aqua resources inc.

2030 Addison Street, Suite 500 • Berkeley, California 94704 • 415 540-6954

November 5, 1990

FILE

Alameda County Health Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

87157.7
file: report

Attention: Mr. Lowell Miller

Subject: Appeal to Discontinue Second Year of Groundwater Monitoring
Mill Springs Park Apartments
(Formerly Livermore Superblock)
1809 Railroad Avenue, Livermore, California

Dear Mr. Miller:

As we discussed by telephone, Aqua Resources Inc. (ARI) understands that the Alameda County Health Agency will require a second year of groundwater monitoring at the subject site due to a change in Regional Water Quality Control Board guidance. This letter is an appeal of that determination. The basis of this appeal is as follows.

- The Closure Plan previously approved by the Alameda County Health Agency requires only one year of groundwater monitoring at the site. This monitoring program has been completed.

- The final report on the groundwater monitoring program concluded that no further groundwater monitoring is needed.

- Petroleum hydrocarbons, toluene, xylene, and ethyl benzene have not been detected in any of the five quarterly groundwater sampling events.

- Benzene was not detected above the method detection limit in the initial (May, 1989) nor in the final (May, 1990) groundwater sampling interval. In addition, the presence of benzene was not confirmed by subsequent resampling and analysis during the August 1989 groundwater sampling intervals.

- Benzene was not detected in soil samples analyzed during remediation activities.

Background information on this site, and further information regarding soil and groundwater chemical analyses, is presented below.

Background

The site is located on Railroad Avenue, between South L and South P Streets, in Livermore, California. The site was known formerly as the Livermore Superblock, and is shown in relation to the City of Livermore on the Vicinity Map, Figure 1.

A groundwater monitoring program was conducted at the subject site from May 1989 to May 1990. Groundwater monitoring was performed on a quarterly basis during this one year period. This monitoring program was performed as part of the approved final closure plan for the subject site. Aqua Resources Inc. (ARI) provided environmental consultation and engineering services during the previous Phase I, Phase II, and Final Site Remediation and Closure for the Mill Springs Park Apartment Site.

The purpose of the monitoring program was to determine whether leakage of fuel oil from the previously removed concrete vault structure had migrated to groundwater underlying the site. Location of the monitoring well was determined based on the results of a March 14, 1989 Groundwater Study Report, and approved by the Alameda County Health Agency. The location of the monitoring well is shown in relation to the approved development plan on the Site Plan, Figure 2.

Copies of the monitoring well log and the Alameda County Flood Control and Water Conservation District Well Permit Form were presented in the Monitoring Well Installation report dated June 1, 1989. Chain of Custody Forms and the Certified Chemical Analysis reports for the year long monitoring program are presented as attachments to this report.

The groundwater elevations observed at the time of each sampling interval are shown in Figure 3. No relationship between groundwater elevation and the intermittent detection of benzene has been observed.

Summary of Chemical Analyses and Discussion of Results

Groundwater samples obtained at each quarterly sampling interval for chemical analysis were submitted to a State certified laboratory utilizing chain of custody protocols. Chemical analyses were performed by Curtis and Tompkins, Ltd., Analytical Laboratories in Berkeley. For quality assurance purposes, a split sample taken during the third sample interval was

also submitted to Brown & Caldwell in Emeryville, California. Travel blanks were also taken and analyzed where considered appropriate.

Chemical analyses included determination of Total Petroleum Hydrocarbons (TPH) by EPA Method 8015, and Benzene, Toluene, Xylene, Ethyl Benzene (BTXE) by EPA Method 8020. Results of the chemical analyses are presented on the attached certified laboratory reports. No analytes were detected above the method detection levels (1 part per million, 1 ppm) for the TPH analyses (EPA Method 8015). Benzene was the only EPA Method 8020 analyte detected above the method detection limit (.5 to 1.0 ppb); the other analytes (Toluene, Xylene and Ethyl Benzene) were not detected.

Benzene was not detected at every sample interval, and its detected concentration was determined to range from less than .5 ppb (method detection limit) to a measured maximum of 5 ppb. The Benzene concentration over time is shown in Figure 4. Benzene was not detected in the baseline sample interval nor in the fourth quarter sample interval. Although benzene was detected in the first sample interval, this result was not be confirmed during subsequent resampling. Benzene was detected in the second and third quarter sample intervals at levels below the EPA MCL.

suggests need for further sampling to resolve issue of reliability

Conclusions and Recommendations

Based on the analyses of groundwater samples collected during the monitoring period from the monitoring well, no petroleum hydrocarbon contamination was detected in the groundwater samples that could be associated with the concrete vault structure that was removed. Review of the chemical test results indicates that all the TPH analytes were below the method detection limits. Benzene was detected above the method detection level (.5 ppb), but not on a consistent, repeatable basis. In addition, the measured Benzene concentration did not exceed the Maximum Contaminant Level (MCL) established by the EPA.

Based on the measured petroleum hydrocarbon concentrations and field observation that no free petroleum product was observed in the groundwater samples collected as part of the groundwater monitoring program, ARI concludes that continued monitoring is not beneficial. Therefore, ARI recommends that the monitoring well be abandoned and sealed in conformance with Alameda County Flood Control and Water Conservation District, Zone 7, requirements.

As discussed above, ARI sees no reason why continued groundwater monitoring would be beneficial at this site. If this appeal is denied, we request that the specific reasons for the denial be given in writing. We would be happy to meet with you to further discuss this request.

Limitations

Consistent with our discussions with the Client and the lead regulatory agency, namely the Alameda County Health Agency, our groundwater monitoring program included the installation and development of one groundwater monitoring well and quarterly groundwater sample collection. Chemical analyses were performed by others, not under ARI direct supervision. Test results are reported as received. Final determination of additional site remediation, if required, will be determined by the Alameda County Public Health Agency. We cannot guarantee or warrant that soil or groundwater at this site are not contaminated above allowable limits for a given contaminant. This report is limited in its scope to the analyses and review of samples obtained from the one monitoring well as required by the regulatory agency. All services were performed in substantial conformance with current standards of environmental engineering practice. No other warranty, express or implied, is made.

1. variation sequence at least 3 samples - to check have at least three

Very truly yours,
AQUA RESOURCES INC.

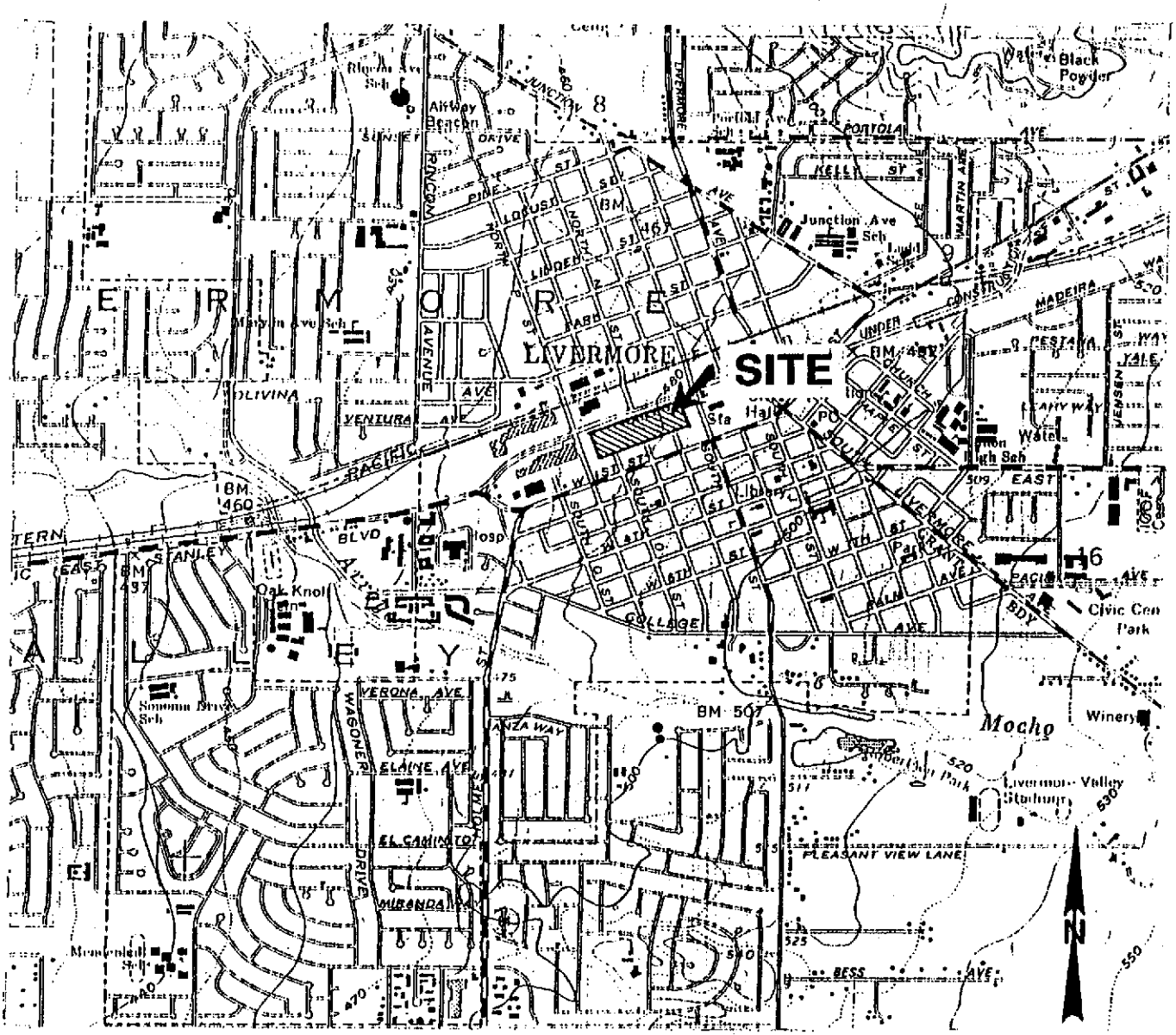
Mark Milani

Mark Milani, P.E.
Project Manager

87157.7/disk 1/waiver.ltr

Attachments:
Certified Laboratory Reports
Chain of Custody Forms
Figure 1 - Vicinity Map
Figure 2 - Monitoring Well Location Plan
Figure 3 - Groundwater Elevation Over Time
Figure 4 - Benzene Concentration Over Time

cc: Addressee (2)
Mr. Ed Saub, Wingfield Companies



VICINITY MAP

MILL SPRINGS PARK APARTMENTS

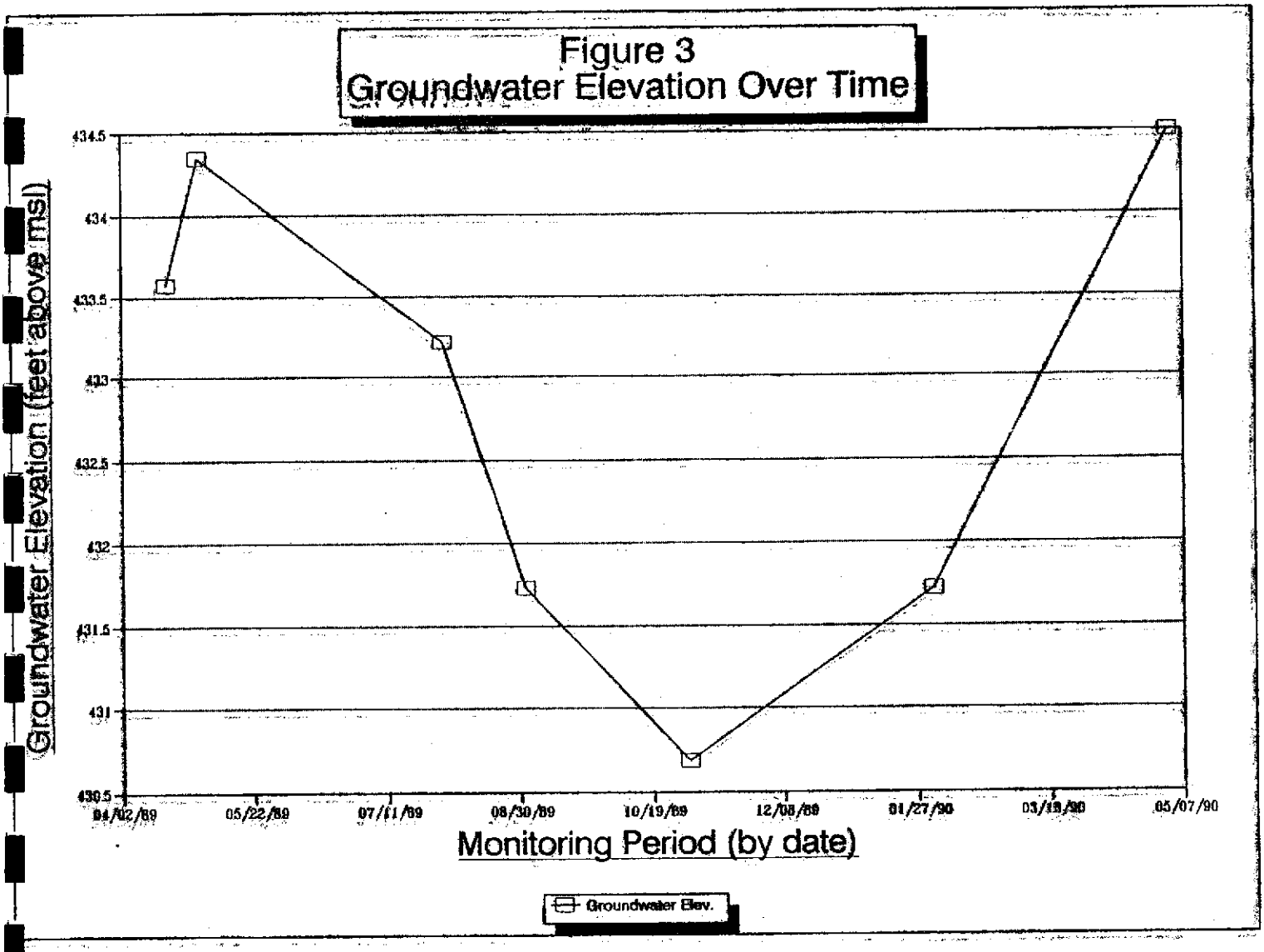
Railroad Avenue

Livermore, California

REFERENCE:

Portion of U.S.G.S. 7.5 Minute Topographic Quadrangle Map, Livermore, California, dated 1961, photorevised 1980, at a scale of 1:24,000.

PLATE 1



Mill Springs Park Apartments
1809 Railroad Avenue
Livermore, California
ARI Job # 87157.7

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

ATE RECEIVED: 05/02/89
ATE REPORTED: 05/10/89
AGE 1 OF 3

LAB NUMB

CLIENT: AQUA RESOURCES, INC.

REPORT ON: 1 WATER SAMPLE

JOB #: 87157.6
LOCATION: MILL SPRINGS PARK

RESULTS: SEE ATTACHED

Laboratory Director

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 17307
CLIENT: AQUA RESOURCES, INC.
PROJECT #: 87157.6
LOCATION: MILL SPRINGS PARK

DATE RECEIVED: 05/02/89
DATE ANALYZED: 05/08/89
DATE REPORTED: 05/10/89

Extractable Petroleum Hydrocarbons in Aqueous Solutions
EPA 8015 (Modified)
Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSINE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
17307-1A	MW-1	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	5
Spike: % Recovery	89

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 17307
CLIENT: AQUA RESOURCES, INC.
JOB NUMBER: 87157.6
JOB LOCATION: MILL SPRINGS PARK

DATE RECEIVED: 05/02/89
DATE ANALYZED: 05/03/89
DATE REPORTED: 05/10/89

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/kg)	TOLUENE (ug/kg)	TOTAL XYLENES (ug/kg)	ETHYL BENZENE (ug/kg)
17307-1B	MW-1	ND(1)	ND(1)	ND(1)	ND(1)

QA/QC SUMMARY

%RPD	5
%RECOVERY	96

AQUA RESOURCES, INC.
2030 ADDISON STREET, SUITE 500
Berkeley, CA. 94704
(415)540-6954

17307

CHAIN OF CUSTODY RECORD

Project Code	Project Name
87157.6	~~Barnett Range~~ Mill Springs Park

SAMPLERS (Signature)
J. Shakofsky

	TPH	BTX&E	REMARKS
MW-1	✓	✓	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
S. Shakofsky				05/02/89 8:11	J. Anderson
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	
		J. Anderson			

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 08/01/89
DATE REPORTED: 08/09/89

LAB NUMBER: 17928

CLIENT: AQUA RESOURCES

REPORT ON: 1 WATER SAMPLE

JOB #: 87157.6
PROJECT NAME: BARNETT RANGE

RESULTS: SEE ATTACHED

Laboratory Director

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 17928
CLIENT: AQUA RESOURCES
PROJECT #: 87157.6
PROFECT NAME: BARNETT RANGE

DATE RECEIVED: 08/01/89
DATE ANALYZED: 08/03/89
DATE REPORTED: 08/09/89

Extractable Petroleum Hydrocarbons in Aqueous Solutions
EPA 8015 (Modified)
Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSINE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
17928	MW-1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	7
Spike: % Recovery	95

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 17928
CLIENT: AQUA RESOURCES
JOB NUMBER: 87157.6
PROJECT NAME: BARNETT RANGE

DATE RECEIVED: 08/01/89
DATE ANALYZED: 08/08/89
DATE REPORTED: 08/09/89

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/L)	TOLUENE (ug/L)	TOTAL XYLENES (ug/L)	ETHYL BENZENE (ug/L)
17928	MW-1	5	ND(1)	ND(1)	ND(1)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

%RPD	5
%RECOVERY	95

AQUA RESOURCES, INC.

SHIPMENT NO.: _____

PAGE _____ OF _____

CHAIN OF CUSTODY RECORD

DATE 8/1/89

PROJECT NAME: Burnett Ranch

PROJECT NO.: 87157.6

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
MW-1		water	bailer	glass jar + vials	ice		TPH, BTX+E

Total Number of Samples Shipped: 2

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATRICIA RODGERS
Company: AQUA RESOURCES INC
Reason: analysis

Received By:
Signature: Nancy Patten
Printed Name: _____
Company: CTT

Date: 8/01/89
Time: 125 PM

Relinquished By:
Signature: _____
Printed Name: _____
Company: _____
Reason: _____

Received By:
Signature: _____
Printed Name: _____
Company: _____

Date: / /
Time: _____

REMARKS:

Special Shipment / Handling / Storage Requirements:

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 09/01/89
DATE REPORTED: 09/13/89

LAB NUMBER: 18172

CLIENT: AQUA RESOURCES, INC.

REPORT ON: 2 WATER SAMPLES

JOB #: 87157.6
LOCATION: LIVERMORE

RESULTS: SEE ATTACHED

M.E. Printera
QA/QC Officer

Laboratory Director

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 09/01/89
DATE REPORTED: 09/13/89

LAB NUMBER: 18172

CLIENT: AQUA RESOURCES, INC.

REPORT ON: 2 WATER SAMPLES

JOB #: 87157.6
LOCATION: LIVERMORE

RESULTS: SEE ATTACHED

M.E. Printera
QA/QC Officer

Laboratory Director

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 18172
CLIENT: AQUA RESOURCES
PROJECT #: 87157.6
LOCATION: LIVERMORE

DATE RECEIVED: 09/01/89
DATE ANALYZED: 09/07/89
DATE REPORTED: 09/13/89

Extractable Petroleum Hydrocarbons in Aqueous Solutions
EPA 8015 (Modified)
Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSENE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
18172-1	1T	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
18172-2	2T	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	8
Spike: % Recovery	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 18172
CLIENT: AQUA RESOURCES
JOB NUMBER: 87157.6
JOB LOCATION: LIVERMORE

DATE RECEIVED: 09/01/89
DATE ANALYZED: 09/13/89
DATE REPORTED: 09/13/89

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/L)	TOLUENE (ug/L)	TOTAL XYLENES (ug/L)	ETHYL BENZENE (ug/L)
18172-1	1T	ND(1)	ND(1)	ND(1)	ND(1)
18172-2	2T	ND(1)	ND(1)	ND(1)	ND(1)

QA/QC SUMMARY

%RPD	<1
%RECOVERY	92

1817-2

AQUA RESOURCES, INC.

SHIPMENT NO.: 1

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

DATE 9/1/89

PROJECT NAME: LIVERMORE

PROJECT NO.: 87152.6

Sample Number	Location	Type of Sample		Type of Container	Type of Preservation		Analysis Required
		Material	Method		Temp	Chemical	
#1T	WELL	WATER		BOTTLE	4°C		TEH
#2T	-"-	-"-		VIAL	4°C		BTX&E

Total Number of Samples Shipped: 4 Sampler's Signature: Wojciech Bajsarowicz

Relinquished By:
Signature: Wojciech Bajsarowicz
Printed Name: WOJTEK BAJSAROWICZ
Company: AQUA RESOURCES
Reason:

Received By:
Signature: Nancy L. Wilson
Printed Name: Nancy Wilson
Company: Curtis & Tompkins

Date: 9/01/89
Time: 2:55

Relinquished By:
Signature:
Printed Name:
Company:
Reason:

Received By:
Signature:
Printed Name:
Company:

Date: / /
Time:

REMARKS:

2 BOTTLES AND 2 VIALS SUBMITTED:
1 BOTTLE AND 1 VIAL IS TRAVEL BLANK
1 BOTTLE AND 1 VIAL IS SAMPLE FROM WELL

IDENTITY OF TRAVEL BLANK RETAINED BY ARI NW 9/01/89

Special Shipment / Handling / Storage Requirements:

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 11/03/89
DATE REPORTED: 11/13/89

LAB NUMBER: 18621

CLIENT: AQUA RESOURCES

REPORT ON: 1 WATER SAMPLE

JOB #: 87157.6

RESULTS: SEE ATTACHED

M.E. Privitera
QA/QC Officer

for CGG
Laboratory Director

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 18621-1
CLIENT: AQUA RESOURCES
JOB #: 87157.6
SAMPLE ID: W - 1

DATE RECEIVED: 11/03/89
DATE ANALYZED: 11/03/89
DATE REPORTED: 11/13/89

EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene	3.6	1
Toluene	ND	1
Ethyl Benzene	ND	1
Total Xylenes	ND	1
Chlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = None Detected

QA/QC SUMMARY

RPD %	27
SPIKE RECOVERY %	81

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 18621
CLIENT: AQUA RESOURCES
PROJECT #: 87157.6

DATE RECEIVED: 11/03/89
DATE ANALYZED: 11/08/89
DATE REPORTED: 11/13/89

Extractable Petroleum Hydrocarbons in Aqueous Solutions
EPA 8015 (Modified)
Extraction Method: EPA 3510

LAB ID	CLIENT ID	GASOLINE (mg/L)	KEROSENE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
18621-1	W - 1	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

RPD, %	31
Spike: % Recovery	97

AQUA RESOURCES, INC.

SHIPMENT NO.: 1

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

DATE 11/2/89

PROJECT NAME: 871576

PROJECT NO.:

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
W-1		Water		Vials	ice		total petroleum hydrocarbons; BTX+E

Total Number of Samples Shipped: 2

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATICIA RODGERS
Company: AQUA RESOURCES
Reason: for analysis

Received By:
Signature: Scott Rittman
Printed Name: Scott Rittman
Company: C+T

Date: 11/2/89
Time: 2:50

Relinquished By:
Signature:
Printed Name:
Company:
Reason:

Received By:
Signature:
Printed Name:
Company:

Date: / /
Time:

REMARKS:

Please have Steve Jensen contact Mark Milani prior to analysis. Phone: 540-6954

Special Shipment / Handling / Storage Requirements:

AQUA RESOURCES, INC.

SHIPMENT NO.: _____

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

DATE 11/3/89

PROJECT NAME: 87157.6

PROJECT NO.: _____

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
W-1		water	bailer	1 liter bottle	ice		TEH

Total Number of Samples Shipped: 1

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATRICIA RODGERS
Company: AQUA RESOURCES
Reason: analysis

Received By:
Signature: Maria J. Wilson
Printed Name: _____
Company: _____

Date: 11/3/89
Time: _____

Relinquished By:
Signature: _____
Printed Name: _____
Company: _____
Reason: _____

Received By:
Signature: _____
Printed Name: _____
Company: _____

Date: / /
Time: _____

REMARKS:

Special Shipment / Handling / Storage Requirements:

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 02/05/90
DATE REPORTED: 02/12/90

LAB NUMBER: 19482

CLIENT: AQUA RESOURCES

REPORT ON: 1 WATER SAMPLE

PROJECT #: 87157.6

RESULTS: SEE ATTACHED

M.E. Printeza
QA/QC Officer

Laboratory Director

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 19482
CLIENT: AQUA RESOURCES
PROJECT #: 87157.6

DATE RECEIVED: 02/05/90
DATE ANALYZED: 02/10/90
DATE REPORTED: 02/12/90

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
19482-1	W - 1	ND(0.5)	ND(0.5)	ND(0.5)

ND = NOT DETECTED; LIMIT OF DETECTION IN PARENTHESES

QA/QC SUMMARY

RPD, %	4
Spike: % Recovery	96

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 19482-1
CLIENT: AQUA RESOURCES
JOB #: 87157.6
SAMPLE ID: W - 1

JOB NO.
FILE

DATE RECEIVED: 02/05/90
DATE ANALYZED: 02/15/90
DATE REPORTED: 02/16/90

EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene	4.5	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Total Xylenes	ND	0.5
Chlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

ND = None Detected

QA/QC SUMMARY

RPD %	<1
SPIKE RECOVERY %	93

19482

AQUA RESOURCES, INC.

SHIPMENT NO.: _____

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

DATE 2/2/90

PROJECT NAME: _____

PROJECT NO.: 87157.6

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
W-1		water		liter	ice		TEH
W-1		water		vials	ice		602

Total Number of Samples Shipped: _____

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATRICIA RODGERS
Company: AQUA RESOURCES
Reason: analysis

Received By:
Signature: _____
Printed Name: _____
Company: _____

Date: 2/5/90
Time: 5:15

Relinquished By:
Signature: _____
Printed Name: _____
Company: _____
Reason: _____

Received By:
Signature: _____
Printed Name: _____
Company: _____

Date: / /
Time: _____

REMARKS:

Hold travel blanks for possible analyses

Special Shipment / Handling / Storage Requirements:

Analytical Report

LOG NO: E90-02-104

Received: 02 FEB 90
Reported: 14 FEB 90

Mr. Mark Milani
Aqua Resources Inc.
2030 Addison Street, Suite 500
Berkeley, California 94704

Purchase Order: 87157.6

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
02-104-1	W-1	02 FEB 90

PARAMETER	02-104-1
EPA Method 602	
Date Extracted	02.12.90
1,2-Dichlorobenzene, ug/L	<0.5
1,3-Dichlorobenzene, ug/L	<0.5
1,4-Dichlorobenzene, ug/L	<0.5
Benzene, ug/L	3.2
Chlorobenzene, ug/L	<0.5
Ethylbenzene, ug/L	<0.5
Toluene, ug/L	<0.5
Total Xylene Isomers, ug/L	<0.5

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-02-104

Received: 02 FEB 90
Reported: 14 FEB 90

Mr. Mark Milani
Aqua Resources Inc.
2030 Addison Street, Suite 500
Berkeley, California 94704

Purchase Order: 87157.6

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
02-104-2	Trip Blank	

PARAMETER	02-104-2
EPA Method 602	
Date Extracted	02.09.90
1,2-Dichlorobenzene, ug/L	<0.5
1,3-Dichlorobenzene, ug/L	<0.5
1,4-Dichlorobenzene, ug/L	<0.5
Benzene, ug/L	<0.5
Chlorobenzene, ug/L	<0.5
Ethylbenzene, ug/L	<0.5
Toluene, ug/L	<0.5
Total Xylene Isomers, ug/L	<0.5

Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

LOG # 9002104

AQUA RESOURCES, INC.

SHIPMENT NO.: _____

PAGE 1 OF 1

DATE 2/2/90

CHAIN OF CUSTODY RECORD

PROJECT NAME: _____

PROJECT NO.: 871516

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
A1-1		water		40 ml	ice		BTEX 602
Trip Blank							

Total Number of Samples Shipped: 5

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATRICIA RODGERS
Company: AQUA RESOURCES
Reason: analysis

Received By:
Signature: Monica Scott
Printed Name: Monica Scott
Company: BCM

Date: 2/2/90
Time: 9:42pm

Relinquished By:
Signature: _____
Printed Name: _____
Company: _____
Reason: _____

Received By:
Signature: _____
Printed Name: _____
Company: _____

Date: / /
Time: _____

REMARKS:

Lab to run trip blanks for possible analysis

Special Shipment / Handling / Storage Requirements: Requires 0.5 ug/L RDL Contact client if problems are encountered.
KC 2/2/90

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 05/02/90
DATE REPORTED: 05/07/90

LAB NUMBER: 100358

CLIENT: AQUA RESOURCES

REPORT ON: 1 WATER SAMPLES

PROJECT #: 87157.6

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 100358
CLIENT: AQUA RESOURCES
JOB #: 87157.6

DATE RECEIVED: 05/02/90
DATE EXTRACTED: 05/03/90
DATE ANALYZED: 05/04/90
DATE REPORTED: 05/07/90

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (mg/L)	DIESEL RANGE (mg/L)	REPORTING LIMIT (mg/L)
100358-1	W-1	ND	ND	0.50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	96

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 100358-1
CLIENT: AQUA RESOURCES
JOB #: 87157.6
SAMPLE ID: W-1

DATE RECEIVED: 05/02/90
DATE ANALYZED: 05/03/90
DATE REPORTED: 05/07/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	ND	0.50
Toluene	ND	0.50
Ethyl Benzene	ND	0.50
Total Xylenes	ND	0.50
Chlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,2-Dichlorobenzene	ND	0.50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	90

100358

AQUA RESOURCES, INC.

SHIPMENT NO.:

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

DATE 5/2/90

PROJECT NAME:

PROJECT NO.: 87157.6

Sample Number	Location	Type of Sample: Material	Type of Sample: Method	Type of Container	Type of Preservation: Temp	Type of Preservation: Chemical	Analysis Required
W-1		water		Liter	ice		TEH
W-1		water		vials	ice		602

Total Number of Samples Shipped:

Sampler's Signature: Patricia Rodgers

Relinquished By:
Signature: Patricia Rodgers
Printed Name: PATRICIA RODGERS
Company: AQUA RESOURCES
Reason: analysis

Received By:
Signature:
Printed Name: Nancy Wilson
Company: C ST LAB

Date: 5/2/90
Time: 4:15

Relinquished By:
Signature:
Printed Name:
Company:
Reason:

Received By:
Signature:
Printed Name:
Company:

Date: / /
Time:

REMARKS:

Detection Limit Should be 0.5 ug/L

Hold travel blanks for possible analysis.

Special Shipment / Handling / Storage Requirements: