



September 4, 1997

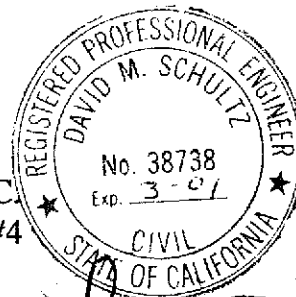
SEMI-ANNUAL GROUNDWATER MONITORING REPORT  
AUGUST 6, 1997 GROUNDWATER SAMPLING  
ASE JOB NO. 3071

at  
Dublin Rock and Ready Mix Facility  
6393 Scarlett Court  
Dublin, California

Prepared for:  
Mr. Michael Dolan  
6365 Scarlett Court  
Dublin, California

Prepared by:  
AQUA SCIENCE ENGINEERS, INC.  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583

(510) 820-9391  
1925



## 1.0 INTRODUCTION

Site Location (Site), See Figure 1  
Dublin Rock and Ready Mix Facility  
6393 Scarlett Court  
Dublin, CA 94568

Property Owner  
Dolan Rental Company  
6365 Scarlett Court  
Dublin, CA 94568  
Attn.: Mr. Michael Dolan  
(510) 829-0350

Environmental Consulting Firm  
Aqua Science Engineers, Inc. (ASE)  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
Contact: Robert Kitay, Senior Geologist  
(510) 820-9391

Agency Review  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502  
Attn.: Ms. eva chu  
(510) 293-8695

California Regional Water Quality Control Board (RWQCB),  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612  
Contact: Mr. Kevin Graves  
(510) 286-4359

The following is a report detailing the results of the August 6, 1997, groundwater sampling at the above referenced site (Figure 2).

## 2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On August 6, 1997, ASE environmental specialist Scott Ferriman measured the depth to water in each site well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen using a product thickness bailer. No free-floating hydrocarbons or sheen was present on the groundwater surface of any monitoring well at the site. Depths to groundwater are presented in Table One.

Groundwater elevation contours are presented on Figure 2. On August 6, 1997, groundwater flowed generally to the southwest beneath the site at a gradient of 0.0043-feet/foot. The groundwater elevations in monitoring wells MW-5 and MW-6 were anomalous; therefore, they were not used for contouring.

## 3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSES

Prior to sampling, monitoring well MW-2 and MW-4 were purged of four well casing volumes of water using dedicated polyethylene bailers. Monitoring wells MW-1, MW-3, MW-5 and MW-6 were not monitored this sampling period. The pH, temperature and conductivity of the purge water were monitored during purging and samples were not collected until these parameters stabilized. Groundwater samples were then collected from each well using dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, capped, labeled and placed into an ice chest containing wet ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain-of-custody.

The well purge water was placed in 55-gallon steel 17H drums, labeled, and left on-site for temporary storage. Copies of the well sampling field logs are included as appendix A.

The groundwater samples collected from monitoring wells MW-2 and MW-4 were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 5030/8015M and benzene, toluene, ethylbenzene, total xylenes (BTEX) and MTBE by EPA Method 8020.

The analytical results for this and previous quarters are presented in Table Two, and the certified laboratory report and chain-of-custody form are included as Appendix B.

## 4.0 CONCLUSIONS

Elevated hydrocarbon concentrations were detected in groundwater samples collected from monitoring well MW-2. Much lower hydrocarbon concentrations were detected in downgradient monitoring well MW-4.

Benzene concentrations in groundwater samples collected from monitoring wells MW-2 and MW-4 exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water. The toluene concentration in groundwater samples collected from monitoring well MW-2 exceeded the DTSC recommended action level (RAL) for drinking water. The ethylbenzene and total xylenes concentrations in groundwater samples collected from monitoring well MW-2 exceeded DTSC MCLs for drinking water.

## 5.0 RECOMMENDATIONS

ASE recommends that a risk assessment be performed for the property to determine whether this site is suitable for case closure.

## 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 and trust that this report meets your needs. Please feel free to call us at (510) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



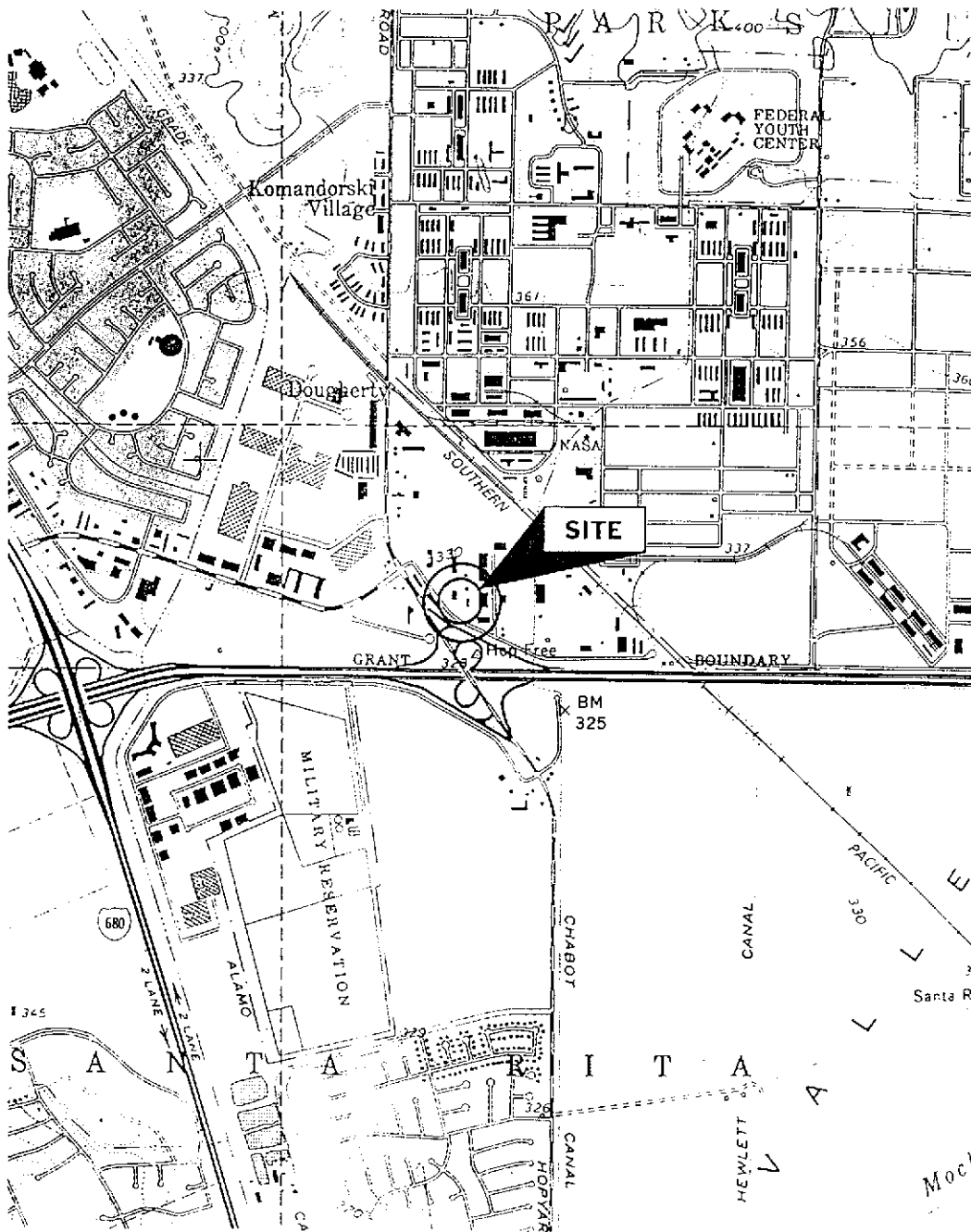
Scott T. Ferriman  
Environmental Specialist

Attachments: Figures 1 and 2  
Tables One and Two  
Appendices A and B

cc: Ms. eva chu, Alameda County Health Care Services Agency  
Mr. Kevin Graves, RWQCB, San Francisco Bay Region



NORTH

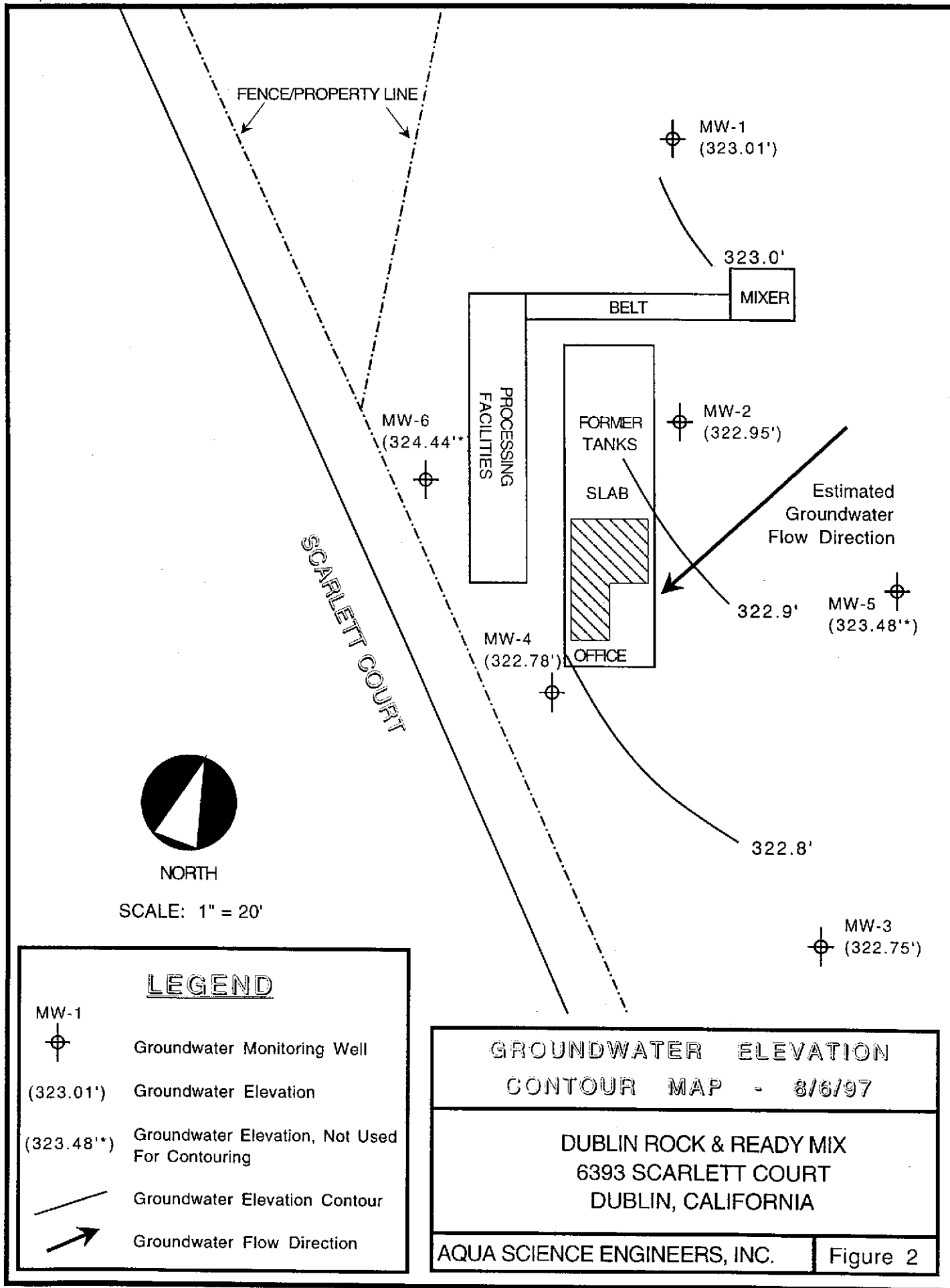


# LOCATION MAP

DUBLIN ROCK & READY MIX  
 6393 SCARLETT COURT  
 DUBLIN, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 1



**TABLE ONE**  
**Summary of Groundwater Well Survey 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	11/27/91	326.61	4.82	321.79
	09/30/92		5.34	321.27
	04/07/94		3.38	323.23
	08/12/94		4.23	322.38
	11/29/94		3.44	323.17
	03/21/95		1.00	325.61
	05/22/95		2.20	324.41
	08/24/95		3.45	323.16
	02/12/96		1.95	324.66
08/06/97	3.60	323.01		
MW-2	11/27/91	326.67	4.92	321.75
	09/30/92		5.42	321.25
	04/07/94		3.48	323.19
	08/12/94		4.18	322.49
	11/29/94		3.76	322.91
	03/21/95		1.25	325.42
	05/22/95		2.20	324.41
	08/24/95		3.57	323.10
	02/12/96		2.60	324.07
	02/05/97		1.72	324.95
08/06/97	3.72	322.95		
MW-3	11/27/91	326.58	4.96	321.62
	09/30/92		5.46	321.12
	04/07/94		3.66	322.92
	08/12/94		4.37	322.21
	11/29/94		3.60	322.98
	03/21/95		1.62	324.96
	05/22/95		2.73	323.85
	08/24/95		3.76	322.82
	02/12/96		2.45	324.13
	02/05/97		1.99	324.59
08/06/97	3.83	322.75		



**TABLE ONE (Continued)**  
**Summary of Groundwater Well Survey Data**

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)	
MW-4	11/27/91	326.92	5.26	321.66	
	09/30/92		5.78	321.14	
	04/07/94		4.02	322.90	
	08/12/94		4.81	322.11	
	11/29/94		4.39	322.53	
	03/21/95		1.80	325.12	
	05/22/95		3.07	323.85	
	08/24/95		4.09	322.83	
	02/12/96		2.80	324.12	
	02/05/97		2.32	324.60	
	08/06/97		4.14	322.78	
MW-5	03/21/95	326.50	2.10	324.40	
	05/22/95		2.93	323.57	
	08/24/95		1.57	324.93	
	02/12/96		2.78	323.72	
	02/05/97		2.24	324.26	
			08/06/97	3.02	323.48
MW-6	03/21/95	327.23	3.24	323.99	
	05/22/95		4.70	322.53	
	08/24/95		4.95	322.28	
	02/12/96		4.50	322.73	
	02/05/97		3.68	323.55	
			08/06/97	4.79	322.44

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**All results are in parts per billion**

Sample I.D.	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<u>MW-1</u>						
11/27/91	< 50	< 0.3	< 0.3	< 0.3	< 0.3	---
09/30/92	< 50	< 0.3	< 0.3	< 0.3	< 0.3	---
04/07/94	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---
08/12/94	< 50	1	1	< 0.5	< 2	---
11/29/94	< 50	< 0.5	< 0.5	< 0.5	< 2	---
03/21/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
05/22/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
08/24/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
02/12/96	< 50	< 0.5	< 0.5	< 0.5	< 2	---
<u>MW-2</u>						
11/27/91	170,000	24,000	13,000	3,500	16,000	---
09/30/92	120,000	24,000	15,000	3,800	17,000	---
04/07/94	120,000	21,000	14,000	4,300	21,000	---
08/12/94	140,000	17,000	10,000	4,300	18,000	---
11/29/94	90,000	17,000	7,500	3,400	15,000	---
03/21/95	83,000	17,000	8,000	3,800	17,000	---
05/22/95	82,000	14,000	6,000	4,000	16,000	---
08/24/95	86,000	13,000	8,100	3,700	16,000	---
02/12/96	78,000	15,000	8,100	4,200	18,000	---
02/05/97	58,000	11,000	6,900	3,500	15,000	480
08/06/97	66,000	7,000	9,200	3,500	16,000	< 500
<u>MW-3</u>						
11/27/91	< 50	< 0.3	< 0.3	< 0.3	< 0.3	---
09/30/92	< 50	< 0.3	< 0.3	< 0.3	< 0.3	---
04/07/94	< 50	2.5	5.5	0.9	5.1	---
08/12/94	< 50	< 0.5	< 0.5	< 0.5	< 2	---
11/29/94	< 50	< 0.5	< 0.5	< 0.5	< 2	---
03/21/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
05/22/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
08/24/95	< 50	< 0.5	< 0.5	< 0.5	< 2	---
02/12/96	< 50	< 0.5	< 0.5	< 0.5	< 2	---
02/05/97	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5

**TABLE TWO  
(Continued)**

Summary of Chemical Analysis of **GROUNDWATER** Samples  
All results are in parts per billion

Sample I.D.	TPH Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<b>MW-4</b>						
11/27/91	11,000	100	0.7	250	330	---
09/30/92	380	3.5	2.4	8.9	3.4	---
04/07/94	1,100	61	5.5	17	12	---
08/12/94	1,000	3	1	8	4	---
11/29/94	1,100	2	<0.5	10	6	---
03/21/95	1,400	200	5	66	18	---
05/22/95	1,200	60	1	12	8	---
08/24/95	400	1	<0.5	1	<2	---
02/12/96	1,500	130	<0.5	120	51	---
02/05/97	1,200	250	4.9	94	12	16
08/06/97	330	1.5	<0.5	<0.5	<0.5	<5.0
<b>MW-5</b>						
03/21/95	<50	<0.5	<0.5	<0.5	<2	---
05/22/95	<50	<0.5	<0.5	<0.5	<2	---
08/24/95	<50	<0.5	<0.5	<0.5	<2	---
02/12/96	<50	<0.5	<0.5	<0.5	<2	---
02/05/97	<50	<0.5	<0.5	<0.5	<0.5	<5
<b>MW-6</b>						
03/21/95	<50	<0.5	<0.5	<0.5	<2	---
05/22/95	<50	<0.5	<0.5	<0.5	<2	---
08/24/95	<50	<0.5	<0.5	<0.5	<2	---
02/12/96	<50	<0.5	<0.5	<0.5	<2	---
02/05/97	<50	<0.5	<0.5	<0.5	<0.5	<5
EPA METHOD	5030/ 8015M	8020	8020	8020	8020	8020
DTSC MCL	NE	1	100*	680	1,750	35**

**Notes:**

DTSC MCL = California Department of Toxic Substances Control maximum contaminant level for drinking water

\* = DTSC recommended action level; MCL not established

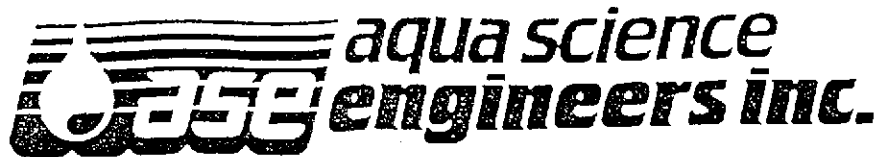
\*\* = DTSC interim action level; MCL not established

NE = DTSC MCLs and RALs not established

--- = Not Analyzed

# **APPENDIX A**

Well Sampling Field Logs



## WELL SAMPLING FIELD LOG

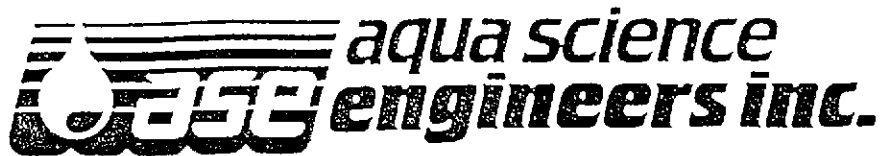
Project Name and Address: Dublin Rock and Ready Mix Facility, 6393 Scarlett Ct. Dublin  
 Job #: 3071 Date of sampling: 8-6-97  
 Well Name: MW-2 Sampled by: SR  
 Total depth of well (feet): 19.90 Well diameter (inches): 2'  
 Depth to water before sampling (feet): 3.72  
 Thickness of floating product if any: NONE  
 Depth of well casing in water (feet): 16.18  
 Number of gallons per well casing volume (gallons): 2.8  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 11  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 10:50 Time Evacuation Finished: 11:20  
 Approximate volume of groundwater purged: 11  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 11:30  
 Depth to water at time of sampling: 3.79  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: clear Odor: strong H<sub>2</sub>S odor  
 Description of sediment in sample: none

### CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	69.8	7.72	1505
2	68.1	7.50	1471
3	67.3	7.46	1525
4	67.1	7.41	1532

### SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
MW-2	3	40 ml VOA's	H <sub>2</sub> S	Yes	TIC/TOC/BTEX/MTBE



## WELL SAMPLING FIELD LOG

Project Name and Address: Dublin Rock and Ready Mix Facility, 6393 Scarlett Ct. Dublin  
 Job #: 3071 Date of sampling: 8-6-97  
 Well Name: MW-4 Sampled by: SR  
 Total depth of well (feet): 19.42 Well diameter (inches): 2'  
 Depth to water before sampling (feet): 4.14  
 Thickness of floating product if any: none  
 Depth of well casing in water (feet): 15.28  
 Number of gallons per well casing volume (gallons): 2.6  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 10  
 Equipment used to purge the well: Dedicated Poly Bailer  
 Time Evacuation Began: 9:55 Time Evacuation Finished: 10:25  
 Approximate volume of groundwater purged: 10  
 Did the well go dry?: no After how many gallons: -  
 Time samples were collected: 10:40  
 Depth to water at time of sampling: 4.22  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Poly Bailer  
 Sample color: clear Odor: Slight HC odor  
 Description of sediment in sample: none

### CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>70.1</u>	<u>7.59</u>	<u>2870</u>
<u>2</u>	<u>67.8</u>	<u>7.50</u>	<u>2740</u>
<u>3</u>	<u>67.4</u>	<u>7.47</u>	<u>2710</u>
<u>4</u>	<u>67.2</u>	<u>7.44</u>	<u>2720</u>

### SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pics	iced?	Analysis
<u>MW-4</u>	<u>3</u>	<u>40 ml vials</u>	<u>HC</u>	<u>Yes</u>	<u>TPH, BTEX, PCBs</u>

## **APPENDIX B**

Analytical Report and Chain of Custody  
for Groundwater Samples

# CHROMALAB, INC.

Environmental Services (SDB)

August 14, 1997

Submission #: 9708080

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: DUBLIN ROCK & READY MIX

Project#: 3071

Received: August 7, 1997

re: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: MW-2

Spl#: 142976

Matrix: WATER

Sampled: August 6, 1997

Run#: 8162

Analyzed: August 12, 1997

<u>ANALYTE</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u> (ug/L)	<u>BLANK</u> <u>RESULT</u> (ug/L)	<u>BLANK</u> <u>SPIKE</u> (%)	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	66000	5000	N.D.	83	100
MTBE	N.D.	500	N.D.	106	100
BENZENE	7000	50	N.D.	92	100
TOLUENE	9200	50	N.D.	91	100
ETHYL BENZENE	3500	50	N.D.	94	100
XYLENES	16000	50	N.D.	92	100



Marianne Alexander  
Gas/BTEX Supervisor



for Chip Poalinelli  
Operations Manager



# CHROMALAB, INC.

Environmental Services (SDB)

August 14, 1997

Submission #: 9708080

AQUA SCIENCE ENGINEERS INC

Atten: Scott Ferriman.

Project: DUBLIN ROCK & READY MIX  
Received: August 7, 1997

Project#: 3071

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

Client Sample ID: MW-4

Spl#: 142977

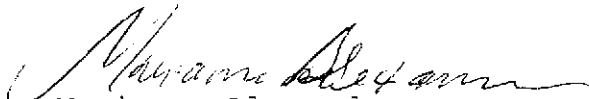
Matrix: WATER

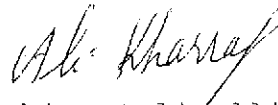
Sampled: August 6, 1997

Run#: 8162

Analyzed: August 12, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	330	50	N.D.	83	1
MTBE	N.D.	5.0	N.D.	106	1
BENZENE	1.5	0.50	N.D.	92	1
TOLUENE	N.D.	0.50	N.D.	91	1
ETHYL BENZENE	N.D.	0.50	N.D.	94	1
XYLENES	N.D.	0.50	N.D.	92	1

  
Marianne Alexander  
Gas/BTEX Supervisor

  
For Chip Poalinelli  
Operations Manager

