aqua science engineers inc.

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April 22, 1999

QUARTERLY GROUNDWATER MONITORING REPORT
MARCH 29, 1999 GROUNDWATER SAMPLING
ASE JOB NO. 3389

at

Lerer Brothers Transmission
6340 Christie Ave.
Emeryville, CA 94608

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
208 W. El Pintado
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

Site Location (Site), See Figure 1
Lerer Brothers Transmission
6340 Christie Ave.
Emeryville, CA 94608

Responsible Party
Rick Gold
P.O. Box 117820
Burlingame, CA 94011-7820

Environmental Consulting Firm
Aqua Science Engineers, Inc. (ASE)
208 W. El Pintado
Danville, CA 94583
Contact: Robert Kitay, Senior Geologist
(925) 820-9391

Agency Review
Alameda County Health Care Services
1131 Harbor Bay Pkwy., Suite 250
Alameda, CA 94502
Contact: Ms. Susan Hugo
(510) 567-6700

California Regional Water Quality Control Board (RWQCB)
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Contact: Mr. Chuck Headlee
(510) 622-2433

The following is a report detailing the results of the March 29, 1999 quarterly groundwater sampling at the above-referenced site. This sampling was conducted as required by the RWQCB. ASE has prepared this report on behalf of Mr. Rick Gold, owner of the property.

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On March 29, 1999, ASE staff geologist Greg Schramm measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. A sheen was observed on the groundwater surface in monitoring well MW-3. Groundwater elevation data is presented as Table One.

TABLE ONE
Groundwater Elevation Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	1-28-99	10.00	4.85	5.15
	3-29-99		**4.85**	**5.15**
MW-2	1-28-99	9.96	4.17	5.79
	3-29-99		**3.89**	**6.07**
MW-3	1-28-99	9.25	4.23	5.02
	3-29-99		**4.41**	**4.84**

A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction is to the south with a gradient of approximately 0.002-feet/foot. This groundwater flow direction and gradient are generally consistent with previous findings, but is not consistent with the expected flow direction to the west.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, each monitoring well was purged of four well casing volumes of groundwater using a dedicated bailer. Petroleum hydrocarbon odors were not present during the purging and sampling of the groundwater monitoring wells. The parameters pH, temperature and conductivity were monitored during the well purging. Samples were not collected until these parameters stabilized. Groundwater samples were collected from each well using dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid. The samples were capped without headspace, labeled and placed in coolers with wet ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A.

The well purge water was placed in 55-gallon steel drums, labeled, and left on-site for temporary storage. These drums were removed from the site by Ecologix Environmental Services of Chico, California on April 21, 1999 for disposal at McKittrick Waste Treatment of McKittrick, California.

The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M, benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) by EPA Method 8020 and methyl tertiary butyl ether (MTBE) by EPA Method 8020. The analytical results for this sampling period are presented in Table Two. The certified analytical report and chain-of-custody documentation are included as Appendix B.

TABLE TWO
Certified Analytical Results of **GROUNDWATER** Samples
All results are in **parts per billion**

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Lead
MW-1							
1-28-99	730	22	3.3	24	61	<5.0	<5.0
3-29-99	**950**	**37**	**5.7**	**27**	**60**	**< 5.0**	**- -**
MW-2							
1-28-99	710	20	180	14	67	<5.0	<5.0
3-29-99	**500**	**8.6**	**44**	**4.3**	**25**	**< 5.0**	**- -**
MW-3							
1-28-99	<50*	<0.5	<0.5	<0.5	0.69	<5.0	<5.0
3-29-99	**130**	**1.9**	**8.2**	**1.4**	**7.1**	**< 5.0**	**- -**
DTSC MCLs	NE	1	150	700	1,750	35¥	15
EPA METHOD	5030/ 8015M	8020	8020	8020	8020	8020	6010

Notes:
* = Hydrocarbons uncharacteristic of gasoline detected in the gasoline range at 68 ppb.
-- = Not analyzed
¥ = DTSC interim action level; MCL not established
NE = DTSC MCLs and RALs not established
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant level for drinking water.
Non-detectable concentrations noted by the less than sign (<) followed by the laboratory detection limit.

4.0 CONCLUSIONS

Hydrocabon concentrations detected in groundwater samples collected from monitoring wells MW-1 and MW-3 are slightly higher than last quarter. Conversely, hydrocabon concentrations detected in groundwater samples collected from monitoring well MW-2 are lower than the previous quarter. Benzene concentrations in groundwater samples collected from all three monitoring wells exceeded the California Departement of Toxic Substances Control (DTSC) maximum contamination level (MCL) for drinking water. MTBE was not detected in any groundwater sample collected this quarter.

5.0 RECOMMENDATIONS

ASE recommends continued monitoring of the site on a quarterly basis. The next scheduled event is July 1999.

6.0 REPORT LIMITATIONS

The results of this report represent the conditions at the time of the groundwater sampling, at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks and associated plumbing at the site, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to provide environmental consulting services to Lerer Brother Transmission Service, and trust that this report meets your needs. Please feel free to call us at (925) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

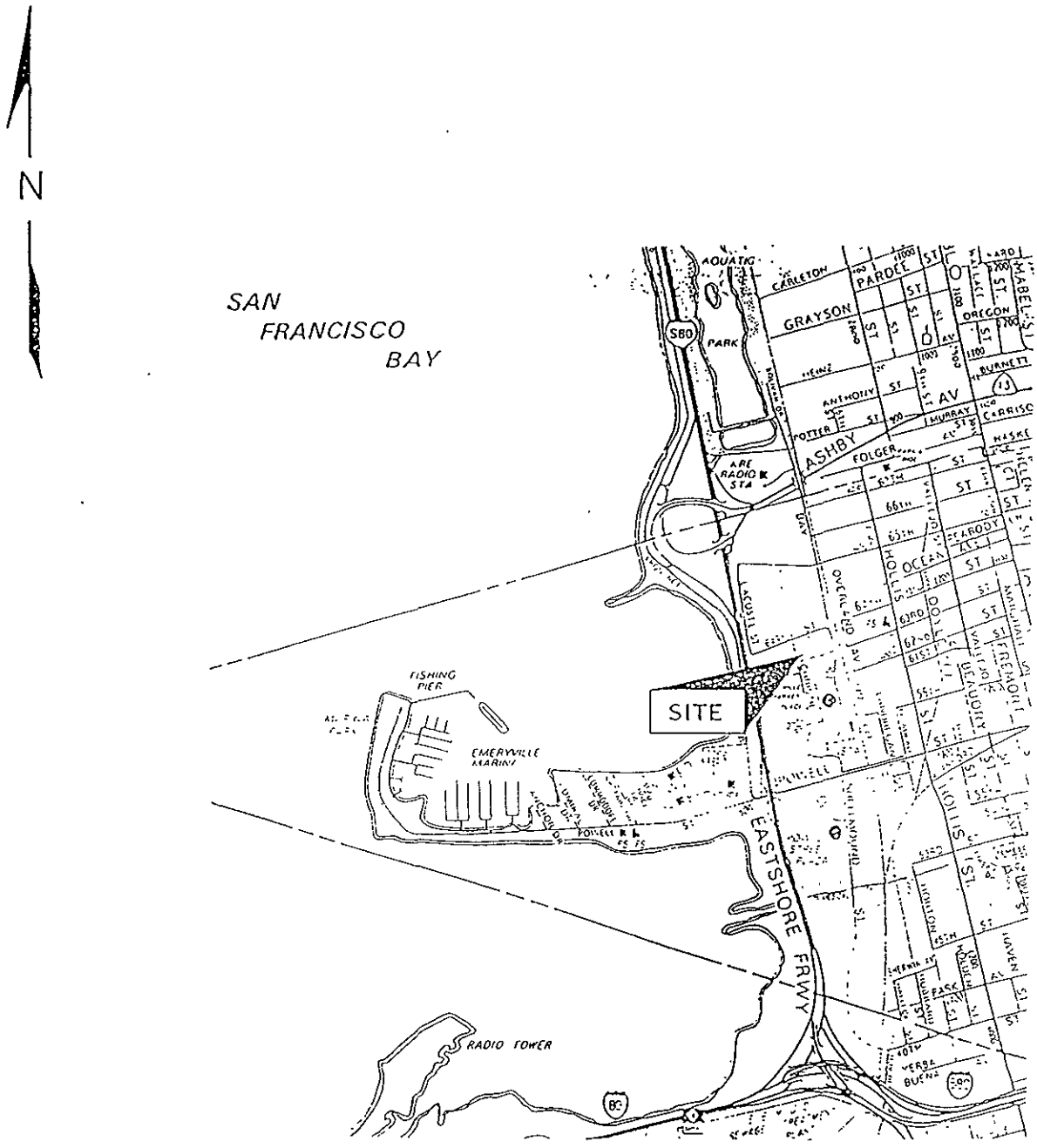
Greg Schramm
Staff Geologist

Robert E. Kitay, R.G., R.E.A.
Senior Geologist

Attachments: Figures 1 and 2
Appendices A and B

cc: Ms. Susan Hugo, Alameda County Health Care Services Agency
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region

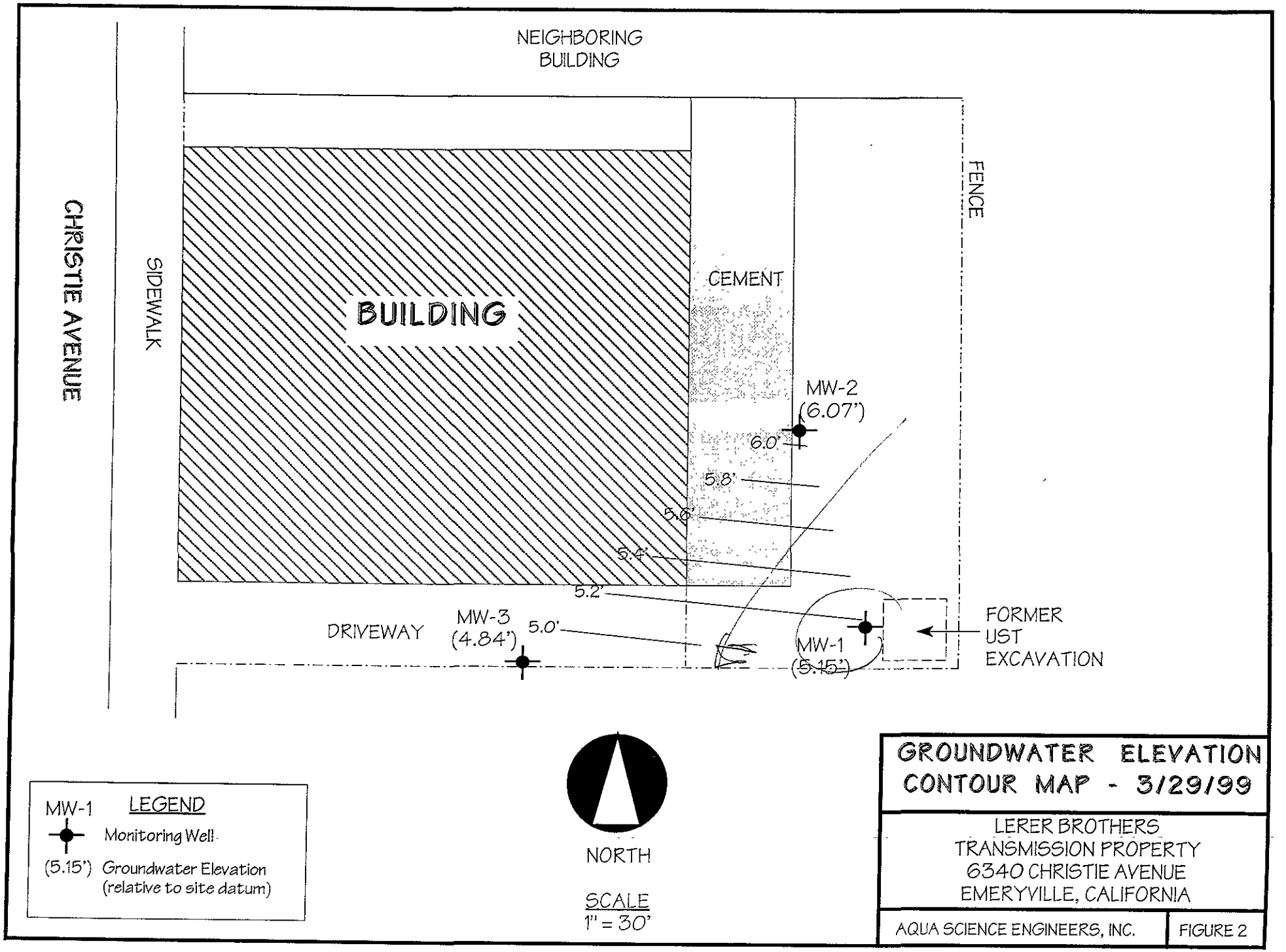
FIGURES



SITE LOCATION MAP

6340 Christie Avenue
Emeryville, California

Aqua Science Engineers | Figure 1


NEIGHBORING BUILDING
CHRISTIE AVENUE
SIDEWALK
BUILDING
CEMENT
FENCE
MW-2 (6.07')
6.0'
5.8'
5.6'
5.4'
5.2'
MW-3 (4.84')
5.0'
DRIVEWAY
MW-1 (5.15')
FORMER UST EXCAVATION
MW-1 LEGEND
Monitoring Well
(5.15') Groundwater Elevation (relative to site datum)
NORTH
SCALE 1" = 30'
GROUNDWATER ELEVATION CONTOUR MAP - 3/29/99
LERER BROTHERS TRANSMISSION PROPERTY
6340 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA
AQUA SCIENCE ENGINEERS, INC.
FIGURE 2

APPENDIX A

Well Sampling Field Logs

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WELL SAMPLING FIELD LOG

Project Name and Address: Lerer Bros., 6340 Christie Ave
Job #: 3389 Date of sampling: 3/30
Well Name: MW-1 Sampled by: GS
Total depth of well (feet): ~~18.42~~ 17.69 Well diameter (inches): 2
Depth to water before sampling (feet): ~~3.89~~ 4.85
Thickness of floating product if any: —
Depth of well casing in water (feet): 12.84
Number of gallons per well casing volume (gallons): 2.05
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 8.2
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 13:55 Time Evacuation Finished: 14:20
Approximate volume of groundwater purged: 8.5
Did the well go dry?: No After how many gallons. —
Time samples were collected: 14:25
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: dedicated bailer
Sample color: clear Odor: None
Description of sediment in sample: grey

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	69	6.87	3690
2	63.7	6.84	4170
3	62.1	6.73	4160
4	62.0	6.53	4000

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40 ml VOA	HCl	✓	8020/8015

4 soil
5 water

208 W. El Pintado Road, Danville, California 94526 • 925-820-9391 • Fax 925-837-4853

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WELL SAMPLING FIELD LOG

Project Name and Address: Lerer Bros., 6340 Christie Ave
Job #: 3389 Date of sampling: 3/30
Well Name: MW-2 Sampled by: GS
Total depth of well (feet): 18.42 Well diameter (inches): 2
Depth to water before sampling (feet): 3.89
Thickness of floating product if any: —
Depth of well casing in water (feet): 14.53
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 9.3
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 14:30 Time Evacuation Finished: 14:53
Approximate volume of groundwater purged: 10
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 14:55
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: dedicated bailer
Sample color: clear Odor: none
Description of sediment in sample: grey

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	59.0	6.47	3450
2	59.8	6.52	3340
3	59.7	6.23	3350
4	59.9		3360
5			

SAMPLES COLLECTED

Sample	# of containers	Volume & type collected	Pres	Iced?	Analysis
MW-2	3	40 ml VOA	HCl	✓	8020/8015

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WELL SAMPLING FIELD LOG

Project Name and Address: Lerer Bros., 6340 Christie Ave
Job #: 3389 Date of sampling: 3/30
Well Name: MW-3 Sampled by: GS
Total depth of well (feet): 14.88 Well diameter (inches): 2
Depth to water before sampling (feet): @ 4.41
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.39
Number of gallons per well casing volume (gallons): 1.67
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6.6
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 15:05 Time Evacuation Finished: 15:25
Approximate volume of groundwater purged: 7
Did the well go dry?: no After how many gallons: —
Time samples were collected: 15:30
Depth to water at time of sampling —
Percent recovery at time of sampling —
Samples collected with: dedicated bailer
Sample color: Clear (sheen) Odor: none
Description of sediment in sample: grey

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	57.9	6.13	1555
2	57.5	6.12	1645
3	57.1	6.15	1670
4	56.6	6.20	1655

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Preservative	Iced?	Analysis
MW-3	3	40 ml VOA	HCl	✓	8020/8015

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

CHROMALAB, INC.

Environmental Services (SDB)

April 7, 1999 *Submission #:* 9903453

AQUA SCIENCE ENGINEERS, INC

Atten: Gerald Sasse

Project: LERER BROS *Project#:* 3389
Received: March 31, 1999

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-1**
Spl#: 234843 *Matrix:* WATER
Sampled: March 30, 1999 *Run#:*18172 *Analyzed:* April 2, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	950	50	N.D.	93	1
MTBE	N.D.	5.0	N.D.	66	1
BENZENE	37	0.50	N.D.	80	1
TOLUENE	5.7	0.50	N.D.	78	1
ETHYL BENZENE	27	0.50	N.D.	81	1
XYLENES	60	0.50	N.D.	81	1

Craig Huntzinger
Analyst

Michael Verona
Laboratory Operations Manager

925-837-4853

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

PM V132 O:BTEXQC02
CRAIG 14

CHROMALAB, INC.

Environmental Services (SDB)

April 7, 1999 *Submission #:* 9903453

AQUA SCIENCE ENGINEERS, INC

Atten: Gerald Sasse

Project: LERER BROS *Project#:* 3389
Received: March 31, 1999

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-2**
Spl#: 234844 *Matrix:* WATER
Sampled: March 30, 1999 *Run#:* 18172 *Analyzed:* April 2, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	500	50	N.D.	93	1
MTBE	N.D.	5.0	N.D.	66	1
BENZENE	8.6	0.50	N.D.	80	1
TOLUENE	44	0.50	N.D.	78	1
ETHYL BENZENE	4.3	0.50	N.D.	81	1
XYLENES	25	0.50	N.D.	81	1

Craig Huntzinger
Analyst

Michael Verona
Laboratory Operations Manager

925-837-4853

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(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

PM V132 O:BTEXQC02
CRAIG 14 (

CHROMALAB, INC.

Environmental Services (SDB)

April 7, 1999

Submission #: 9903453

AQUA SCIENCE ENGINEERS, INC

Atten: Gerald Sasse

Project: LERER BROS
Received: March 31, 1999

Project#: 3389

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-3**
Spl#: 234845
Sampled: March 30, 1999

Matrix: WATER
Run#: 18200

Analyzed: April 2, 1999

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	130	50	N.D.	101	1
MTBE	N.D.	5.0	N.D.	111	1
BENZENE	1.9	0.50	N.D.	106	1
TOLUENE	8.2	0.50	N.D.	105	1
ETHYL BENZENE	1.4	0.50	N.D.	102	1
XYLENES	7.1	0.50	N.D.	99	1

Craig Huntzinger
Analyst

Michael Verona
Laboratory Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

45286

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

PAGE 1 OF 1

SAMPLER (SIGNATURE) (PHONE NO.) 820-9391

PROJECT NAME Lerer Bros JOB NO. 3389

ADDRESS 6340 Christie Ave DATE 3/30

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-GASOLINE (EPA 5030/8015)	TPH-DIESEL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	PURGEABLE AROMATICS (EPA 602/8020)	VOLATILE ORGANICS (EPA 624/8240)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520) ____	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140)	ORGANOCHLORINE HERBICIDES (EPA 8150)	FUEL OXYGENATES (EPA 8260)					COMPOSITE
MW-1	3/30	14:25	water	3	X																		
MW-2	↓	14:55	↓	↓	↓																		
MW-3	↓	15:30	↓	↓	↓																		

SUBM #: 3389403 REF: PM
CLIENT: ASE
DUE: 04/07/99
REF #:45286

2.8 ea
9 VOAs

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) 10:00 (time)	(signature) 1000 (time)	(signature) 1701 (time)	(signature) 1701 (time)	5 day T.A.T.
Greg Schramm 3/31 (printed name) (date)	B Morrow 3-31-99 (printed name) (date)	B Morrow 3-31-99 (printed name) (date)	A Paredes 3/31/99 (printed name) (date)	
Company- ASE	Company- Cronalb	Company- Cronalb	Company- Cronalb	