April 13, 2000

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

Attention:

Stephen Hill

Subject:

Report of Quarterly Ground Water Monitoring

Conducted on March, 21, 2000

Liquid Sugars Inc. Site

1266 66th Street, Emeryville, California

GA Project No.: 149-02-03

Ladies and Gentlemen:

Gribi Associates is pleased to submit this groundwater monitoring report on behalf of Liquid Sugars, Inc. for the subject site in Emeryville, California (see Figure 1 and Figure 2). This letter report documents the recent monitoring of four groundwater monitoring wells at the site.

DESCRIPTION OF SAMPLING ACTIVITIES

On March, 21, 2000, Mr. Stanton Stubbs conducted groundwater monitoring activities for four site wells (MW-1, MW-2, MW-3 and MW-4). Groundwater monitoring was conducted in accordance with California LUFT Field Manual guidelines as follows:

- After unlocking and opening the monitoring wells, water levels were measured to the nearest 0.01 foot with an electronic probe.
- The wells were purged of approximately three well volumes using a 12-volt purge pump. During purging, temperature, pH, conductivity, and turbidity of the well water were periodically monitored and recorded until they stabilized. All purged water was stored onsite in sealed 55-gallon metal drums. Groundwater sampling data sheets for each well are contained in Appendix A.
- After purging the required volume of water, groundwater was poured directly from the pump outlet or bailer into laboratory supplied containers. Each container was then tightly sealed with teflon-lined septa, making sure that no air bubbles were present in the containers. Each container was then labeled and placed in cold storage for transport to the analytical laboratory under formal chain-of-custody.

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RESULTS OF GROUNDWATER MONITORING

Hydrologic Conditions

Groundwater was measured in the four site wells at a depth of about six feet below surface grade, with a flow gradient of about 0.005 feet/feet to the south (see Figure 3). Purged groundwater from the four wells sampled exhibited no hydrocarbon odors or sheens.

Laboratory Analytical Results

One groundwater sample from each of the four wells was analyzed for the following parameters:

USEPA 8260 Halogenated Volatile Organic Compounds (HVOCs)

Groundwater analytical results are summarized in Table 1 and on Figure 3. The laboratory data report is contained in Appendix B.

Table 1 SUMMARY OF GROUNDWATER HVOC ANALYTICAL RESULTS Liquid Sugars North Parcel, 1266 66th Street Concentration (ppm)								
Sample ID	GW Elevation	vc	t-1,2-DCE	t-1,2-DCE	TCE	PCE	1,2-DCA	Other
MW-1	21.87 ft	<0.00050	<0.00050	0.0040	0.0032	0.720	0.230	0.00711
<30,18>	23.82 ft	< 0.00050	<0.00050	0.0012	0.0013	0.010	0.290	0.00785
MW-2	22.63 ft	0.0094	0.00078	0.064	0.029	0.530	<0.00050	0.00182
<29.48>	23.72 ft	< 0.0020	< 0.0020	0.0029	0.043	0.780	<0.0020	0.00426
MW-3	23.03 ft	0.014	0.030	1.2	0.300	16.0	< 0.00050	0.00846 ³
<29.04>	24.06 ft	<0.050	<0.050	1.1	0.270	24.0	_<0.050	
MW-4	21.65 ft	0.013	0.0024	0.110	0.059	0.300	0.027	0.00144
<30.00>	23.93 ft	0.0055	0.0014	0.054	0.037	0.150	0.016	0.00737

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

<0.00050 = 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.

5 = Sum of 0.0060 ppm of Chloroform and 0.0011 ppm of 1,2-Dichloropropane.

6 = 0.0018 ppm of 1,1-Dichloroethene.

7 = 0.0011 ppm of 1,1-Dichloroethene and 0.0062 ppm of 1,1-Dichloroethane.

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CONCLUSIONS

Laboratory analytical results from this sampling event are similar to previous monitoring result, continuing to show: (1) An elevated concentration of PCE in well MW-3, located near the east project site property line; (2) A low concentration of 1,2, -DCA in well MW-1; and (3) low levels of HVOCs in wells MW-2 and MW-4. Based on these results, we request that the San Francisco Bay Regional Water Quality Control Board grant regulatory closure for this site. We believe that the following site-specific conditions warrant regulatory closure of this site.

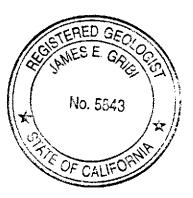
- This site is underlain by low-permeability clays and silts, with no beneficial groundwater uses in the area.
- The elevated concentrations of PCE encountered in MW-3 obviously originated from offsite, probably from the adjacent Union Pacific Railroad tracks.
- The low concentrations of 1, 2 DCA encountered in MW-1 appear to have originated from offsite, possibly from a former Bacon Vulcanizer Manufacturing machine shop an smelter located immediately north from the project site in the 1950's.
- The HVOCs encountered beneath the site represent relatively small historical releases that are not migrating significantly and do not pose a significant environmental or human health risk.

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

Very truly yours

James E. Gribi Registered Geologist California No. 5843

JEG:ct Enclosure



Stanton Stubbs
Environmental Scientist

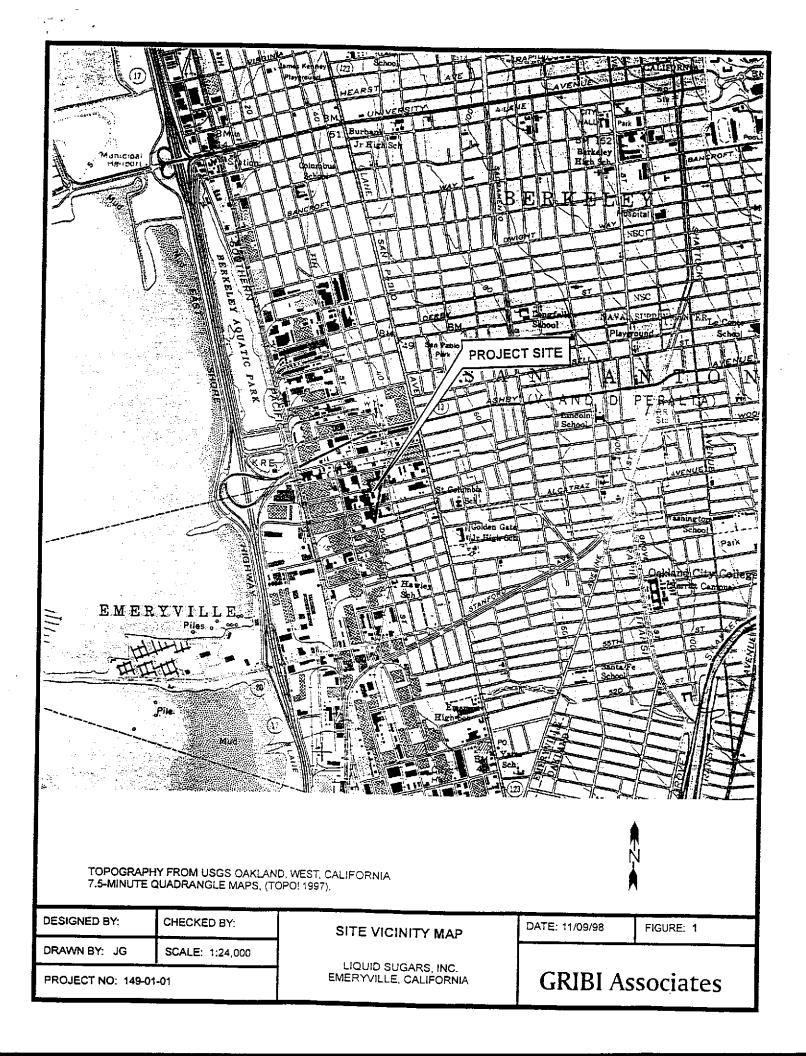
c Mr. Mike Alo, Liquid Sugars, Inc.

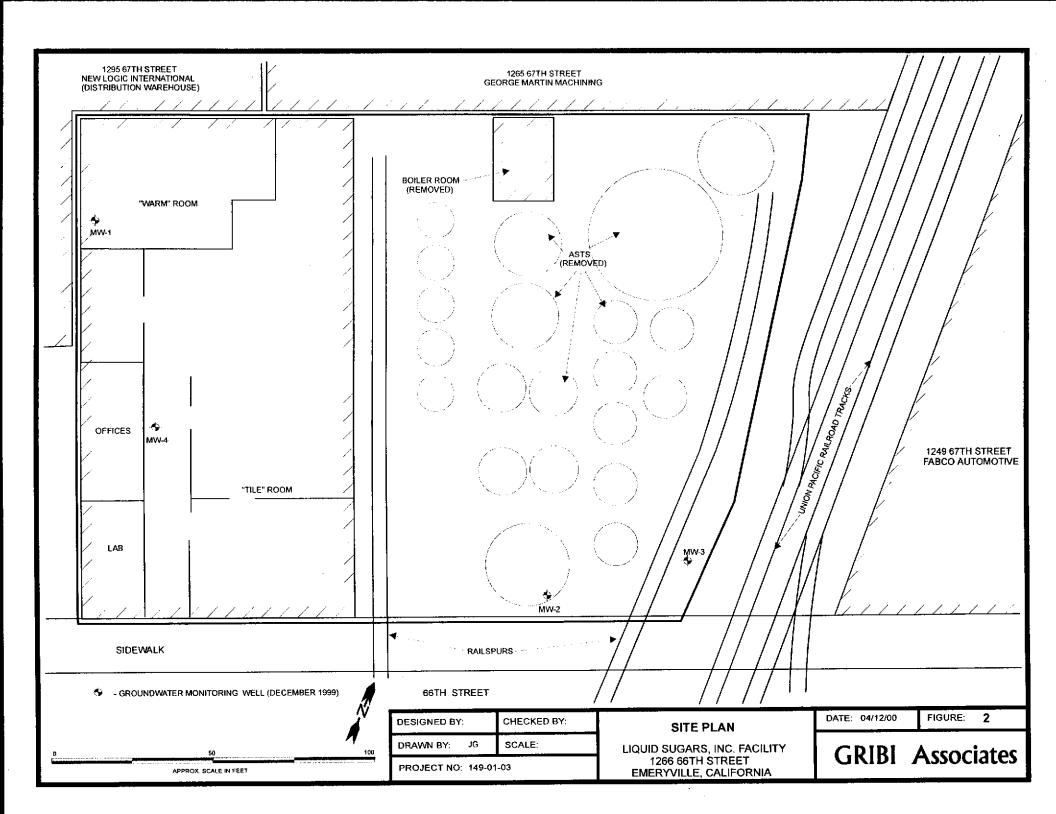
Mr. Rory Campbell, Hanson, Bridgett, Marcus, Vlahos & Rudy LLP

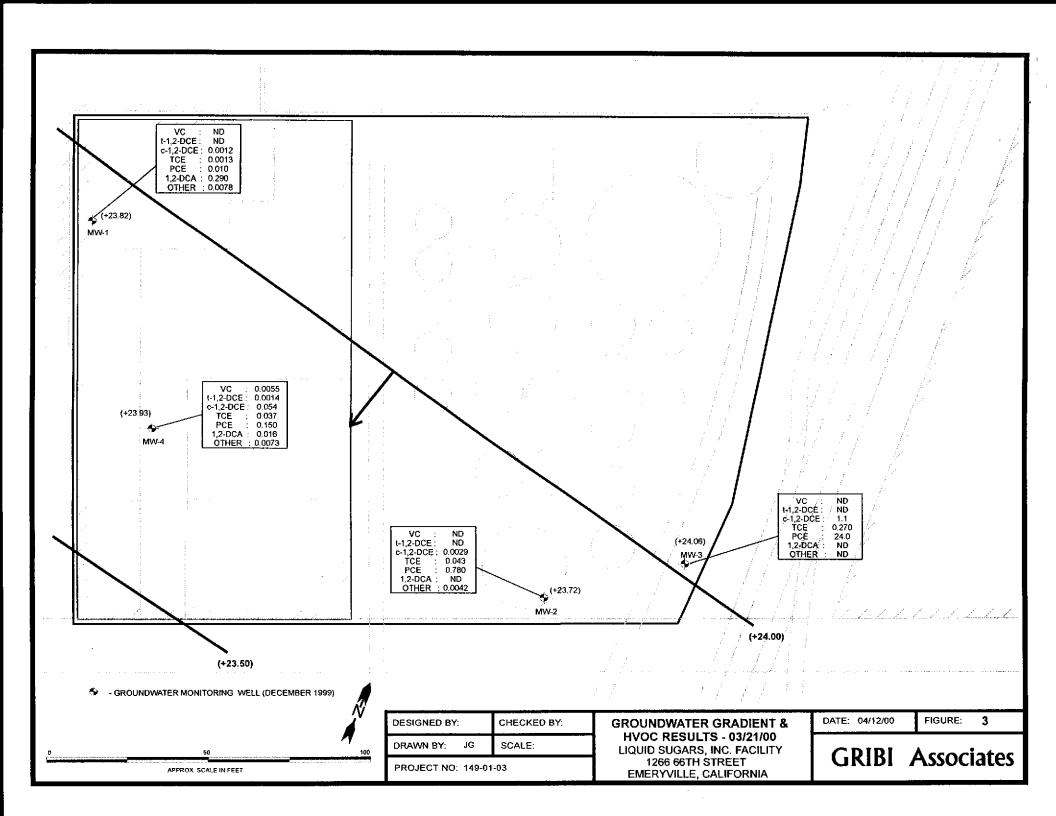
Mr. Ron Mooney

Mr. Ygnacio Dyart, City of Emeryville Redevelopment Agency

Filename: C:\My Documents\My Files\Quartly Monitoring\Completed\LSI-North\lsi-N-qmr2_4-00.wpd







APPENDIX A GROUNDWATER MONITORING FIELD DATA RECORDS

GROUNDWATER SAMPLING RECORD		GRIBI Associates
Well No. Warn Room	Well Loc.	
Project Name Mu-1	Project No.	
Date 3 21 Time	TOC Elevation	GW Elevation
Depth to Water 6.36	Well Depth	Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 =	 	tr Column X 0.653 X 3 =
Purge/Sample Method Pump	Lab Analyses	
Weather Conditions	Laboratory	

Time	Volume Purged	Temp.	Cond.	рН	Visual
845	0.	72.2	3.23	7.27	Muky Bun, MO HO (SH
	4	13.5	2.51	6.93	11
	8	73.9	2.15	5-94	11
0	17	74.4	2.19	5,70	11
					·
Remarks	5/۵۷	Recha	vae		
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					1.

GRIBI Associates

		LING RECOR	ID		GI	RIBI Associate
	16-2			Well Loc.		
Project Name				Project No.		
		ime		TOC Elevation	GW Eleva	tion
Depth to Wat	7, 9			Well Depth	Weii Diam	eter
		n X 0.163 X 3 =		Purge Water, 4"	: Wtr Column X 0.653	X3=
Purge/Sample Method				Lab Analyses		<u> </u>
Weather Con	ditions		·	Laboratory		
Time	Volume Purged	Temp.	Cond.	рН	Visu	ıai
(040	0	67.5	6.83	5.31.	MukiBrin	No HC OK
	9	67.3	0,83	5.17	11	, ,
<u> </u>	පි	06.9	0.8	5 5-24		/ 1
1055	12	67.3	06,0	5,16		, ,
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emarks	<u> </u>	101	(
	500 C	1 Recho	" at			

GROUNDWATER SAMPLING RECORD	•	GRIBI Associates
Well No. M W -3	Well Loc.	
Project Name	Project No.	·
Date Time	TOC Elevation	GW Elevation
Depth to Water 4.98	Well Depth	Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 =	Purge Water, 4": Wt	tr Column X 0.653 X 3 =
Purge/Sample Method	Lab Analyses	· · · · · · · · · · · · · · · · · · ·
Weather Conditions	Laboratory	

Time	Volume Purged	Temp.	Cond.	рН	Vi	sual
		69.3	0.94	4.98	MukyBrn	, No I+C OSI
	Ų.	66-4	0,90	4.98	11	11
	6	66.	0.90	4.96	11	1 1
	12	65,5	0,93	4.99	11	1/
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marks	<u></u>	<u> </u>				

GROUNDWATER SAMPLING RECORD		GRIBI Associates
Well No. MW-t	Well Loc.	
Project Name	Project No.	
Date Time	TOC Elevation	GW Elevation
Depth to Water 6,07	Well Depth	Well Diameter
Purge Water, 2": Wtr Column X 0.163 X 3 = 4	Purge Water, 4": Wt	r Column X 0.653 X 3 =
Purge/Sample Method	Lab Analyses	
Weather Conditions	Laboratory	

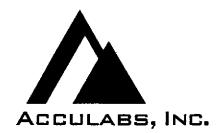
Time	Volume Purged	Temp.	Cond.	рН	\	/isuai
	0_	67.7	(166	5.46	Moly B.	w ,No 400
	3	67.5	1-67	5.43	1,	11
<u>.</u>	6	67.9	166	5.40	11	
	14	67,4	16	5.41	11	(1
						
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Glow Recharge 1-6 gals. 600 d'recharge

APPENDIX B

LABORATORY DATA REPORTS AND CHAIN-OF-CUSTODY RECORDS

Sample Log 21169 April 05, 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,

Tom Kwoka



Date: 04/04/2000

Sample: MW-1

Matrix: Water

Project Name: LSI-North

Project Number: 149-02-03

Sample Date :03/22/2000

Date Analyzed: 04/04/2000

Analysis Method: EPA 8260B

	Measur	ad 1	
Parameter	Value	ed 1 MRL	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-Dichioroethene	< 0.50	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	1.2	0.50	ug/L
Chloroform	6.4	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	290	5.0	ug/L
Carbon Tetrachioride	< 0.50	0.50	ug/L
Trichloroethene	1.3	0.50	ug/L
1,2-Dichloropropane	1.4	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	10	0.50	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)	106		% Recovery
1,2-Dichloroethane-d4 (Surr)	104		% Recovery

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

Approved By:

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

pel Kiff



Date: 04/04/2000

Sample: MW-2

Project Name : LSI-North

Project Number: 149-02-03

Matrix: Water

Sample Date :03/22/2000

Date Analyzed: 04/04/2000

Analysis Method: EPA 8260B

	Measured 1		
Parameter	Value	MRL	Units
Chloromethane	< 2.0	2.0	ug/L
Vinyl Chloride	< 2.0	2.0	ug/L
Bromomethane	< 2.0	2.0	ug/L
Chloroethane	< 2.0	2.0	ug/L
Trichlorofluoromethane	< 2.0	2.0	ug/L
1,1-Dichloroethene	4.2	2.0	ug/L
Methylene Chloride	< 2.0	2.0	ug/L
trans-1,2-Dichloroethene	< 2.0	2.0	ug/L
1,1-Dichloroethane	< 2.0	2.0	ug/L
cis-1,2-Dichloroethene	2.9	2.0	ug/L
Chloroform	< 2.0	2.0	ug/L
1,1,1-Trichioroethane	< 2.0	2.0	ug/L
1,2-Dichloroethane	< 2.0	2.0	ug/L
Carbon Tetrachloride	< 2.0	2.0	ug/L
Trichloroethene	43	2.0	ug/L
1,2-Dichloropropane	< 2.0	2.0	ug/L
Bromodichloromethane	< 2.0	2.0	ug/L
cis-1,3-Dichloropropene	< 2.0	2.0	ug/L
trans-1,3-Dichloropropene	< 2.0	2.0	ug/L
1,1,2-Trichloroethane	< 2.0	2.0	ug/L
Tetrachloroethene	780	2.0	ug/L
Dibromochloromethane	< 2.0	2.0	ug/L
Chlorobenzene	< 2.0	2.0	ug/L
Bromoform	< 2.0	2.0	ug/L
1,1,2,2-Tetrachloroethane	< 2.0	2.0	ug/L
1,3-Dichlorobenzene	< 2.0	2.0	ug/L
1,4-Dichlorobenzene	< 2.0	2.0	ug/L
1,2-Dichlorobenzene	< 2.0	2.0	ug/L
Dibromofluoromethane (Surr)	105		% Recovery
1,2-Dichtoroethane-d4 (Surr)	110		% Recovery

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

Approved By:

Joel Kiff



Date: 04/04/2000

Sample: MW-3

Matrix: Water

Project Name: LSI-North

Project Number: 149-02-03

Sample Date :03/22/2000

Date Analyzed: 04/04/2000

Analysis Method: EPA 8260B

Parameter	Measure Value	d 1 MRL	Units
Chloromethane	< 50	50	ug/L
Vinyl Chloride	< 50	50	ug/L
Bromomethane	< 50	50	ug/L
Chloroethane	< 50	50	ug/L
Trichlorofluoromethane	< 50	50	ug/L
1,1-Dichloroethene	< 50	50	ug/L
Methylene Chloride	< 50	50	ug/L
trans-1,2-Dichloroethene	< 50	50	ug/L
1,1-Dichloroethane	< 50	50	ug/L
cis-1,2-Dichloroethene	1100	50	ug/L
Chloroform	< 50	50	ug/L
1,1,1-Trichloroethane	< 50	50	ug/L
1,2-Dichloroethane	< 50	50	ug/L
Carbon Tetrachloride	< 50	50	ug/L
Trichloroethene	270	50	ug/L
1,2-Dichloropropane	< 50	50	ug/L
Bromodichloromethane	< 50	50	ug/L
cis-1,3-Dichloropropene	< 50	50	ug/L
trans-1,3-Dichloropropene	< 50	50	ug/L
1,1,2-Trichloroethane	< 50	50	ug/L
Tetrachloroethene	24000	200	ug/L
Dibromochloromethane	< 50	50	ug/L
Chiorobenzene	< 50	50	ug/L
Bromoform	< 50	50	ug/L
1,1,2,2-Tetrachloroethane	< 50	50	ug/L
1,3-Dichlorobenzene	< 50	50	ug/L
1,4-Dichlorobenzene	< 50	50	ug/L
1,2-Dichlorobenzene	< 50	50	ug/L
Dibromofluoromethane (Surr)	106		% Recovery
1,2-Dichloroethane-d4 (Surr)	107		% Recovery

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

Approved By: Joel

Joel Kiff

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



Date: 04/04/2000

Sample: MW-4

Project Name: LSI-North

Project Number: 149-02-03

Date Analyzed: 04/04/2000

Matrix: Water

Sample Date :03/22/2000

Analysis Method: EPA 8260B

	Measure	d 1	
Parameter	Value	MRL	Units
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	5.5	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	1.1	0.50	ug/L
Methylene Chloride	< 0.50	0.50	ug/L
trans-1,2-Dichloroethene	1.4	0.50	ug/L
1,1-Dichloroethane	0.62	0.50	ug/L
cis-1,2-Dichloroethene	54	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	16	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	37	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichioromethane	< 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	150	0.50	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)	106		% 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 530-297-4500

Acculabs Inc. Lab Number 21169 [] 3902 E. University Dr. Phoenix AZ 85034 602-437-0979 Fax 437-0826 [] 710 E. Evans Blvd. Tucson AZ 85713 Report 520-884-5811 Fax 884-5812 3-29-00 [] 2020 W. Lone Cactus Dr. Phoenix AZ 85027 602-780-4800 Fax 780-7695 Due Date:] 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 Client PUBLIC WATER SUPPLY INFORMATION Gribi Associates 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 149-02-03 Project Number Collector's Name P.O. Number Fax Results N Page of Location (City) **SAMPLE TYPE CODES Analyses** S DW = drinking water C TB = travel blank Compliance Requested æ 0 WW = waste water SD = solid Monitoring m n MW = monitoring well SO = soil p 4 Y HW = hazardous waste SL = sludge 2 TURNAROUND TIME REQUESTED e î n Standard Lab Director T e Approvai RUSH Y p 5 Special e CLIENT'S SAMPLE ID/LOCATION Date Time Spl. No. MW-1 01 3/22/00 W 3|XMW-2 02 3/22/00 W 3 X MW-3 3/22/00 W 3 | X03 MW-4 04 3/22/00 W 3 X SAMPLE RECEIPT Date Time Samples Relinquished By Samples Received By 3/22/00 600 Received Cold Y Ν **Custody Seals** Y Ν Seals Intact Υ 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)

November 23, 1999

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

Attention:

Stephen Hill

Subject:

Approval of Remediation/Risk Management Plan

Liquid Sugars, Inc., 1266 66th Street

Emeryville, California GA Project No. 149-02-01

Ladies and Gentlemen:

Pursuant to our telephone conference this morning with Mr. Stephen Hill of your office, it is our understanding that:

- The Regional Water Quality Control Board has granted verbal approval to proceed with the workplan to install four groundwater monitoring wells at the site, as proposed in the Remediation/Risk Management Plan (Gribi Associates, October 28, 1999).
- Relative to your concerns regarding possible past releases of vinegar and liquid sugars from project site ASTs, Gribi Associates will attempt to obtain available soil and groundwater pH data obtained by Geomatrix during previous investigations. (Note that we currently have a faxed copy of pH results from five soil samples and three grab groundwater samples; however, the fax copy quality is not sufficient to read these results.)
- Pursuant to your request, copies of all subsequent groundwater well installation and monitoring reports will be sent to the City of Emeryville to augment their groundwater database.

We also discussed project schedule, given the potential for redevelopment of the project site pending possible sale of the site by Liquid Sugars, Inc. You stated that given the likelihood that the groundwater monitoring may only be required for one to two years, it might be more advisable to implement the workplan now, rather than waiting until after possible site redevelopment.

We understand that the RWQCB is granting verbal approval to proceed at this time, and that written approval will not be possible until new staff is added in December 1999. Thus, in lieu of written approval, unless we hear from you within the next week, we will assume the aforementioned to be true. I will also attempt to telephone Mr. Hill within the next week to confirm receipt of this letter.

San Francisco Bay Regional Water Quality Control Board November 23, 1999 Page 2

We appreciate the opportunity to present this letter for your review. Please contact us if you have questions or require additional information. We look forward to working with you and your staff on this important project.

Very truly yours,

James E. Gribi

Registered Geologist California No. 5843

JEG:ct Enclosure

Mike Alo; Liquid Sugars, Inc.
 Rory Campbell; Hanson, Bridgett, Marcus, Vlahos & Rudy, LLP

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