POE No.	DWR No.
Phone	707/748-7743	Project Name	LSI-NORTH	Collection Point	
Fax	707/748-7763	Project Number	149-02-02	Collector's Name	
P.O. Number		Fax Results (Y) N	Page 1 of 1	Location (City)	

SAMPLE TYPE CODES

DW = drinking water; WW = waste water; MW = monitoring well; HW = hazardous waste; TB = travel blank; SD = solid; SO = soil; SL = sludge

Compliance Monitoring Y N

TURNAROUND TIME REQUESTED

(Standard) RUSH Special

Lab Director Approval

CLIENT'S SAMPLE ID/LOCATION	Date	Time	Sample Type	Containers	Analyses Requested: TPH-GIBTEX/MTBE	TPH-D/MO	CHLOR. HCS (8260B)	HOLD	Spl. No.
T-1.2-W (8.0')	8/16/99		S	1	X	X	X		01
T-2.2-M (8.0')	8/16/99		S	1	X	X	X		02

SAMPLE RECEIPT	Date	Time	Samples Relinquished By	Samples Received By
Received Cold Y N	8/17/99	10:33		
Custody Seals Y N				
Seals Intact Y N				
No. of Containers				

Acculabs' terms are: Net 40 (Payment must be received by the date shown on the invoice or any discount is void)

REPORT OF GROUNDWATER INVESTIGATION

Liquid Sugars, Inc. Site
1266 66th Street
Emeryville, California

GA Project No. 149-02-03

Prepared for:

Liquid Sugars, Inc.
P O Box 96
Oakland, California, 94604

Prepared by:

Gribi Associates
1350 Hayes Street, Suite C-14
Benicia, CA 94510
(707)748-7743

February 11, 2000

February 11, 2000

San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Attention: Stephen Hill

Subject: Report of Groundwater Investigation
Liquid Sugars, Inc., 1266 66th Street
Emeryville, California
GA Project No. 149-02-03

Ladies and Gentlemen:

Gribi Associates is pleased to submit this report on behalf of Liquid Sugars, Inc. documenting a recently-completed groundwater investigation for the Liquid Sugars, Inc. property located at 1266 66th Street in Emeryville, California. The groundwater investigation included the drilling, installation, and sampling of four groundwater monitoring wells (MW-1 through MW-4) at the site. The goal of this investigation has been to assess true groundwater conditions relative to halogenated volatile organic compounds (HVOCs) identified during recent soil boring investigations at the site.

Results of this investigation support the previous conclusion that active HVOC remediation at the site is not warranted and that remediation via natural attenuation is the only feasible remedial option for this site. Specific conclusions derived from results of well installation activities include the following:

- Shallow groundwater flow gradient beneath the site is towards the southwest, consistent with shallow groundwater flow gradient at nearby sites to the south and southeast. Also, groundwater appears to be held under confining pressure below about 20 feet in depth.

- Soil laboratory analytical results suggest an offsite northeasterly source for 1,2-DCA encountered in soil and groundwater in the "warm room" area on the northwest side of the site. A prior soil sample collected in April 1999 at 12 feet in depth in upgradient boring IB-7 (located on the north side of the "warm room") contained 0.042 parts per million (ppm) of 1,2-dichloroethane (1,2-DCA). A soil sample collected on December 16, 1999 at 21 feet in depth in well boring MW-1 (located about 40 feet downgradient from IB-7) contained 0.027 ppm of 1,2-DCA. This supports an offsite source for the 1,2-DCA encountered on the northwest side of the site, whereby 1,2-DCA migrated both vertically downward and laterally southwestward from a northeast offsite source. Note also that these 1,2-DCA concentrations

in soil are extremely low, and, based on our experience, would not warrant significant regulatory concern.

- The groundwater sample from well MW-1 (located in the "warm room" and installed on December 16, 1999) contained 0.230 ppm of 1,2-DCA. In comparison, groundwater samples from prior soil borings SB-3 and IB-8 (located in the "warm room" immediately adjacent to MW-1 and drilled in February 1999 and April 1999, respectively) contained 0.660 ppm and 2.20 ppm of 1,2-DCA, respectively. Since water samples from monitoring wells are generally viewed as more representative of true groundwater conditions than grab groundwater samples from Geoprobe-type soil borings, we believe that the lower concentration of 1,2-DCA encountered in the MW-1 groundwater sample is probably more representative of true groundwater conditions beneath the site.

- The groundwater sample from well MW-3 (located on the southeast side of the site immediately adjacent to the Union Pacific railroad tracks, and also installed on December 16, 1999) contained 16.0 ppm of tetrachloroethene (PCE). The groundwater sample from MW-2 (located about 45 feet downgradient from MW-3 and also installed on December 16, 1999) contained only 0.530 ppm of PCE. Thus, low-permeability soils beneath the site appear to have limited the extent of downgradient migration of PCE and other HVOCs encountered adjacent to the Union Pacific Railroad tracks.

- Groundwater HVOC and biochemical parameter results indicate very slow natural attenuation of HVOCs identified at the site. For PCE, the most common natural bioattenuation process, reductive dechlorination, occurs most rapidly when groundwater dissolved oxygen concentrations are below 0.5 mg/L, oxygen-reduction potential levels are below 50 millivolts (mV), and dissolved iron concentrations are above 1 mg/L. However, these optimum biochemical parameter levels were not encountered in groundwater samples from MW-2, MW-3, and MW-4, located within PCE plume areas. In addition, if natural bioattenuation were occurring rapidly, we would expect to see more segregation of the HVOC plume, with elevated levels of "parent" compound PCE in well MW-3, located closer to the HVOC release source, and relatively high concentrations of possible "daughter" compounds (trichloroethene, dichloroethene, and vinyl chloride) in downgradient wells MW-2 and MW-4. However, the ratio of "daughter" to "parent" compounds is fairly similar in all wells, with higher concentrations of PCE relative to TCE, DCE, or VC in all four wells. Note also that tight soils beneath the site, which have bound up HVOC constituents, seem to have hampered other nonbiological natural attenuation processes, such as advection and dilution.

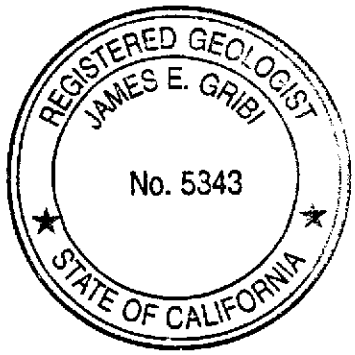
- Given the apparent slow rate of natural biodegradation of HVOCs at the site, we would not expect significant changes in HVOCs concentrations within a reasonable time of measurement (significant decreases in HVOC concentrations might only be measurable over decades, and not years). Also, because we don't see rapid bioattenuation from PCE to TCE, DCE, and VC, we would not expect to see significant increases in concentrations of the more toxic vinyl chloride over the course of time.

Based on results of this and previous investigations at the site, we believe that regulatory closure of this site is warranted, given: (1) The possible offsite sources for much of the HVOCs identified on the site; (2) The apparent immobility and persistence of these HVOCs; (3) The lack of significant groundwater aquifers and groundwater beneficial uses in the site vicinity; and (4) The lack of significant risk posed by residual HVOCs identified beneath the site. Overall, we believe that the HVOCs identified at this site should be viewed as a relatively small environmental concern, especially when compared to large HVOC sites, such as Lawrence Livermore National Laboratory in Livermore or several sites in the Silicon Valley, where true beneficial use groundwater aquifers have been impacted and HVOC plumes extend thousands of feet in length.

In accordance with the approved Remediation/Risk Management Plan, we will conduct additional groundwater monitoring in late March 2000 to provide additional assessment of groundwater conditions beneath the site.

We appreciate the opportunity to present this report for your review. Please call if you have questions or require additional information.

Very truly yours,



James E. Gribi
Registered Geologist
California No. 5843

Stanton Stubbs
Environmental Scientist

JEG/ct
Enclosure

c Mr. Rory Campbell,
Mr. Ron Mooney, Liquid Sugars, Inc.
Mr. Ygnacio Dyart, City of Emeryville Redevelopment Agency

C:\MyFiles\Reports\LSI-n-WELLS.rpt.wpd

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

This report documents a recently-completed groundwater investigation conducted by Gribi Associates for the Liquid Sugars, Inc. property located at 1266 66th Street in Emeryville, California (see Figure 1, Figure 2, and Figure 3). The groundwater investigation included the drilling, installation, and sampling of four groundwater monitoring wells, MW-1 through MW-4, at the site. The goal of this investigation has been to assess true groundwater conditions relative to halogenated volatile organic compounds (HVOCs) recently identified during previous soil boring investigations at the site.

1.1 General Site Background

Liquid Sugars, Inc., the current owner of the subject parcel, has operated a food-grade vegetable oil and liquid sugar facility on the site since the 1970s. On behalf of a potential purchaser of the site, Geomatrix conducted grab groundwater sampling in February 1999 from seven borings (SB-1 through SB-3, and B-1 through B-4) on the subject property. Laboratory analytical results from these borings indicated the presence of chlorinated hydrocarbons (HVOCs) in groundwater beneath the site. Specific HVOCs detected at various locations and concentrations included tetrachloroethene (PCE), trichloroethene (TCE) 1,2-dichloroethene (1,2-DCE), 1,2-dichloroethane (1,2-DCA), and vinyl chloride (VC). Elevated levels of PCE, TCE, and cis-1,2-DCE were encountered in a grab groundwater sample collected from boring B-4, located near the east edge of the project site. In addition, an elevated level of 1,2-DCA was encountered in a groundwater sample collected from SB-3, located on the northwest side of the site.

In April 1999, Gribi Associates conducted a soil and groundwater investigation and a Risk-Based Corrective Action (RBCA) assessment for the project site (*Report of Soil and Groundwater Investigation and Risk-Based Corrective Action Assessment*, Gribi Associates, June 15, 1999). The soil and groundwater investigation included the drilling and sampling of 13 soil borings at the site using direct-push coring equipment. The RBCA assessment involved modeling site-specific environmental and human health exposure risks posed by residual contaminants identified at the site for both inside and outside areas of the site.

Both field and laboratory analytical results from this soil boring investigation seemed to indicate small releases from both onsite and offsite sources which, due to low-permeability soils beneath the site, have resulted in small, concentrated plumes that have not migrated significant distances. Three apparently isolated release areas were identified on the project site: (1) An area along the upgradient east property line adjacent to the Union Pacific Railroad tracks, which contained up to 2.5 milligrams per liter (mg/L) of PCE in a grab groundwater sample; (2) An area beneath the "tile room" portion of the project site building, which contained up to 0.620 mg/L of PCE in a grab groundwater sample; and (3) An area on the west side of the "warm room" portion of the project site building, which contained up to 2.20 mg/L of 1,2-DCA in a grab groundwater sample. Low to moderate levels of possible PCE breakdown products (TCE, t-1,2-DCE, c-1,2-DCE, and VC) were encountered in soil and grab groundwater samples from the first two areas, indicating that natural attenuation is occurring at the site.

Based on calculated risk estimates, it appears that there is no significant risk of exposure from any identified HVOC constituents present at the project site. The risk values associated with the outdoor air exposure and soil exposure pathways are below target risk levels. The total pathway cumulative carcinogenic risk values associated with indoor vapor exposure for the outside and inside project site

areas are 4.9×10^{-5} and 2.0×10^{-5}, respectively. These cumulative risk values are below the cumulative risk target level of 1.0×10^{-4}. The only calculated risk values which exceed target risk levels are the individual carcinogenic risk values associated with possible indoor air exposure to vinyl chloride. These individual risk values for indoor vinyl chloride vapor exposure in the outside and inside project site areas are 3.8×10^{-5} and 1.8×10^{-5}, respectively. We believe that since these risk values are only slightly above the target risk of 1×10^{-5}, they do not represent a significant risk.

Based on the lack of significant risk associated with residual HVOCs at the site and the lack of evidence of historical HVOC use at the site, Gribi Associates requested that regulatory closure be granted for this site. However, in a letter dated August 11, 1999, the San Francisco Bay Regional Water Quality Control Board (RWQCB) denied regulatory closure and requested that a Remediation/Risk Management Plan be prepared for the site.

Gribi Associates submitted the Remediation/Risk Management Plan on October 28, 1999. Key elements of the Remediation/Risk Management Plan included the following:

- The project site is located in an area of little or no usable shallow groundwater resources.
- As with most of the East Bay area, the project site is underlain predominantly by clays and silty clays, with occasional thin, discontinuous sand and gravel layers.
- Gribi Associates has uncovered no evidence of historic HVOC use at the site. Liquid Sugars, Inc. the current owner of the project site, has operated a food-grade liquid sugar/vegetable oil facility on the site since the 1970s. (LSI is in the initial stages of re-locating their facility, and has put the project site up for sale.) Prior to LSI ownership, the project site was owned by Diamond Alkali and was used for the manufacturing of sodium silicates since at least 1939. Sanborn Fire Insurance Maps identify project site land use in 1903 and 1911 as residential.
- In preparing the Remediation/Risk Management Plan, Gribi Associates established risk-based cleanup goals for the site and evaluated three remedial options for the site. These three remedial options included: (1) Natural attenuation; (2) Insitu groundwater treatment; and (3) Groundwater extraction and treatment.
- After considering the relative costs of each option, the apparent lack of migration of HVOCs at the site, the low risk associated with residual HVOCs at the site, and the lack of groundwater beneficial uses in the area, it is apparent that active remediation of HVOCs at the site is not warranted and that the natural attenuation option is the most feasible remedial option for this site.

Based on these results, the Remediation/Risk Management Plan included a workplan to install four groundwater monitoring wells at the site. The monitoring workplan proposed to conduct quarterly groundwater monitoring for one year, whereupon closure/remedial options will be re-evaluated for the site. During the initial monitoring, groundwater samples from the four wells will be additionally analyzed for biochemical parameters to help in evaluating the effectiveness of natural attenuation at the site. Verbal approval to implement this workplan was granted by Mr. Stephen Hill of the RWQCB on November 23, 1999.

1.2 Scope of Work

Gribi Associates was contracted by Liquid Sugars, Inc. to conduct the following scope of work:

- **Task 1** **Conduct prefield activities.**
- **Task 2** **Conduct well installation and sampling activities.**
- **Task 3** **Conduct laboratory analyses.**
- **Task 4** **Prepare report of findings.**

These tasks were conducted in accordance with the approved the workplan and with applicable investigative methods and guidelines.

1.3 Limitations

The services provided under this contract as described in this report include professional opinions and judgments based on data collected. These services have been provided according to generally accepted environmental protocol. The opinions and conclusions contained in this report are typically based on information obtained from:

1. Observations and measurements made by our field staff.
2. Contacts and discussions with regulatory agencies and others.
3. Review of available hydrogeologic data.

2.0 DESCRIPTION OF FIELD ACTIVITIES

The four wells, MW-1 through MW-4, were installed on Thursday and Friday, December 16 and 17, 1999. Mean sea level elevations were surveyed and the four wells were purged and sampled on Wednesday, December 22, 1999.

2.1 Prefield Activities

Prior to initiating drilling activities, a well installation permit was obtained from Alameda Department of Public Works. A copy of this permit is contained in Appendix A. In addition, proposed well locations were marked with white paint, and Underground Services Alert (USA) was notified at least 48 hours prior to drilling. Also, Foresite, a private underground utility locator, cleared proposed well locations. Prior to initiating drilling activities, a Site Safety Plan was prepared, and a tailgate safety meeting was conducted with all site workers.

2.2 Location of Soil Borings

Locations for the four wells, MW-1 through MW-4, are shown on Figure 3. In order to assess true groundwater conditions in known HVOC-impacted areas, well MW-1 was placed in the area of elevated 1,2-DCA in the southwest corner of the LSI "warm room", and another well, MW-3, was sited in the area of elevated PCE near the railspur on the east side of the site. A third well, MW-2, was sited west-southwest in an expected downgradient direction from this PCE-impacted area. The

fourth well, MW-4, was sited west-southwest in an expected downgradient direction from the PCE-impacted area in the LSI "tile room".

2.3 Drilling and Sampling of Soil Borings

The four well borings were drilled by Gregg Drilling, a State-licensed drilling contractor, using hollow stem auger equipment. MW-1 and MW-4 well borings were drilled to about 35 feet in depth. MW-2 well boring was drilled to about 30 feet in depth, and MW-3 well boring was drilled to about 25 feet in depth. Soils from each well boring were logged by a qualified Gribi Associates scientist using sight, smell, and photoionization detector (PID). Boring logs for the four well borings are included in Appendix B. Soil cuttings from the four well borings were placed in sealed DOT-approved 55-gallon drums pending laboratory results.

Soil samples were collected from the four well borings at approximately five-foot intervals starting at approximately five feet below surface grade. Undisturbed soils were sampled in advance of the auger as follows: (1) A two-inch inside diameter California-style split spoon sampler was driven into undisturbed soil ahead of the drill bit; (2) The sampler was raised quickly to the surface and the brass liners exposed; (3) The brass liner containing the most undisturbed soil was quickly sealed with aluminum foil and plastic end caps, labeled, and wrapped tightly with tape; and (4) The sealed soil sample was immediately placed in a cooler with crushed ice for transport to the analytical laboratory under formal chain-of-custody. All sampling equipment was thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. All downhole drilling equipment, including auger and drill bit, were steam cleaned before and after drilling the well boring.

2.4 Installation of Monitoring Wells

The four groundwater monitoring wells were constructed using two-inch diameter Schedule 40 threaded PVC casing. Well specifications, which varied based on site conditions, are shown in Table 1.

TABLE 1
MONITORING WELL CONSTRUCTION DETAILS
Liquid Sugars, Inc., 1266 66th Street Site

	MW-1	MW-2	MW-3	MW-4
Well Depth[1]	35.0	30.0	25.0	35.0
Blank PVC Riser	0-15.2	0-10.0	0-9.9	0-15.3
PVC Screen[2]	15.2-35.0	10.0-30.0	9.9-25.0	15.3-35.0
Grout Seal[3]	0.5-11.0	0.5-6.0	0.5-6.0	0.5-11.0
Bentonite Seal	11.0-13.0	6.0-8.0	6.0-8.0	11.0-13.0
Filter Pack[4]	13.0-35.0	8.0-30.0	8.0-25.0	13.0-35.0

1 = All measurements are in feet below top of casing.
2 = 0.020-inch slot size.
3 = Portland cement
4 = Lonestar No. 3 Silica Sand

The top of each well was enclosed in a traffic-rated locking box set in concrete, with inside wells MW-1 and MW-4 set at inside building floor grade, and outside wells MW-2 and MW-3 set slightly above grade.

2.5 Well Development and Sampling

After allowing the cement seal to cure for at least 48 hours, each monitoring well was developed and sampled using a 12-volt purge pump. Well development consisted of purging each well of at least three well volumes before sampling. During well development, ground water was monitored periodically for presence of free-floating product and odor, pH, specific conductance, temperature and visible clarity. Groundwater sampling data sheets for the four wells are contained in Appendix C. After these parameters have stabilized, groundwater was sampled directly from the pump outlet in the following manner: (1) Laboratory-supplied containers were completely filled directly from the pump outlet with a minimum of agitation; (2) After making sure that no air bubbles were present, each container was tightly sealed with a teflon-lined septum; and (3) Each container was labeled and placed in cold storage for transport to the analytical laboratory under formal chain-of-custody. All purged groundwater was stored on site in a sealed DOT-approved 55-gallon drum pending groundwater analytical results. All sampling equipment was thoroughly cleaned and decontaminated between each sample collection by triple rinsing as described above.

After purging, dissolved oxygen and oxygen-reduction potential (ORP) were measured for each well using field instruments.

2.6 Determination of Groundwater Flow Gradient

Following well installation, wellhead mean sea level elevations for the four wells were surveyed by Mr. Ahmad Moghaddas, a State-licensed land surveyor. A copy of the surveyor's report is included in Appendix D. In addition, groundwater depths in the four wells were measured to the nearest 0.01 foot using an electronic probe. These data were then used to calculate groundwater flow direction and gradient.

2.7 Laboratory Analysis of Soil and Groundwater Samples

A total of eight soil samples and four groundwater samples were analyzed for the following parameters:

USEPA 8260 Halogenated Volatile Organic Compounds (HVOCs)

In addition, groundwater samples from each of the four wells were analyzed for the following parameters to evaluate the effectiveness of natural attenuation at the site.

USEPA 310.1 Alkalinity
USEPA 6010 Dissolved Iron
USEPA 405.1 Biological Oxygen Demand (BOD)
USEPA 410.1 Chemical Oxygen Demand (COD)
RSK-175 (ASTM 3810) Methane, Ethane, Ethene

All analyses were conducted by Acculabs, Inc., a California-certified analytical laboratory, with two-week turn around on lab results.

3.0 RESULTS OF INVESTIGATION

3.1 General Subsurface Conditions

Native soils encountered in the four well borings were generally similar, consisting primarily of brown to olive grey gravelly silts and clays, with occasional thin gravel and sand units encountered in MW-2 and MW-4 well borings. In the MW-2 well boring, a brown silty sand was encountered from about 25 feet to 27 feet in depth. In the MW-4 well boring, brown gravelly sand was encountered from about 20 feet to 23 feet in depth, and reddish brown silty, gravelly sand was encountered from about 30 feet to 32 feet in depth. Overall, the gravelly and sandy silts and clays encountered beneath the site appeared to possess low permeabilities.

Soils encountered in the four well borings exhibited no visual or olfactory evidence of HVOC impacts. The only significant PID reading was recorded in shallow fill sands in well boring MW-2. This well is located in the unpaved "foot print" of a former sugar/vegetable oil product above ground storage tank (AST), and these shallow soils were wet and exhibited a strong organic "vegetable oil" type odor.

3.2 Hydrologic Conditions

During drilling, water-saturated soils were encountered in inside well borings MW-1 and MW-4 at depths of about 26 feet and 23 feet below surface grade, respectively, and in outside well borings MW-2 and MW-3 at depths of about 22 feet and 16 feet below surface grade, respectively. After well completion, groundwater depths were measured in the four wells at depths ranging from 6.01 feet in MW-3 to 8.35 feet in MW-1. Groundwater flow gradient, which is shown on Figure 4, is approximately 0.012 foot/foot to the southwest.

3.3 Results of Laboratory Analyses

Soil analytical results are summarized in Table 2 and on Figure 5. Groundwater analytical results are summarized in Table 3 and Table 4, and on Figure 4. Laboratory data reports and chain-of-custody records for soil and groundwater analyses are contained in Appendix E.

Table 2
SUMMARY OF SOIL ANALYTICAL RESULTS
Liquid Sugars North Parcel, 1266 66th Street

Sample ID	Sample Depth	Concentration (ppm)						
		VC	t-1,2-DCE	c-1,2-DCE	TCE	PCE	1,2-DCA	Other
MW-1.2	11.0 ft	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
MW-1.4	21.0 ft	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**0.027**	<0.0050
MW-2.1	6.0 ft	**0.026**	**0.0064**	**0.83**	**0.051**	**0.15**	<0.0050	<0.0050
MW-2.2	11.0 ft	<0.0050	<0.00050	**0.013**	<0.0050	**0.16**	<0.0050	<0.0050
MW-3.1	6.0 ft	**0.091**	**0.011**	**1.9**	**0.63**	**1.3**	<0.0050	<0.0050
MW-3.2	11.0 ft	<0.0050	<0.0050	**0.16**	**0.025**	**0.72**	<0.0050	<0.0050
MW-4.3	16.0 ft	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
MW-4.5	26.0 ft	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

ppm = Parts per million (milligrams per kilogram)
VC = Vinyl Chloride
t-1,2-DCE = trans-1,2-Dichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
TCE = Trichloroethene
PCE = Tetrachloroethene
1,2-DCA = 1,2-Dichloroethane
Other = Sum of concentrations of 22 remaining HVOC compounds (see footnotes for specific compounds and concentrations).
<0.0050 = Not detected above the value expressed in parentheses.

Table 3
SUMMARY OF GROUNDWATER HVOC ANALYTICAL RESULTS
Liquid Sugars North Parcel, 1266 66th Street

Sample ID	GW Elevation	Concentration (ppm)						
		VC	t-1,2-DCE	c-1,2-DCE	TCE	PCE	1,2-DCA	Other
MW-1 <30.18>	21.87 ft	<0.00050	<0.00050	**0.0040**	**0.0032**	**0.720**	**0.230**	**0.0071**[1]
MW-2 <29.48>	22.63 ft	**0.0094**	**0.00078**	**0.064**	**0.029**	**0.530**	<0.00050	**0.0018**[2]
MW-3 <29.04>	23.03 ft	**0.014**	**0.030**	**1.2**	**0.300**	**16.0**	<0.00050	**0.00846**[3]
MW-4 <30.00>	21.65 ft	**0.013**	**0.0024**	**0.110**	**0.059**	**0.300**	**0.027**	**0.0014**[4]

ppm = Parts per million (milligrams per liter)
GW Elevation = Groundwater mean sea level elevation.
VC = Vinyl Chloride
t-1,2-DCE = trans-1,2-Dichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
TCE = Trichloroethene
PCE = Tetrachloroethene
1,2-DCA = 1,2-Dichloroethane
Other = Sum of concentrations of 22 remaining HVOC compounds (see footnotes for specific compounds and concentrations).
<30.18> = Top of casing mean sea level elevation for well
<0.0050 = Not detected above the value expressed in parentheses.
1 = Sum of 0.0060 ppm of Chloroform and 0.0011 ppm of 1,2-Dichloropropane.
2 = 0.0018 ppm of 1,1-Dichloroethene.
3 = Sum of 0.0075 ppm of 1,1-Dichloroethene and 0.00096 ppm of 1,1,2-Trichloroethane.
4 = 0.0014 ppm of 1,1-Dichloroethene.

Table 4
SUMMARY OF GROUNDWATER BIOCHEMICAL ANALYTICAL RESULTS
Liquid Sugars North Parcel, 1266 66th Street

Sample ID	Concentration (ppm, ORP in mV)								
	ALK	Fe^{+2}	BOD	COD	METHANE	ETHANE	ETHENE	DO	ORP
MW-1	**240**	<0.050	<2.0	**50**	<0.010	<0.010	<0.010	**0.35**	**195**
MW-2	**210**	<0.050	<4.0	**71**	**0.014**	<0.010	<0.010	**2.02**	**211**
MW-3	**270**	<0.050	<4.0	<50	**0.010**	<0.010	<0.010	**2.25**	**217**
MW-4	**470**	<0.050	<4.0	**50**	**0.13**	<0.010	<0.010	**2.18**	**162**

ppm = Parts per million (milligrams per liter)
ALK = Alkalinity, in milligrams per liter (mg/L, or ppm) as calcium carbonate (CaCO3).
Fe^{+2} = Dissolved Iron
BOD = Biological Oxygen Demand
COD = Chemical Oxygen Demand
DO = Dissolved Oxygen, field measurement
ORP = Oxygen Reduction Potential, field measurement, in millivolts (mV)

4.0 CONCLUSIONS

Results of this investigation support the previous conclusion that active HVOC remediation at the site is not warranted and that remediation via natural attenuation is the only feasible remedial option for this site. Specific conclusions derived from results of well installation activities include the following:

- Shallow groundwater flow gradient beneath the site is towards the southwest, consistent with shallow groundwater flow gradient at nearby sites to the south and southeast. Also, groundwater appears to be held under confining pressure below about 20 feet in depth.

- Soil laboratory analytical results suggest an offsite northeasterly source for 1,2-DCA encountered in soil and groundwater in the "warm room" area on the northwest side of the site. A prior soil sample collected in April 1999 at 12 feet in depth in upgradient boring IB-7 (located on the north side of the "warm room") contained 0.042 parts per million (ppm) of 1,2-DCA. A soil sample collected on December 16, 1999 at 21 feet in depth in well boring MW-1 (located about 40 feet downgradient from IB-7) contained 0.027 ppm of 1,2-DCA. This supports an offsite source for the 1,2-DCA encountered on the northwest side of the site, whereby 1,2-DCA migrated both vertically downward and laterally southwestward from a northeast offsite source. Note also that these 1,2-DCA concentrations in soil are extremely low, and, based on our experience, would not warrant significant regulatory concern.

- The groundwater sample from well MW-1 (located in the "warm room" and installed on December 16, 1999) contained 0.230 ppm of 1,2-DCA. In comparison, groundwater samples from prior soil borings SB-3 and IB-8 (located in the "warm room" immediately adjacent to MW-1 and drilled in February 1999 and April 1999, respectively) contained 0.660 ppm and 2.20 ppm of 1,2-DCA, respectively. Since water samples from monitoring wells are generally viewed as more representative of true groundwater conditions than grab groundwater samples from Geoprobe-type soil borings, we believe that the lower concentration of 1,2-DCA encountered in the MW-1 groundwater sample is probably more representative of true groundwater conditions beneath the site.

- The groundwater sample from well MW-3 (located on the southeast side of the site immediately adjacent to the Union Pacific railroad tracks, and also installed on December 16, 1999) contained 16.0 ppm of PCE. The groundwater sample from MW-2 (located about 45 feet downgradient from MW-3 and also installed on December 16, 1999) contained only 0.530 ppm of PCE. Thus, low-permeability soils beneath the site appear to have limited the extent of downgradient migration of PCE and other HVOCs encountered adjacent to the Union Pacific Railroad tracks.

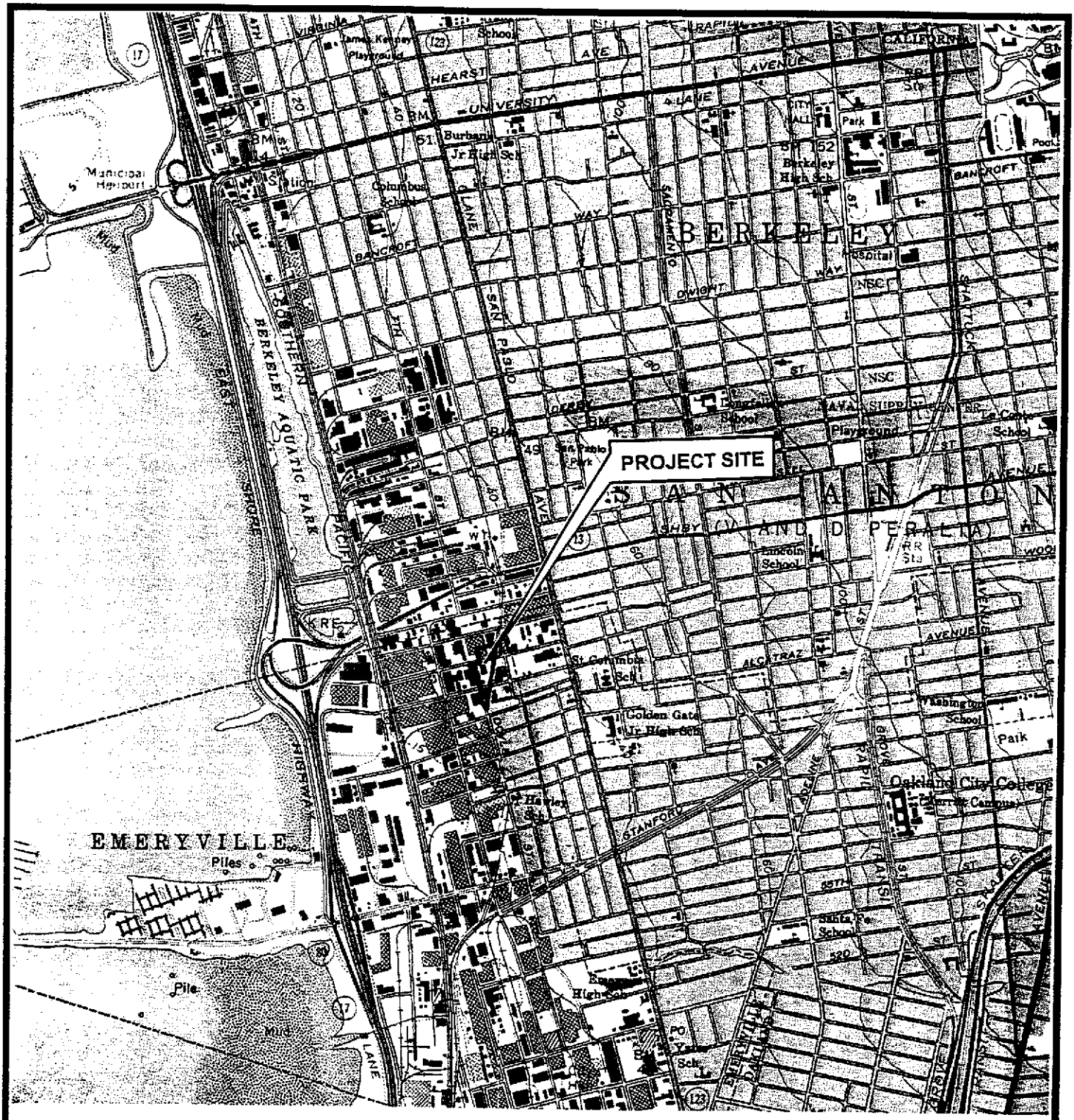
- Groundwater HVOC and biochemical parameter results indicate very slow natural attenuation of HVOCs identified at the site. For PCE, the most common natural bioattenuation process, reductive dechlorination, occurs most rapidly when groundwater dissolved oxygen concentrations are below 0.5 mg/L, oxygen-reduction potential levels are below 50 millivolts (mV), and dissolved iron concentrations are above 1 mg/L. However, these optimum biochemical parameter levels were not encountered in groundwater samples from MW-2, MW-3, and MW-4, located within PCE plume areas. In addition, if natural bioattenuation were occurring rapidly, we would expect to see more segregation of the HVOC plume, with elevated levels of "parent" compound PCE in well MW-3, located closer

to the HVOC release source, and relatively high concentrations of possible "daughter" compounds (trichloroethene, dichloroethene, and vinyl chloride) in downgradient wells MW-2 and MW-4. However, the ratio of "daughter" to "parent" compounds is fairly similar in all wells, with higher concentrations of PCE relative to TCE, DCE, or VC in all four wells. Note also that tight soils beneath the site, which have bound up HVOC constituents, seem to have hampered other nonbiological natural attenuation processes, such as advection and dilution.

- Given the apparent slow rate of natural biodegradation of HVOCs at the site, we would not expect significant changes in HVOCs concentrations within a reasonable time of measurement (significant decreases in HVOC concentrations might only be measurable over decades, and not years). Also, because we don't see rapid bioattenuation from PCE to TCE, DCE, and VC, we would not expect to see significant increases in concentrations of the more toxic vinyl chloride over the course of time.

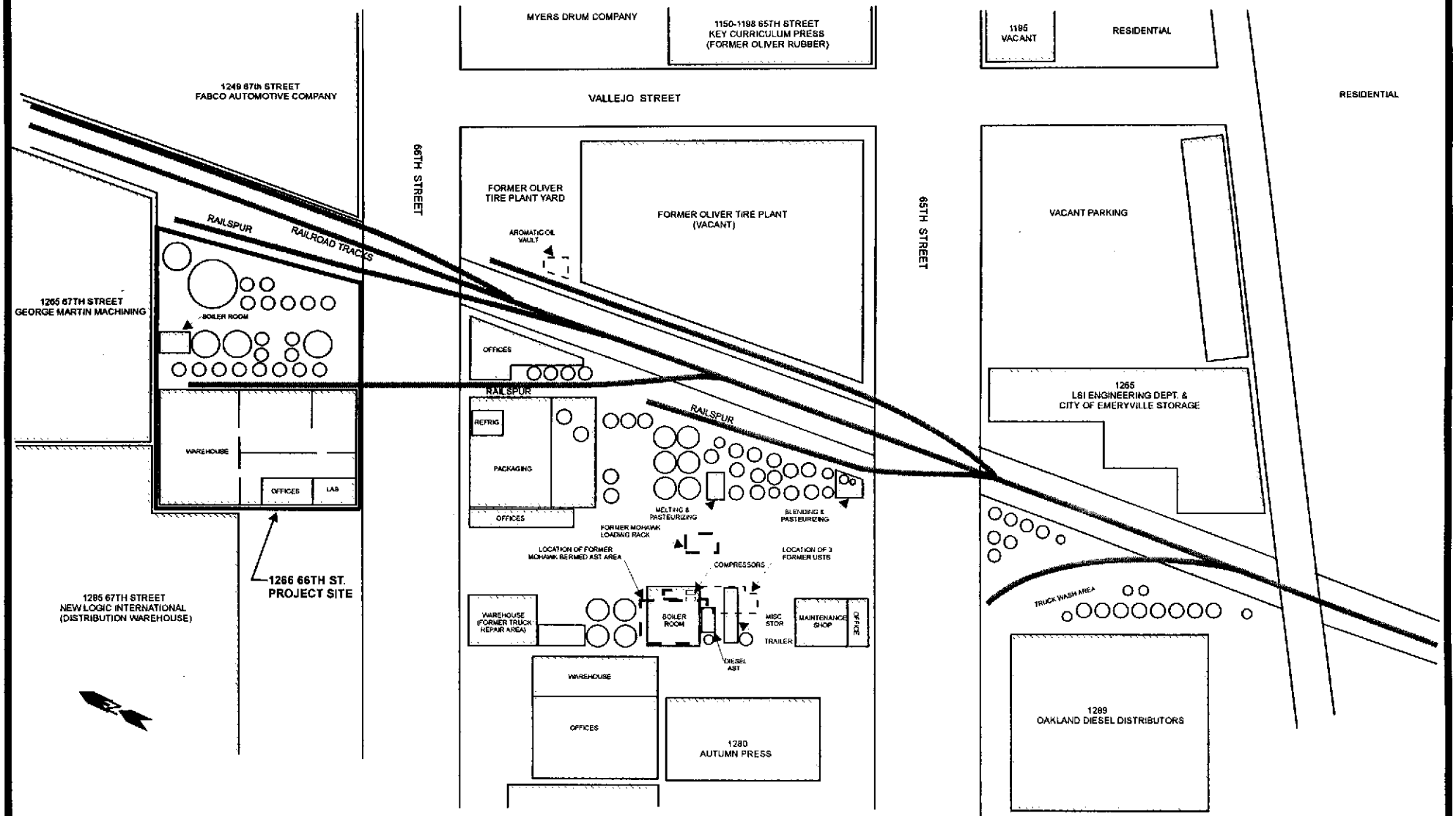
Based on results of this and previous investigations at the site, we believe that regulatory closure of this site is warranted, given: (1) The possible offsite sources for much of the HVOCs identified on the site; (2) The apparent immobility and persistence of these HVOCs; (3) The lack of significant groundwater aquifers and groundwater beneficial uses in the site vicinity; and (4) The lack of significant risk posed by residual HVOCs identified beneath the site. Overall, we believe that the HVOCs identified at this site should be viewed as a relatively small environmental concern, especially when compared to large HVOC sites, such as Lawrence Livermore National Laboratory in Livermore or several sites in the Silicon Valley, where true beneficial use groundwater aquifers have been impacted and HVOC plumes extend thousands of feet in length.

In accordance with the approved Remediation/Risk Management Plan, we will conduct additional groundwater monitoring in late March 2000 to provide additional assessment of groundwater conditions beneath the site.



TOPOGRAPHY FROM USGS OAKLAND, WEST, CALIFORNIA
7.5-MINUTE QUADRANGLE MAPS, (TOPO! 1997).

DESIGNED BY:	CHECKED BY:	**SITE VICINITY MAP**	DATE: 11/09/98	FIGURE: 1
DRAWN BY: JG	SCALE: 1:24,000	LIQUID SUGARS, INC. EMERYVILLE, CALIFORNIA	**GRIBI Associates**	
PROJECT NO: 149-01-01				



NOTES

- VERTICAL PRODUCT SILO/TANK
- RAILROAD TRACKS OR RAILSPUR

ALL LSI PARCELS ARE PAVED (90+% CONCRETE)

0 70 140

APPROX. SCALE IN FEET

DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 149-01-03	

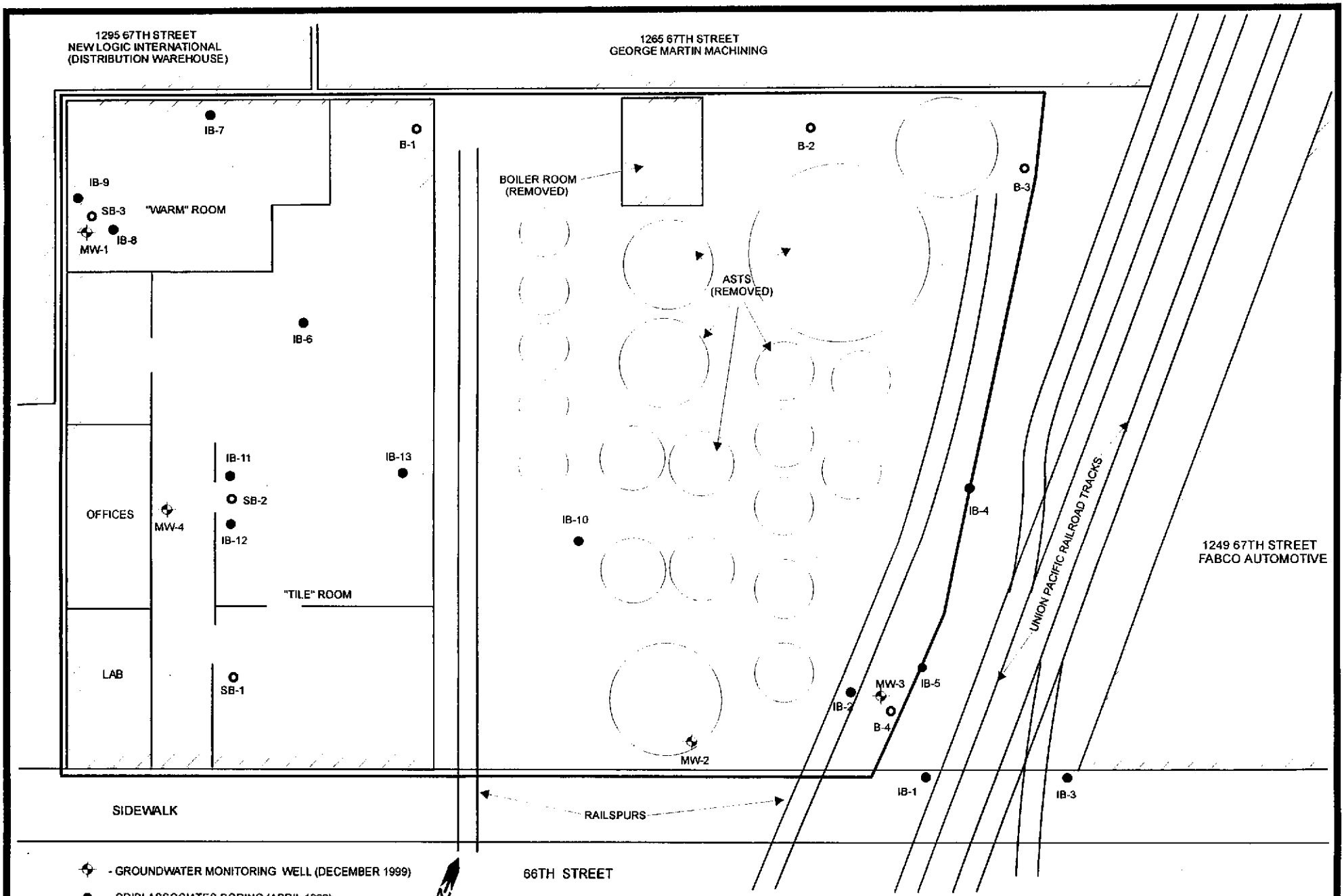
SITE AREA MAP

LIQUID SUGARS, INC. FACILITY
EMERYVILLE, CALIFORNIA

DATE: 06/09/99

FIGURE: 2

GRIBI Associates



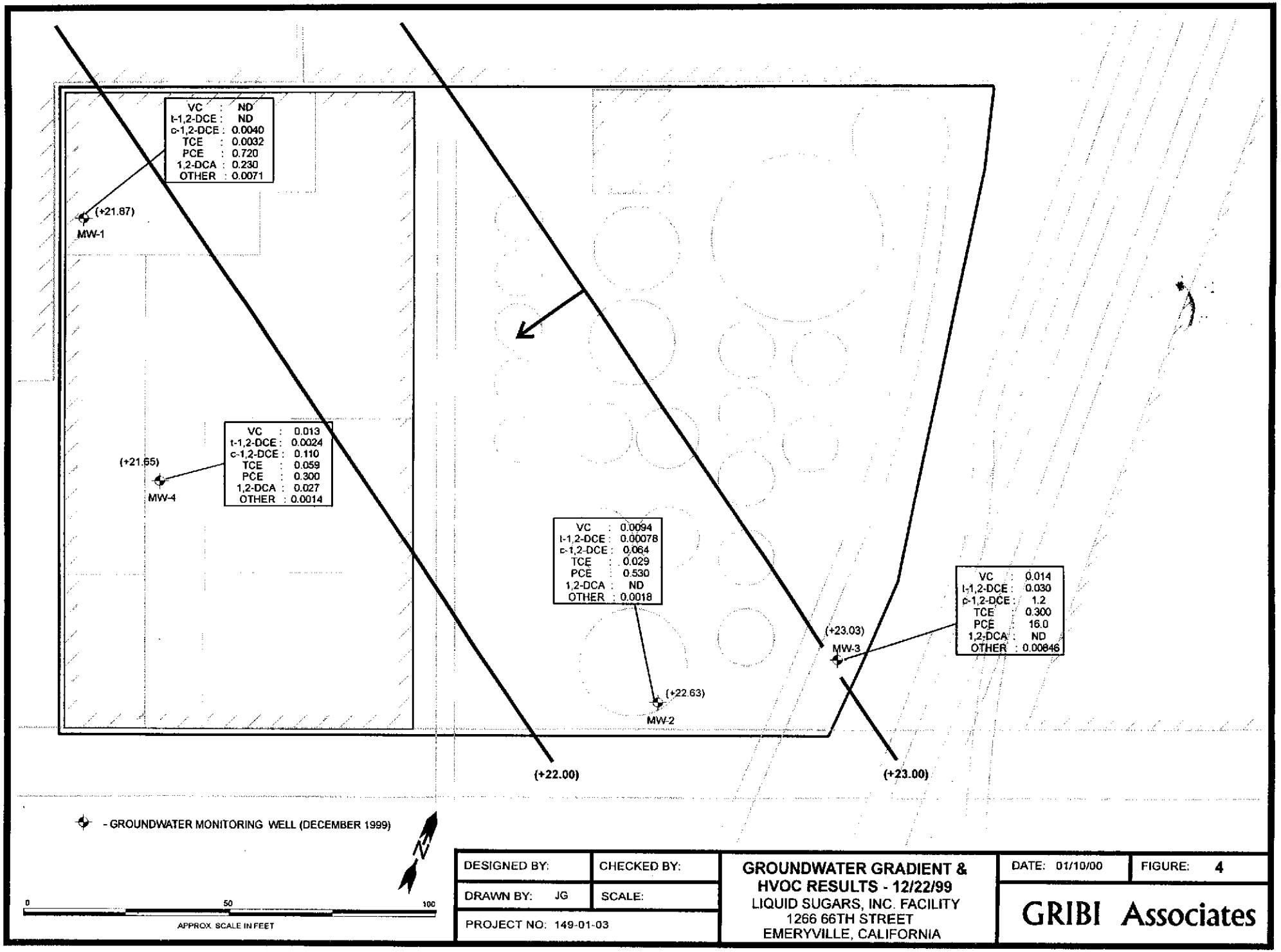
DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 149-01-03	

SITE PLAN

LIQUID SUGARS, INC. FACILITY
1266 66TH STREET
EMERYVILLE, CALIFORNIA

DATE: 01/10/00 | FIGURE: 3

GRIBI Associates

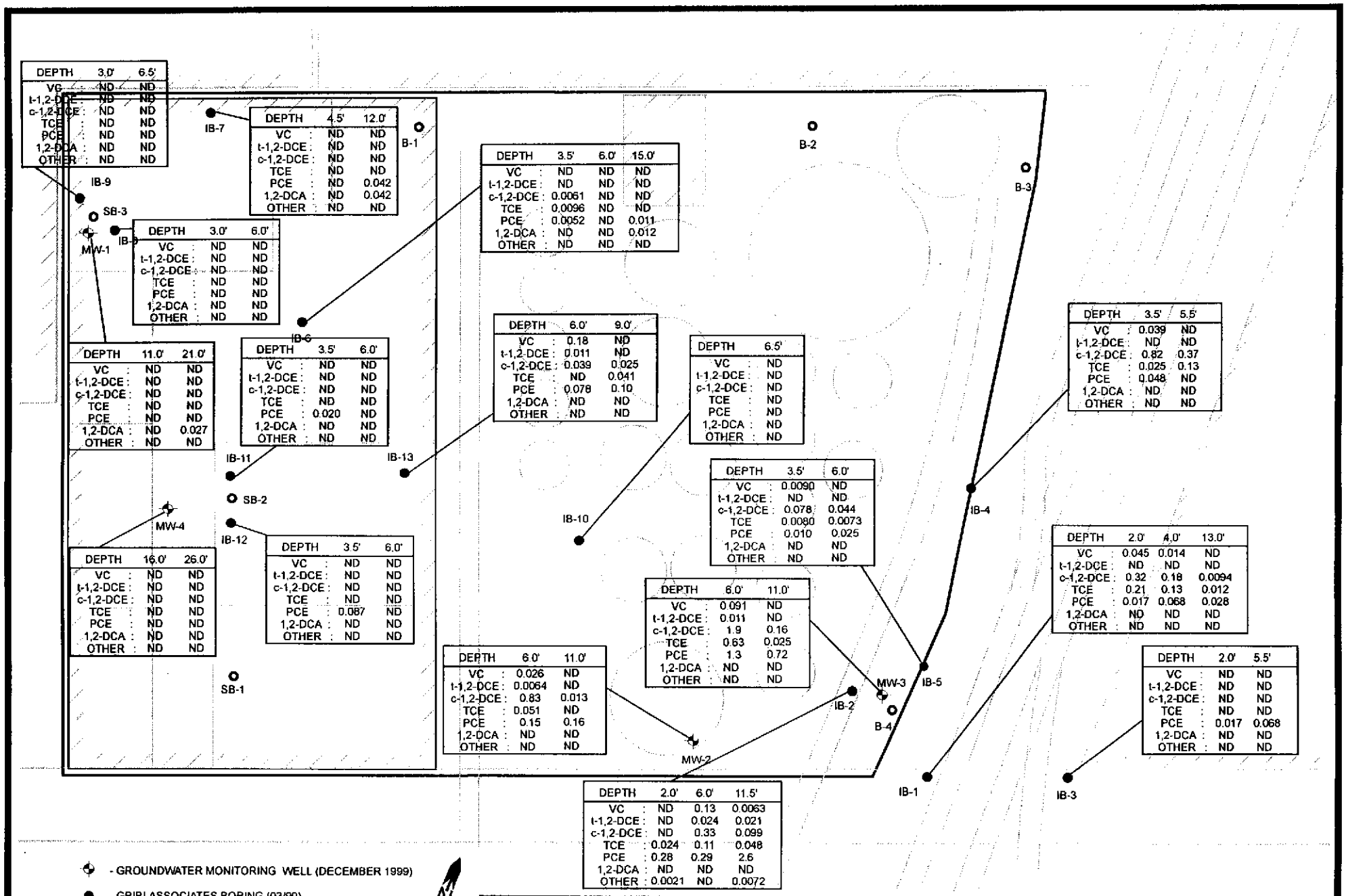


DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 149-01-03	

GROUNDWATER GRADIENT & HVOC RESULTS - 12/22/99
LIQUID SUGARS, INC. FACILITY
1266 66TH STREET
EMERYVILLE, CALIFORNIA

DATE: 01/10/00 | FIGURE: 4

GRIBI Associates



DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO: 149-01-03	

SOIL HVOC RESULTS

LIQUID SUGARS, INC. FACILITY
1266 66TH STREET
EMERYVILLE, CALIFORNIA

DATE: 01/10/00 FIGURE: 5

GRIBI Associates

APPENDIX A

DRILLING PERMIT

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-6262
(510) 670 5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1266 66th Street
Emeryville, CA
(Liquid Sugars, Inc.)

Tie to Public Coordinates Source _____ ft. Address & _____ ft.
QTR _____ ft. CCE _____ ft.
APN _____

CLIENT
Name Liquid Sugars, Inc
Address 1901 FORE STREET Phone 510/777-4700
City Oakland, CA Zip 94621

APPLICANT
Name Jim Gribi
Firm GRIBI Associates Fax 707/748-7763
Address 1550 MAYBST, E-14 Phone 707/748-7743
City Benicia Zip 94510

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☒	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☐		

DRILLER'S LICENSE NO C-57 485165

WELL PROJECTS
Drill Hole Diameter 6 in. Maximum
Casing Diameter 2 in. Depth 30 ft
Surface Seal Depth 10 ft. Number 4

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft

EST. STARTING DATE 12/1/99
EST. COMPLETION DATE 12/1/99

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 11/24/99

FOR OFFICE USE

PERMIT NUMBER 99WR679
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremie cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached

G. SPECIAL CONDITIONS

APPROVED Frank L. Cobb DATE 11-29-99

** TOTAL PAGE.02 **

COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
951 Turner Court, Room 300
Hayward, CA 94545-2651

FAX TRANSMITTAL

TO: Jim Gribi -
Gribi Associates -

DATE: 11/30/99

FAX NO.: 707-748-7763

TRANSMITTING THE FOLLOWING:

TITLE/DESCRIPTION
Drilling Permit 99WR679 -

2 TOTAL PAGES INCLUDING THIS SHEET.

FROM WATER RESOURCES

NAME: Marlon Magallanes/Cindy Hutchinson TEL: (510) 670-5248 FAX: (510) 670-5262

E-MAIL: Wrebec@acwpa.mail.co.alameda.ca.us-Cindyh@acwpa.mail.co.alameda.ca.us

IF YOU EXPERIENCE PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL US.
REMARKS:

APPENDIX B

SOIL BORING LOGS

BORING NUMBER : MW-1

BORING LOCATION:
WEST WALL OF WARM ROOM

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

LOG OF WELL BORING
GRIBI Associates

START DATE: 12/16/99

COMPLETION DATE: 12/16/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW STEM AUGER

BOREHOLE DIAMETER: 6 INCHES

COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 35 FEET

GROUNDWATER TOTAL DEPTH: 25.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
						0 - 1.0 Ft. Concrete and base rock.
5	IB-1.1	6.0 FT		0	ML	1.0 - 14.0 Ft. Olive green to reddish brown sandy SILT, slightly gravelly, soft to firm, moist, no hydrocarbon odor.
				8.31' ▼		
10	IB-1.2	11.0 FT		0		
15	IB-1.3	16.0 FT		1.1		
20	IB-1.4	21.0 FT		1.4	ML	14.0 - 29.0 Ft. Brown to olive green gravelly sandy SILT, moist to wet, soft to firm, no hydrocarbon odors or staining.
						CONTINUED ON NEXT PAGE
25				▽ 25.0'		
	IB-1.5	26.0 FT		1.4		

LOG OF WELL BORING
GRIBI Associates

BORING NUMBER : MW-1

BORING LOCATION:
WEST WALL OF WARM ROOM

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/16/99

COMPLETION DATE: 12/16/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW STEM AUGER

BOREHOLE DIAMETER: 6 INCHES

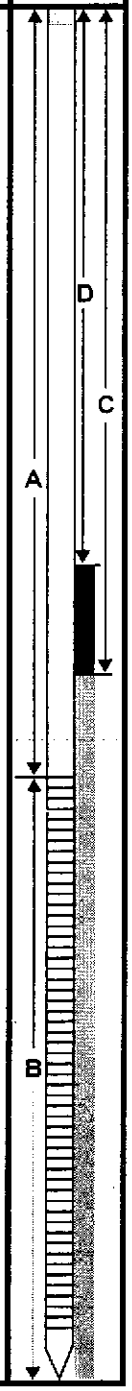
COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 35 FEET

GROUNDWATER TOTAL DEPTH: 25.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
	IB-1.4	21.0 FT		1.4	ML	14.0 - 29.0 Ft. Brown to olive green gravelly sandy SILT, moist to wet, soft to firm, no hydrocarbon odors or staining.
25				25.0'		
	IB-1.5	26.0 FT		1.4		
30						
	IB-1.6	31.0 FT		1.9	SC	29.0 - 35.0 Ft. Dark gray gravelly SAND, wet, loose to firm, no hydrocarbon odors or staining.
35						END OF BORING
40						
45						

PIEZOMETER/ WELL INSTALLATION



WELL SPECIFICATIONS

A - WELL SCREEN DEPTH:	15.6'	CASING TYPE:	SCH 40 PVC
B - WELL SCREEN LENGTH:	20.0'	CASING SIZE:	2"
C - DEPTH TO TOP OF SAND:	13.0'	SLOT SIZE:	0.02"
D - DEPTH BENTONITE SEAL:	11.0'		

LOG OF WELL BORING
GRIBI Associates

BORING NUMBER : MW-2

BORING LOCATION: INSIDE TANK YARD 12' FROM SIDEWALK AND 26' EAST SIDE OF TANK YARD

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/16/99

COMPLETION DATE: 12/16/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HAND AUGER

BOREHOLE DIAMETER: 6 INCHES

COMPLETION METHOD: GROUTED

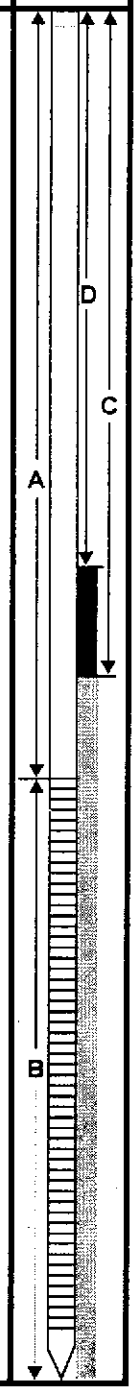
BORING TOTAL DEPTH: 30.0 FEET

GROUNDWATER TOTAL DEPTH: 25.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
5				330	ML	0 - 4.0 Ft. Black sandy SILT, soft, wet, no hydrocarbon odor.
	IB-2.1	6.0 FT		0 6.85' ▽		
10	IB-2.2	11.0 FT		0	ML	4.0 - 19.0 Ft. Olive green to brown sandy SILT, slightly gravelly, dense, moist, no hydrocarbon odor.
15	IB-2.3	16.0 FT		1.1		
20	IB-2.4	21.0 FT		1.4		
25				▽ 25.0'	ML	19.0 - 30.0 Ft. Brown to dark green gravelly sandy SILT, moist to wet, soft to firm, no hydrocarbon odors or staining.
	IB-2.5	26.0 FT		1.4		

CONTINUED ON NEXT PAGE

PIEZOMETER/ WELL INSTALLATION



LOG OF WELL BORING
GRIBI Associates

BORING NUMBER : MW-2

BORING LOCATION: INSIDE TANK YARD 12' FROM SIDEWALK AND 26' EAST SIDE OF TANK YARD

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/16/99

COMPLETION DATE: 12/16/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HAND AUGER

BOREHOLE DIAMETER: 6 INCHES

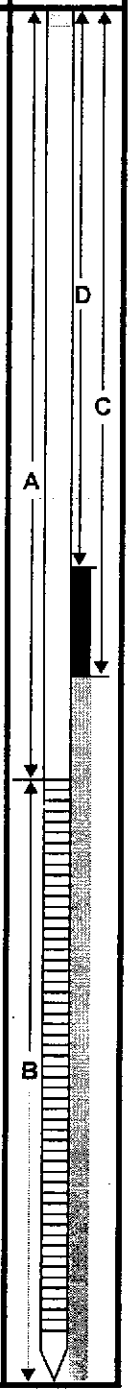
COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 30.0 FEET

GROUNDWATER TOTAL DEPTH: 25.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
	IB-2.4	21.0 FT		1.4		
25				25.0'	ML	19.0 - 30.0 Ft. Brown to dark green gravelly sandy SILT, moist to wet, soft to firm, no hydrocarbon odors or staining.
	IB-2.5	26.0 FT		0		
30						END OF BORING
35						
40						
45						

PIEZOMETER\ WELL INSTALLATION



WELL SPECIFICATIONS

A - WELL SCREEN DEPTH:	9.96'	CASING TYPE:	SCH 40 PVC
B - WELL SCREEN LENGTH:	20.0'	CASING SIZE:	2"
C - DEPTH TO TOP OF SAND:	8.0'	SLOT SIZE:	0.02"
D - DEPTH BENTONITE SEAL:	6.0'		

LOG OF WELL BORING
GRIBI Associates

SHEET 1 OF 1

BORING NUMBER : MW-3

BORING LOCATION: 20' EAST OF TANK YARD
24' NORTH OF SIDEWALK

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/17/99

COMPLETION DATE: 12/17/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HAND AUGER

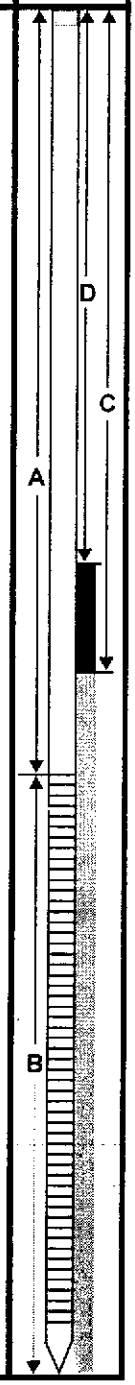
BOREHOLE DIAMETER: 6 INCHES

COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 25.0 FEET

GROUNDWATER TOTAL DEPTH: 15.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
				0	ML	0 - 1.0 Ft. Concrete and base rock. 1.0 - 3.0 Ft. Dark olive green sandy SILT, soft, moist, no hydrocarbon odor.
5	IB-3.1	6.0 FT		6.01' ▼ 11	ML	3.0 - 14.0 Ft. Brown gravelly SAND, loose, moist, no hydrocarbon odor.
10	IB-3.2	11.0 FT		7		
15	IB-3.3	16.0 FT		15.0' ▽ 0.9	ML	14.0 - 25.0 Ft. Brown to olive green sandy SILT, firm to dense, moist to wet, no hydrocarbon odor.
20	IB-3.4	19.5 FT		5		
25						END OF BORING



WELL SPECIFICATIONS

A - WELL SCREEN DEPTH:	9.85'	CASING TYPE: SCH 40 PVC
B - WELL SCREEN LENGTH:	15.0'	CASING SIZE: 2"
C - DEPTH TO TOP OF SAND:	8.0'	SLOT SIZE: 0.02"
D - DEPTH BENTONITE SEAL:	6.0'	

LOG OF WELL BORING
GRIBI Associates

BORING NUMBER : MW-4

BORING LOCATION: 5' EAST OF LAB WALL
75' NORTH OF SIDEWALK

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/17/99

COMPLETION DATE: 12/17/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW STEM AUGER

BOREHOLE DIAMETER: 6 INCHES

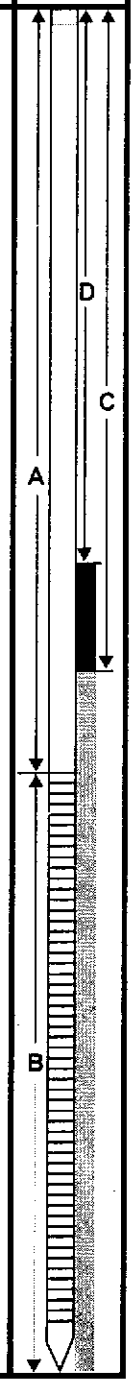
COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 35 FEET

GROUNDWATER TOTAL DEPTH: 23.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
						0 - 1.0 Ft. Concrete and base rock.
					ML	1.0 - 4.0 Ft. Olive green to brown SILT, soft, moist, no hydrocarbon odor.
5	IB-4.1	6.0 FT		0.6		
				8.35' ▽		
10	IB-4.2	11.0 FT		0.6	ML	4.0 - 19.0 Ft. Dark brown to reddish brown sandy SILT, slightly gravelly, firm to dense, dry to moist, no hydrocarbon odor.
15	IB-4.3	16.0 FT		0.9		
20	IB-4.4	21.0 FT		4.5	SC	19.0 - 24.0 Ft. Brown gravelly SAND, wet, loose, no hydrocarbon odors or staining.
				▽ 23.0'		
						CONTINUED ON NEXT PAGE
25	IB-4.5	26.0 FT		1.1		

PIEZOMETER/ WELL INSTALLATION



LOG OF WELL BORING
GRIBI Associates

BORING NUMBER : MW-4

BORING LOCATION: 5' EAST OF LAB WALL
75' NORTH OF SIDEWALK

BORING TYPE: INVESTIGATIVE BORING

PROJECT NAME: LSI-NORTH

PROJECT NUMBER: 124-02-03

START DATE: 12/17/99

COMPLETION DATE: 12/17/99

DRILLING CONTRACTOR: GREGG DRILLING

DRILLING METHOD: HOLLOW STEM AUGER

BOREHOLE DIAMETER: 6 INCHES

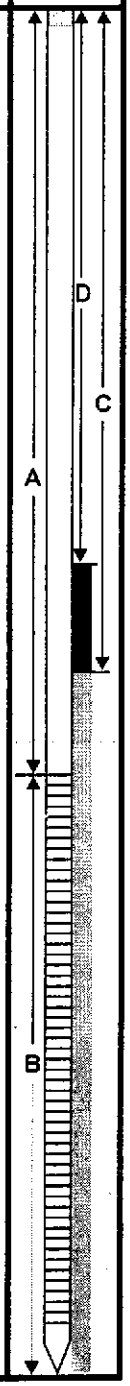
COMPLETION METHOD: GROUTED

BORING TOTAL DEPTH: 35 FEET

GROUNDWATER TOTAL DEPTH: 23.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	WATER LEVEL & PID READING	USCS	LOG OF MATERIAL
	IB-4.4	21.0 FT		4.5	SC	19.0 - 24.0 Ft. Brown gravelly SAND, wet, loose, no hydrocarbon odors or staining.
				▽ 23.0'		
25	IB-4.5	26.0 FT		1.1	CL	24.0 - 28.0 Ft. Brown silty CLAY, soft, moist, no hydrocarbon odors or staining.
30	IB-4.6	31.0 FT		0	SC	28.0 - 33.0 Ft. Brown to reddish brown gravelly silty SAND, wet, soft, loose, no hydrocarbon odors or staining.
					ML	33.0 - 35.0 Ft. Dark gray green clayey SILT, dense, hard, moist, no hydrocarbon odors or staining.
35	IB-4.7	34.5 FT				END OF BORING
40						
45						

PIEZOMETER/ WELL INSTALLATION



WELL SPECIFICATIONS

A - WELL SCREEN DEPTH:	15.31'	CASING TYPE:	SCH 40 PVC
B - WELL SCREEN LENGTH:	20.0'	CASING SIZE:	2"
C - DEPTH TO TOP OF SAND:	13.0'	SLOT SIZE:	0.02"
D - DEPTH BENTONITE SEAL:	11.0'		

APPENDIX C

GROUNDWATER SAMPLING DATA SHEETS

GROUNDWATER SAMPLING RECORD		GRIBI Associates
Well No. MW-1		Well Loc.
Project Name		Project No.
Date	Time	TOC Elevation / GW Elevation
Depth to Water 8.31		Well Depth / Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 =		Purge Water, 4": Wtr Column X 0.653 X 3 =
Purge/Sample Method		Lab Analyses
Weather Conditions		Laboratory

9

Time	Volume Purged	Temp.	Cond.	pH	Visual
1410	0	76.1	1.75	5.65	Murky Brn, No HC Odor
	2	74.6	1.77	5.55	" "
	4	73.5	1.81	5.54	" "
	8	73.6	1.59	5.57	" "
1440	14	73.2	1.60	5.59	" ~~Clear~~ Slight Sweet Odor

MOD - Sweet Odor

Remarks Slow Recharge

DO: 4.2 0.00 0.35 mg/L

ORP: ~~195~~ 195

GROUNDWATER SAMPLING RECORD	GRIBI Associates
Well No. MW-2	Well Loc.
Project Name LS1-North	Project No.
Date 12/22 Time	TOC Elevation GW Elevation
Depth to Water 6.95' TD=25.0'	Well Depth Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 = 8.9 gal	Purge Water, 4": Wtr Column X 0.653 X 3 =
Purge/Sample Method Pump	Lab Analyses
Weather Conditions	Laboratory

Time	Volume Purged	Temp.	Cond.	pH	Visual
1245	0	69.4	0.99	5.13	Muky. Brn, No HC O/SH
	2	68.5	1.05	5.27	" " "
	4	68.7	1.06	5.25	" " "
1255	9	68.5	095	5.52	" " "

Remarks

DO: 22.1 % 2.02 mg/L

ORP: 211 mV

GROUNDWATER SAMPLING RECORD	GRIBI Associates
Well No. MW-3	Well Loc.
Project Name	Project No.
Date 12 Time	TOC Elevation GW Elevation
Depth to Water 6.01 25.0'	Well Depth Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 =	Purge Water, 4": Wtr Column X 0.653 X 3 =
Purge/Sample Method	Lab Analyses
Weather Conditions	Laboratory

Time	Volume Purged	Temp.	Cond.	pH	Visual
1315	0	70.1	1.45	6.83	Murky Brn, No HC odor
	2	69.5	1.45	6.73	" "
	4	68.5	1.47	6.67	" "
1330	10	68.6	1.48	6.59	" "

Remarks

ORP: MV
217
DO: 010 mg/L
2.97 2.25

GROUNDWATER SAMPLING RECORD		GRIBI Associates
Well No. MW-4		Well Loc.
Project Name LS1-North		Project No.
Date 12/22 Time		TOC Elevation GW Elevation
Depth to Water 8.35' TD = 35.0		Well Depth Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 = 13		Purge Water, 4": Wtr Column X 0.653 X 3 =
Purge/Sample Method Pump		Lab Analyses
Weather Conditions		Laboratory

ORP MV	Time	Volume Purged	Temp.	Cond.	pH	Visual
183	1105	0	68.1	2.22	5.49	Mrk, Brn, NoHC O/S H
179		2	66.2	2.05	5.39	" "
176		4	66.9	1.95	5.38	" "
171		8	66.1	2.02	5.40	" "
162	1130	13	66.4	1.92	5.44	" "

Remarks

	mg/L	O/O	
DO:	2.28	—	Bucket 1 0-4 gal
	1.98	21.8	Bucket 2 4-8 gal
	2.18	25.6	Bucket 3 8-13 gal

Elevation: 15' Salinity Ø Pump Depth 25.0'

APPENDIX D

SURVEYOR'S REPORT

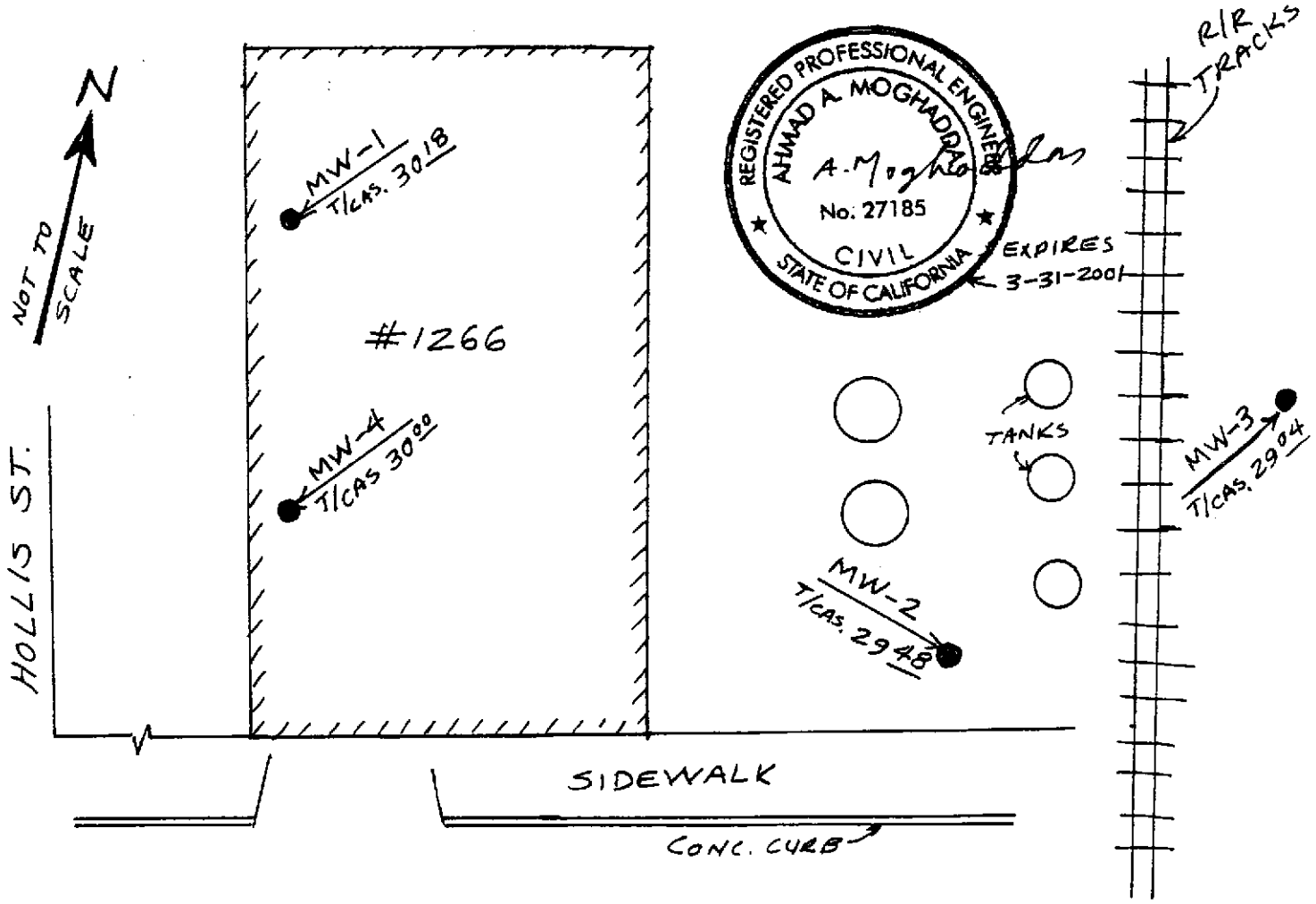
AHMAD MOGHADDAS
REGISTERED CIVIL ENGINEER
1631 BERKELEY WAY
BERKELEY, CA 94703

843-6580

12-30-99

1266 66TH ST., EMERYVILLE

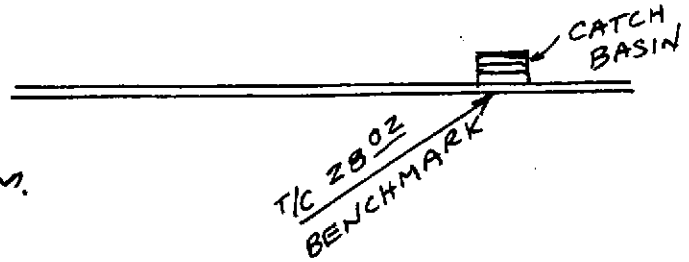
MONITORING WELLS N. SIDE OF 66th St., ON LIQUID SUGARS INC. PROPERTY.



66TH STREET

BENCHMARK

BENCHMARK IS TOP OF CURB AT CATCHBASIN ACROSS THE STREET AT EL. 28.02 IN THE CITY OF EMERYVILLE DATUM.



APPENDIX E

LABORATORY DATA REPORTS AND CHAIN OF CUSTODY RECORDS

Acculabs Inc.
Davis
1046 Olive Drive, Davis, CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20874
January 03, 2000

Jim Gribi
Gribi Associates
1350 Hayes Street, #C-14
Benicia, CA 94510

Subject : 22 Soil Sample
Project Name : LSI-North
Project Number : 124-02-03

Dear Mr. Gribi,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Acculabs - Davis is certified by the State of California (# 2330), the State of Arizona (AZ0583) and the State of Nevada. If you have any questions regarding procedures or results, please call me at 530-757-0920.

Sincerely,

Tom Kwoka

KIFF ANALYTICAL LLC

Report Number : 15670

Date : 01/03/2000

Sample : **MW-1.2 (11.0)**

Project Name : **LSI-North**

Project Number : **124-02-03**

Date Analyzed : 12/29/1999

Matrix : Soil

Sample Date :12/16/1999

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	< 0.0050	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	< 0.0050	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	< 0.0050	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	96.4		% Recovery
1,2-Dichloroethane-d4 (Surr)	102		% Recovery

1 MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15670
Date : 01/03/2000

Sample : **MW-2.2 (11.0)**
Project Name : **LSI-North**
Project Number : **124-02-03**
Matrix : Soil Sample Date :12/16/1999
Date Analyzed : 12/29/1999
Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	< 0.0050	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	**0.013**	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	< 0.0050	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	**0.16**	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	102		% Recovery
1,2-Dichloroethane-d4 (Surr)	101		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15670
Date : 01/03/2000

Sample : **MW-3.1 (6.0)**
Project Name : **LSI-North**
Project Number : **124-02-03**
Matrix : Soil Sample Date :12/16/1999
Date Analyzed : 12/30/1999
Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	**0.091**	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	**0.011**	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	**1.9**	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	**0.63**	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	**1.3**	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	100		% Recovery
1,2-Dichloroethane-d4 (Surr)	105		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15670

Date : 01/03/2000

Sample : **MW-3.2 (11.0)**

Project Name : **LSI-North**

Project Number : **124-02-03**

Date Analyzed : 12/30/1999

Matrix : Soil Sample Date :12/16/1999

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	< 0.0050	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	0.16	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	0.025	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	0.72	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	104		% Recovery
1,2-Dichloroethane-d4 (Surr)	104		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15670

Date : 01/03/2000

Sample : **MW-4.3 (16.0)**

Project Name : **LSI-North**

Project Number : **124-02-03**

Date Analyzed : 12/30/1999

Matrix : Soil

Sample Date :12/16/1999

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	< 0.0050	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	< 0.0050	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	< 0.0050	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	103		% Recovery
1,2-Dichloroethane-d4 (Surr)	106		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15670
Date : 01/03/2000

Sample : **MW-4.5 (26.0)**
Project Name : **LSI-North**
Project Number : **124-02-03**
Matrix : Soil Sample Date :12/16/1999.
Date Analyzed : 12/30/1999
Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.0050	0.0050	mg/Kg
Vinyl Chloride	< 0.0050	0.0050	mg/Kg
Bromomethane	< 0.0050	0.0050	mg/Kg
Chloroethane	< 0.0050	0.0050	mg/Kg
Trichlorofluoromethane	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethene	< 0.0050	0.0050	mg/Kg
Methylene Chloride	< 0.0050	0.0050	mg/Kg
trans-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
1,1-Dichloroethane	< 0.0050	0.0050	mg/Kg
cis-1,2-Dichloroethene	< 0.0050	0.0050	mg/Kg
Chloroform	< 0.0050	0.0050	mg/Kg
1,1,1-Trichloroethane	< 0.0050	0.0050	mg/Kg
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg
Carbon Tetrachloride	< 0.0050	0.0050	mg/Kg
Trichloroethene	< 0.0050	0.0050	mg/Kg
1,2-Dichloropropane	< 0.0050	0.0050	mg/Kg
Bromodichloromethane	< 0.0050	0.0050	mg/Kg
cis-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
trans-1,3-Dichloropropene	< 0.0050	0.0050	mg/Kg
1,1,2-Trichloroethane	< 0.0050	0.0050	mg/Kg
Tetrachloroethene	< 0.0050	0.0050	mg/Kg
Dibromochloromethane	< 0.0050	0.0050	mg/Kg
Chlorobenzene	< 0.0050	0.0050	mg/Kg
Bromoform	< 0.0050	0.0050	mg/Kg
1,1,2,2-Tetrachloroethane	< 0.0050	0.0050	mg/Kg
1,3-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,4-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
1,2-Dichlorobenzene	< 0.0050	0.0050	mg/Kg
Dibromofluoromethane (Surr)	101		% Recovery
1,2-Dichloroethane-d4 (Surr)	103		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

15670

Acculabs - Davis/Sacramento

Subcontracted Tests Form

Project Name : LSI-North
Project Number : 124-02-03
Project Manager: Troy Turpen

Laboratory Name Kiff

Mail Results and Invoices To 1046 Olive Drive, Suite 2, Davis, CA 95616
Fax Results To 530-753-6091
Call 530-757-0920 with questions
Use this number as a Purchase Order No.: **20874**

Number	Name	Mx.	Date Sampled	Tests	
20874-02	MW-1.2 (11.0)	SO	12/16/99	[redacted] 8010 List by 8260 HVOCs	-01
	Location:				No. of Containers: 1
20874-04	MW-1.4 (21.0)	SO	12/16/99	[redacted]	-02
	Location:				No. of Containers: 1
20874-07	MW-2.1 (6.0)	SO	12/16/99	[redacted]	-03
	Location:				No. of Containers: 1
20874-08	MW-2.2 (11.0)	SO	12/16/99	[redacted]	-04
	Location:				No. of Containers: 1
20874-12	MW-3.1 (6.0)	SO	12/16/99	[redacted]	-05
	Location:				No. of Containers: 1
20874-13	MW-3.2 (11.0)	SO	12/16/99	[redacted]	-06
	Location:				No. of Containers: 1
20874-18	MW-4.3 (16.0)	SO	12/16/99	[redacted]	-07
	Location:				No. of Containers: 1

Remarks:

Relinquished by:	Received by:	Date	Time
[signature]	Quinton Reinch	12/21/99	1600

Due Date/Time : 12/28/99 1500

Subcontract Lab Reference # : _____

Fax this form to 530-753-6091 when reference number has been assigned to samples and written in space above.

Please fax results prior to mailing.

15670

Acculabs - Davis/Sacramento

Subcontracted Tests Form

Project Name : LSI-North
Project Number : 124-02-03
Project Manager: Troy Turpen

Laboratory Name Kiff

Mail Results and Invoices To 1046 Olive Drive, Suite 2, Davis, CA 95616
Fax Results To 530-753-6091
Call 530-757-0920 with questions
Use this number as a Purchase Order No.: **20874**

Number	Name	Mx.	Date Sampled	Tests
20874-20	MW-4.5 (26.0)	SO	12/16/99	[redacted] 8010 List by 8260 HVOCs

-08

Location:

No. of Containers: 1

Remarks:

Relinquished by:	Received by:	Date	Time
[signature]	Justin Resch	12/21/99	1600

Due Date/Time : 12/28/99 1500

Subcontract Lab Reference # :

Fax this form to 530-753-6091 when reference number has been assigned to samples and written in space above.

Please fax results prior to mailing.

F8733 Rev. B

Acculabs Inc.

[ ] 1725 W. 17th. St. Tempe AZ 85281 480-967-1310 Fax 967-1019
[ ] 4455 S. Park Ave. Tucson AZ 85714 520-807-3801 Fax 807-3803
[ ] 2029 N. 4th St. Flagstaff AZ 86004 520-774-7643 Fax 774-7648
[ ] 1046 Olive Drive Davis CA 95616 530-757-0920 Fax 753-6091
[ ] 75 Suttle St. Durango CO 81301 970-247-4220 Fax 247-4227
[ ] 4663 Table Mountain Dr. Golden CO 80403 303-277-9514 Fax 277-9512
[ ] 992 Spice Islands Dr. Sparks NV 89431 775-355-0202 Fax 355-0817

Lab Number 20874
Report Due Date:

Client Grib
Address
City, State & Zip
Contact
Phone
Fax
P.O. Number

Collector's Name Grib
Project Name LS1-North
Project Number 124-02-03

Fax Results Y N
Page of

PUBLIC WATER SUPPLY INFORMATION
System Name
PWS No. Report to State/EPA Y N
POE No. DWR No.
Collection Point
Location (City)

SAMPLE TYPE CODES
DW = drinking water TB = travel blank
WW = waste water SD = solid
MW = monitoring well SO = soil
HW = hazardous waste SL = sludge

Compliance Monitoring Y N

TURNAROUND TIME REQUESTED
Standard
RUSH
Special

Lab Manager Approval

CLIENT'S SAMPLE ID/LOCATION	Date	Time	Sample Type	Containers	Analyses Requested: HVOCs	Hold	Spl. No.
MW-1.1 (6.0)	12/16		S	1		X	01
MW-1.2 (11.0)					X		02
MW-1.3 (16.0)						X	03
MW-1.4 (21.0)					X		04
MW-1.5 (26.0)						X	05
MW-1.6 (30.0)						X	06
MW-2.1 (6.0)					X		07
MW-2.2 (11.0)					X		08
MW-2.3 (16.0)						X	09
MW-2.4 (21.0)						X	10
MW-2.5 (26.0)						X	11

Instructions/Comments/Special Requirements:

SAMPLE RECEIPT			Date	Time	Samples Relinquished By	Samples Received By
Received Cold	Y	N	12/18	15:33	James C Gl	Tony D. Tuyn
Custody Seals	Y	N				
Seals Intact	Y	N				
No. of Containers						

Acculabs' terms are Net 40 (Payment must be received by the date shown on the invoice or any discount is void)

F8733 Rev. B

Acculabs Inc.

[ ] 1725 W. 17th. St. Tempe AZ 85281 480-967-1310 Fax 967-1019
[ ] 4455 S. Park Ave. Tucson AZ 85714 520-807-3801 Fax 807-3803
[ ] 2029 N. 4th St. Flagstaff AZ 86004 520-774-7643 Fax 774-7648
[ ] 1046 Olive Drive Davis CA 95616 530-757-0920 Fax 753-6091
[ ] 75 Suttle St. Durango CO 81301 970-247-4220 Fax 247-4227
[ ] 4663 Table Mountain Dr. Golden CO 80403 303-277-9514 Fax 277-9512
[ ] 992 Spice Islands Dr. Sparks NV 89431 775-355-0202 Fax 355-0817

Lab Number 20874
Report Due Date:

Client GRIB | Fax Results Y N | Page of

Address | PUBLIC WATER SUPPLY INFORMATION

City, State & Zip | System Name

Contact | PWS No. | Report to State/EPA Y N

Phone | Collector's Name Grib | POE No. | DWR No.

Fax | Project Name LSI - North | Collection Point

P.O. Number | Project Number 124-02-03 | Location (City)

SAMPLE TYPE CODES

DW = drinking water TB = travel blank
WW = waste water SD = solid
MW = monitoring well SO = soil
HW = hazardous waste SL = sludge

Compliance Monitoring Y N

TURNAROUND TIME REQUESTED

Standard
RUSH
Special

Lab Manager Approval

CLIENT'S SAMPLE ID/LOCATION	Date	Time	Sample Type	Containers	Analyses Requested: 8260 THOG	Hold	Spl. No.
MW-3.1 (6.0)	12/17		S	1	X		12
MW-3.2 (11.0)					X		13
MW-3.3 (16.0)						X	14
MW-3.4 (21.0)						X	15
MW-4.1 (6.0)						X	16
MW-4.2 (11.0)						X	17
MW-4.3 (16.0)					X		18
MW-4.4 (21.0)						X	19
MW-4.5 (26.0)					X		20
MW-4.6 (31.0)						X	21
MW-4.7 (36.0)						X	22

Instructions/Comments/Special Requirements:

SAMPLE RECEIPT			Date	Time	Samples Relinquished By	Samples Received By
Received Cold	Y	N	12/18	15:33		
Custody Seals	Y	N				
Seals Intact	Y	N				
No. of Containers						

Acculabs terms are: Net 40 (Payment must be received by the date shown on the invoice or any discount is void)

To the maximum extent permitted by law, the Client agrees to limit the liability of Acculabs Inc. for the Client's damages to the total compensation received unless other arrangements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted.

A301E

Acculabs Inc.

Davis

1046 Olive Drive, Davis, CA 95616 ▪ 530-757-0920 ▪ Fax 753-6091

Sample Log 20892
January 19, 2000

Jim Gribi
Gribi Associates
1350 Hayes Street, #C-14
Benicia, CA 94510

Subject : 4 Water samples
Project Name : LSI-North
Project Number : 149-02-03

Dear Mr. Gribi,

Chemical analysis on the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. USEPA protocols for sample storage and preservation were followed.

Acculabs - Davis is certified by the State of California (# 2330), the State of Arizona (AZ0583) and the State of Nevada. If you have any questions regarding procedures or results, please call me at 530-757-0920.

Sincerely,

Troy D. Tuyen for

Tom Kwoka

KIFF ANALYTICAL LLC

Report Number : 15707

Date : 12/31/1999

Sample : **MW-1**

Project Name : **LSI-North**

Project Number : **149-02-03**

Date Analyzed : 12/30/1999

Matrix : Water Sample Date :12/22/1999

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	< 0.50	0.50	ug/L
Bromomethane	< 0.50	0.50	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	< 0.50	0.50	ug/L
Methylene Chloride	< 0.50	0.50	ug/L
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	**4.0**	0.50	ug/L
Chloroform	**6.0**	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	**230**	5.0	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	**3.2**	0.50	ug/L
1,2-Dichloropropane	**1.1**	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
Tetrachloroethene	**720**	5.0	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
Dibromofluoromethane (Surr)	98.8		% Recovery
1,2-Dichloroethane-d4 (Surr)	98.4		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15707
Date : 12/31/1999

Sample : **MW-2**
Project Name : **LSI-North**
Project Number : **149-02-03**
Matrix : Water Sample Date :12/22/1999
Date Analyzed : 12/30/1999
Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	**9.4**	0.50	ug/L
Bromomethane	< 0.50	0.50	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	**1.8**	0.50	ug/L
Methylene Chloride	< 0.50	0.50	ug/L
trans-1,2-Dichloroethene	**0.78**	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	**64**	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	< 0.50	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	**29**	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
Tetrachloroethene	**530**	5.0	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
Dibromofluoromethane (Surr)	99.5		% Recovery
1,2-Dichloroethane-d4 (Surr)	96.2		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15707

Date : 12/31/1999

Sample : **MW-3**

Project Name : **LSI-North**

Project Number : **149-02-03**

Date Analyzed : 12/30/1999

Matrix : Water

Sample Date :12/22/1999

Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	**14**	0.50	ug/L
Bromomethane	< 0.50	0.50	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	**7.5**	0.50	ug/L
Methylene Chloride	< 0.50	0.50	ug/L
trans-1,2-Dichloroethene	**30**	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	**1200**	50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	< 0.50	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	**300**	50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	**0.96**	0.50	ug/L
Tetrachloroethene	**16000**	200	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
Dibromofluoromethane (Surr)	101		% Recovery
1,2-Dichloroethane-d4 (Surr)	97.7		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 15707

Date : 12/31/1999

Sample : **MW-4**

Project Name : **LSI-North**

Project Number : **149-02-03**

Date Analyzed : 12/30/1999

Matrix : Water Sample Date :12/22/1999 Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	**13**	0.50	ug/L
Bromomethane	< 0.50	0.50	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	1.4	0.50	ug/L
Methylene Chloride	< 0.50	0.50	ug/L
trans-1,2-Dichloroethene	2.4	0.50	ug/L
1,1-Dichloroethane	1.0	0.50	ug/L
cis-1,2-Dichloroethene	110	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	27	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	59	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
Tetrachloroethene	300	2.0	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
Dibromofluoromethane (Surr)	98.9		% Recovery
1,2-Dichloroethane-d4 (Surr)	97.7		% Recovery

1) MRL = Method reporting limit
tr = Trace detected below reporting limit

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Acculabs Inc.

Sparks/Reno 992 Spice Islands Drive, Sparks NV 89431 ■ 775-355-0202 ■ Fax 355-0817

Laboratory Report

Acculabs Inc.
1046 Olive Dr. #2
Davis, CA 95616
Attn: Troy Turpen

Phone: 530 757-0920 Fax: 753-6091

ELAP Lab ID: 2326
Received: 12/23/99
Lab Sample ID: 5-912-102
Reported: 12/29/99

Project Name/ Number: LSI-North / 149-02-03
Date Collected: 12/22/99
Sampled By: Client

Parameter	Method	Results	Units	Analyzed
20892-01 MW-1				
Alkalinity	2320B	240	mg/L as CaC03	12/28/99
Biochemical Oxygen Demand	405.1	<2.0	mg/L	12/23/99
20892-02 MW-2				
Alkalinity	2320B	210	mg/L as CaC03	12/28/99
Biochemical Oxygen Demand	405.1	<4.0	mg/L	12/23/99
20892-03 MW-3				
Alkalinity	2320B	270	mg/L as CaC03	12/28/99
Biochemical Oxygen Demand	405.1	<4.0	mg/L	12/23/99
20892-04 MW-4				
Alkalinity	2320B	470	mg/L as CaC03	12/28/99
Biochemical Oxygen Demand	405.1	<4.0	mg/L	12/23/99

Michelle Kramer

Michelle Kramer, Lab Manager

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: 1-912-418-01

Accutabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119001A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-1

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	50	50	1	mg/L	01/19/00	JP

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: 1-912-418-02

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119001A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-2

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	50	71	1	mg/L	01/19/00	JP

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: 1-912-418

January 19, 2000

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Project Name: LSI-North/149-02-03
Project Number: 20892
Date Received: 12/23/99

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, 19th Edition, 40 CFR Part 136 and Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition.

Samples were received by Precision Analytical Laboratories, Inc. in good condition.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,

Robert V. Woods
Laboratory Director
ADHS License Number AZ0610

Enclosure

Precision Analytical Laboratories, Inc.

LAB CERTIFICATIONS

Precision Analytical Laboratories, Inc. 1725 West 17th Street Tempe, AZ 85281 Arizona: AZ0610 California: 2302 Nevada: AZ00946	Precision Analytical Laboratories, Inc. 4455 South Park Avenue, Suite 110 Tucson, AZ 85714 Arizona: AZ0609	Precision Analytical Laboratories, Inc. 2020 W. Lone Cactus Dr. Phoenix, AZ 85027 Arizona: AZ0611

DATA QUALIFIERS

B	Analyte was found in the associated method blank.
E	Exceeded calibration range at the dilution reported.
G	Surrogate recovery demonstrated matrix effect. Matrix interference was confirmed by reanalysis.
H	Surrogate recovery was outside acceptance criteria in the undiluted sample. Surrogate recovery was acceptable in the diluted analysis.
M	Reported value for this analyte demonstrated matrix effect.
N	There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
NC	Not calculated due to matrix interference.
SA	Reported value was calculated using the method of standard additions.
T	Analyte was detected in the Trip Blank.

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: **1-912-418-01**

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119001A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-1

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	50	50	1	mg/L	01/19/00	JP

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: **1-912-418-02**

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119001A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-2

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	50	71	1	mg/L	01/19/00	JP

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: **1-912-418-03**

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119002A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-3

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	10	<10	1	mg/L	01/19/00	JP

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Precision Analytical ID No.: **1-912-418-04**
Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: WC0119001A

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-4

Sample Date: 12/22/99
Sample Matrix: Water

Wet Chemistry

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DIL	UNITS	DATE ANALYZED	ANALYST
COD	410.4	50	50	1	mg/L	01/19/00	JP

Robert F. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: **1-912-418-01**

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: W122799-1

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-1

Sample Date: 12/22/99
Sample Matrix: Water
Units: mg/L

Metals

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DILUTION	DATE ANALYZED	ANALYST
Iron, Dissolved	200.7	0.050	<0.050	1	12/28/99	MK

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: 1-912-418-02

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: W122799-1

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-2

Sample Date: 12/22/99
Sample Matrix: Water
Units: mg/L

Metals

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DILUTION	DATE ANALYZED	ANALYST
Iron, Dissolved	200.7	0.050	<0.050	1	12/28/99	MK

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Precision Analytical ID No.: **1-912-418-03**

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: W122799-1

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-3

Sample Date: 12/22/99
Sample Matrix: Water
Units: mg/L

Metals

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DILUTION	DATE ANALYZED	ANALYST
Iron, Dissolved	200.7	0.050	<0.050	1	12/28/99	MK

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

Acculabs Inc.
1046 Olive Drive, Suite 2
Davis, CA 95616
Attention: Troy Turpen

Precision Analytical ID No.: 1-912-418-04
Date Received: 12/23/99
Date Reported: 01/19/00
QC Batches: W122799-1

PROJECT NAME: LSI-North/149-02-03
PROJECT NUMBER: 20892
SAMPLE I.D.: MW-4

Sample Date: 12/22/99
Sample Matrix: Water
Units: mg/L

Metals

RESULTS

PARAMETER	METHOD	REPORT LIMIT	RESULT	DILUTION	DATE ANALYZED	ANALYST
Iron, Dissolved	200.7	0.050	<0.050	1	12/28/99	MK

Robert V. Woods, Laboratory Director

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

Precision Analytical Laboratories, Inc.

QC Batch:	W122799-1	Date Digested:	12/27/99
Spiked Spl # :	1-912-418-1	Units:	mg/L

METALS QUALITY CONTROL REPORT

			MATRIX SPIKES							LAB CONTROL SAMPLE			
PARAMETER	EPA METHOD	METHOD BLANK	SAMPLE RESULT	SPIKE ADDED	SPIKE RESULT	% REC	MSD RESULT	% REC	RPD	SPIKE ADDED	LCS RESULT	% REC	DATE ANALYZED
Iron	200.7	< 0.050	< 0.050	1.0	0.999	100	0.980	98	2	1.0	0.965	97	12/28/99

Lee Hecht, Metals Manager

Precision Analytical Laboratories,Inc.

WET CHEM ANALYSES
QUALITY CONTROL REPORT

MATRIX: WATER/AQUEOUS

QC BATCH: WC0119002A

	Method No.	Method Blank	Units	Sample Result	Dup.	RPD	Spike Added	Spike Result	% Rec	Sample No. Dup'd/Spk'd	Lab Control Sample		
											Added	Result	% Rec
COD	410.4	<10	mg/L	<10	<10	NA	50	48.2	96	1-912-418-3	100	101	101

Lee Hecht, Inorganics Manager

WET CHEM ANALYSES
QUALITY CONTROL REPORT

MATRIX: WATER/AQUEOUS

QC BATCH: WC0119001A

	Method No.	Method Blank	Units	Sample Result	Dup.	RPD	Spike Added	Spike Result	% Rec	Sample No. Dup'd/Spk'd	Lab Control Sample		
											Added	Result	% Rec
COD	410.4	<50	mg/L	541	546	1	100	573	NC	2-001-082-1	500	500	100

Lee Hecht, Inorganics Manager

Acculabs - Davis/Sacramento

1-9127-4118

Subcontracted Tests Form

Laboratory Name PAL- Tempe

Project Name : LSI-North
Project Number : 149-02-03
Project Manager: Troy Turpen

Mail Results and Invoices To 1046 Olive Drive, Suite 2, Davis, CA 95616
Fax Results To 530-753-6091
Call 530-757-0920 with questions
Use this number as a Purchase Order No.: **20892**

Number	Name	Mx.	Date Sampled	Tests
20892-01	MW-1	WA	12/22/99	[redacted],COD, Dissolved Fe, [redacted]
	Location:			No. of Containers: 2
20892-02	MW-2	WA	12/22/99	[redacted],COD, Dissolved Fe, [redacted]
	Location:			No. of Containers: 2
20892-03	MW-3	WA	12/22/99	[redacted],COD, Dissolved Fe, [redacted]
	Location:			No. of Containers: 2
20892-04	MW-4	WA	12/22/99	[redacted],COD, Dissolved Fe, [redacted]
	Location:			No. of Containers: 2

Remarks:

Relinquished by:	Received by:	Date	Time
Troy D. Turpen	via Fed Ex	12-22-99	1830
FedEx	Rhonda Arm	12/23/99	0907

Due Date/Time : 12-30-99 / 1700

Subcontract Lab Reference # : _____

Fax this form to 530-753-6091 when reference number has been assigned to samples and written in space above.

Please fax results prior to mailing.

AIR TOXICS LTD.

SAMPLE NAME : MW-1

ID#: 9912419-01A

Modified Method RSK-175 GC/FID

File Name:	**7122906**	**Date of Collection:**	**12/22/99**
Dil. Factor:	**1.00**	**Date of Analysis:**	**12/29/99**

Compound	Det. Limit (uG/mL)	Amount (uG/mL)
Methane	0.010	Not Detected
Ethane	0.010	Not Detected
Ethene	0.010	Not Detected

Container Type: VOA Vial

AIR TOXICS LTD.

SAMPLE NAME : MW-2

ID#: 9912419-02A

Modified Method RSK-175 GC/FID

File Name:	7122907	Date of Collection:	12/22/99
Dil. Factor:	1.00	Date of Analysis:	12/29/99

Compound	Det. Limit (uG/mL)	Amount (uG/mL)
Methane	0.010	0.014
Ethane	0.010	Not Detected
Ethene	0.010	Not Detected

Container Type: VOA Vial

AIR TOXICS LTD.

SAMPLE NAME : MW-3

ID#: 9912419-03A

Modified Method RSK-175 GC/FID

File Name:	7122908	**Date of Collection:**	12/22/99
Dil. Factor:	1.00	**Date of Analysis:**	12/29/99

Compound	Det. Limit (uG/mL)	Amount (uG/mL)
Methane	0.010	0.010
Ethane	0.010	Not Detected
Ethene	0.010	Not Detected

Container Type: VOA Vial

AIR TOXICS LTD.

SAMPLE NAME : MW-4

ID#: 9912419-04A

Modified Method RSK-175 GC/FID

File Name:	7122909	**Date of Collection:**	12/22/99
Dil. Factor:	1.00	**Date of Analysis:**	12/29/99

Compound	Det. Limit (uG/mL)	Amount (uG/mL)
Methane	0.010	0.13
Ethane	0.010	Not Detected
Ethene	0.010	Not Detected

Container Type: VOA Vial

AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9912419-05A

Modified Method RSK-175 GC/FID

File Name:	7122904	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 12/29/99	

Compound	Det. Limit (uG/mL)	Amount (uG/mL)
Methane	0.010	Not Detected
Ethane	0.010	Not Detected
Ethene	0.010	Not Detected

Container Type: NA

Acculabs Inc.

[ ] 3902 E. University Dr. Phoenix AZ 85034 602-437-0979 Fax 437-0826
[ ] 710 E. Evans Blvd. Tucson AZ 85713 520-884-5811 Fax 884-5812
[ ] 2020 W. Lone Cactus Dr. Phoenix AZ 85027 602-780-4800 Fax 780-7695
[ ] 4663 Table Mountain Dr. Golden CO 80403 303-277-9514 Fax 277-9512
[ ] 992 Spice Islands Dr. Sparks NV 89431 702-355-0202 Fax 355-0817
[ ] 1046 Olive Drive #2 Davis CA 95616 530-757-0920 Fax 753-6091

Lab Number: 20892

Report Due Date:

Client	Gribi Associates			PUBLIC WATER SUPPLY INFORMATION	
Address	1350 Hayes Street, Ste C-14			System Name	
City, State & Zip	Benicia, CA 94510			PWS No.	Report to State/EPA Y N
Contact	Jim Gribi			POE No.	DWR No.
Phone	707/748-7743	Project Name	LSI-North	Collection Point	
Fax	707/748-7763	Project Number	149-02-03	Collector's Name	
P.O. Number		Fax Results (Y) N	Page 1 of 3	Location (City)	

SAMPLE TYPE CODES

DW = drinking water; WW = waste water; MW = monitoring well; HW = hazardous waste; TB = travel blank; SD = solid; SO = soil; SL = sludge

Compliance Monitoring Y N

TURNAROUND TIME REQUESTED

(Standard) RUSH Special

Lab Director Approval

CLIENT'S SAMPLE ID/LOCATION	Date	Time	Sample Type	Containers	USEPA 8260 HVOCs	ALKALINITY	DISSOLVED IRON	BOD	COD	METHANE, ETHANE, ETHENE							Spl. No.
														HOLD			
MW-1	12/22/99	14:40	w	7	X	X	X	X	X	X							01
MW-2	12/22/99	11:55	w	7	X	X	X	X	X	X							02
MW-3	12/22/99	13:30	w	7	X	X	X	X	X	X							03
MW-4	12/22/99	11:30	w	7	X	X	X	X	X	X							04

SAMPLE RECEIPT			Date	Time	Samples Relinquished By	Samples Received By
Received Cold	Y	N	12/22/99	1545		
Custody Seals	Y	N				
Seals Intact	Y	N				
No. of Containers						

Acculabs' terms are: Net 40 (Payment must be received by the date shown on the invoice or any discount is void)

c:\excel\forms\chain.xls