RO321 New CW

aqua science engineers inc.

July 12, 2004

QUARTERLY GROUNDWATER MONITORING REPORT
APRIL 2004 GROUNDWATER SAMPLING
ASE JOB NO. 3412

at
Former Chan's Shell Station
726 Harrison Street
Oakland, CA 94602

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
Former Chan's Shell Station
726 Harrison Street
Oakland, CA 94602
(510) 444-6583

Responsible Party
Kin Chan
4328 Edgewood Avenue
Oakland, CA 94602

Environmental Consulting Firm
Aqua Science Engineers, Inc. (ASE)
208 W. El Pintado
Danville, CA 94526
Contact: Robert Kitay, Senior Geologist
(925) 820-9391

Agency Review
Contact: Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCSA)
1131 Harbor Bay Pkwy., Suite 250
Alameda, CA 94502
(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 April 2004 quarterly groundwater sampling at the former Chan's Shell Station. This sampling was conducted as required by the ACHCSA and RWQCB. ASE has prepared this report on behalf of Kin Chan, property owner. This report is intended to supplement the ASE report: "Report of Soil and Groundwater Assessment" dated January 8, 1999.

The well purge water was placed into a 55-gallon steel drum, labeled, and staged on-site for temporary storage until proper off-site disposal could be arranged.

The groundwater samples were analyzed by STL San Francisco for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8260B. The analytical results for this and previous sampling periods are presented in Table Three. The certified analytical report and chain-of-custody documentation are included as Appendix B. Recent and current analytical data for the former ARCO station is summarized in Table Four.

4.0 CONCLUSIONS

Although there were some increases and some decreases in hydrocarbon concentrations this quarter, concentrations overall remained consistent with those reported during previous quarters. The TPH-G, BTEX and/or MTBE concentrations detected in the groundwater samples collected from all wells sampled remain in excess of Environmental Screening Levels (ESLs) as presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region dated July 2003.

5.0 RECOMMENDATIONS

ASE recommends continued groundwater monitoring on a quarterly basis. The next groundwater sampling is scheduled for July 2004.

Additionally, ASE has received approval from the ACHCSA for a workplan to conduct in-situ chemical oxidation of hydrocarbons in the soil and groundwater below the site. The property has recently been purchased, and the remediation work will begin upon authorization by the new owner.

6.0 REPORT LIMITATIONS

The results presented in 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 an independent CAL-DHS 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 for this project, 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.

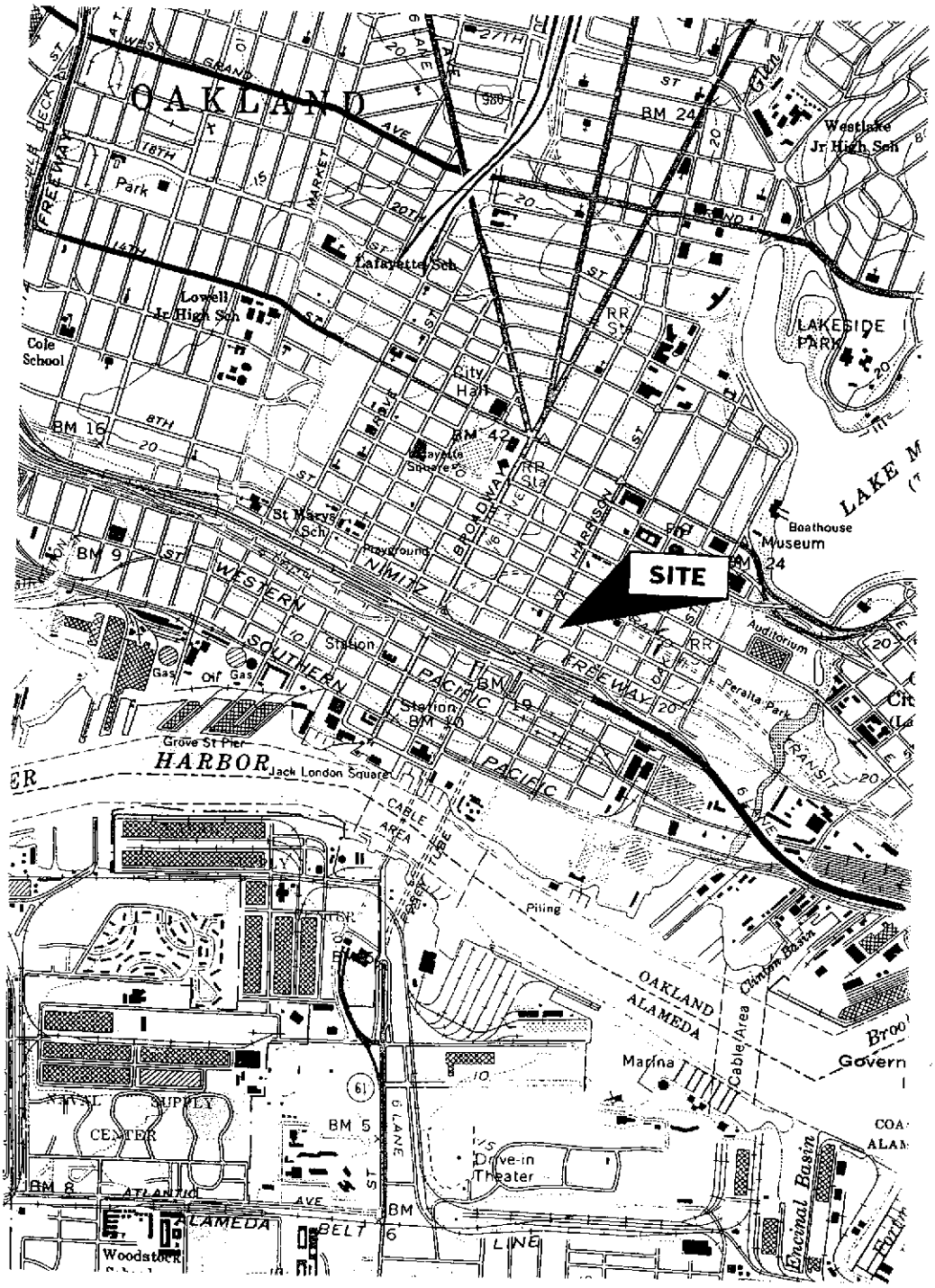
Damian Hriciga
Project Geologist

REGISTERED GEOLOGIST
ROBERT E. KITAY
No. 6586
STATE OF CALIFORNIA

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

Attachments: Figures 1 and 2
Appendices A and B

cc: Mr. Barney Chan, Alameda County Health Care Services
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region



SITE LOCATION MAP

FORMER CHAN'S SHELL STATION
726 HARRISION STREET
OAKLAND, CALIFORNIA

Aqua Science Engineers | Figure 1

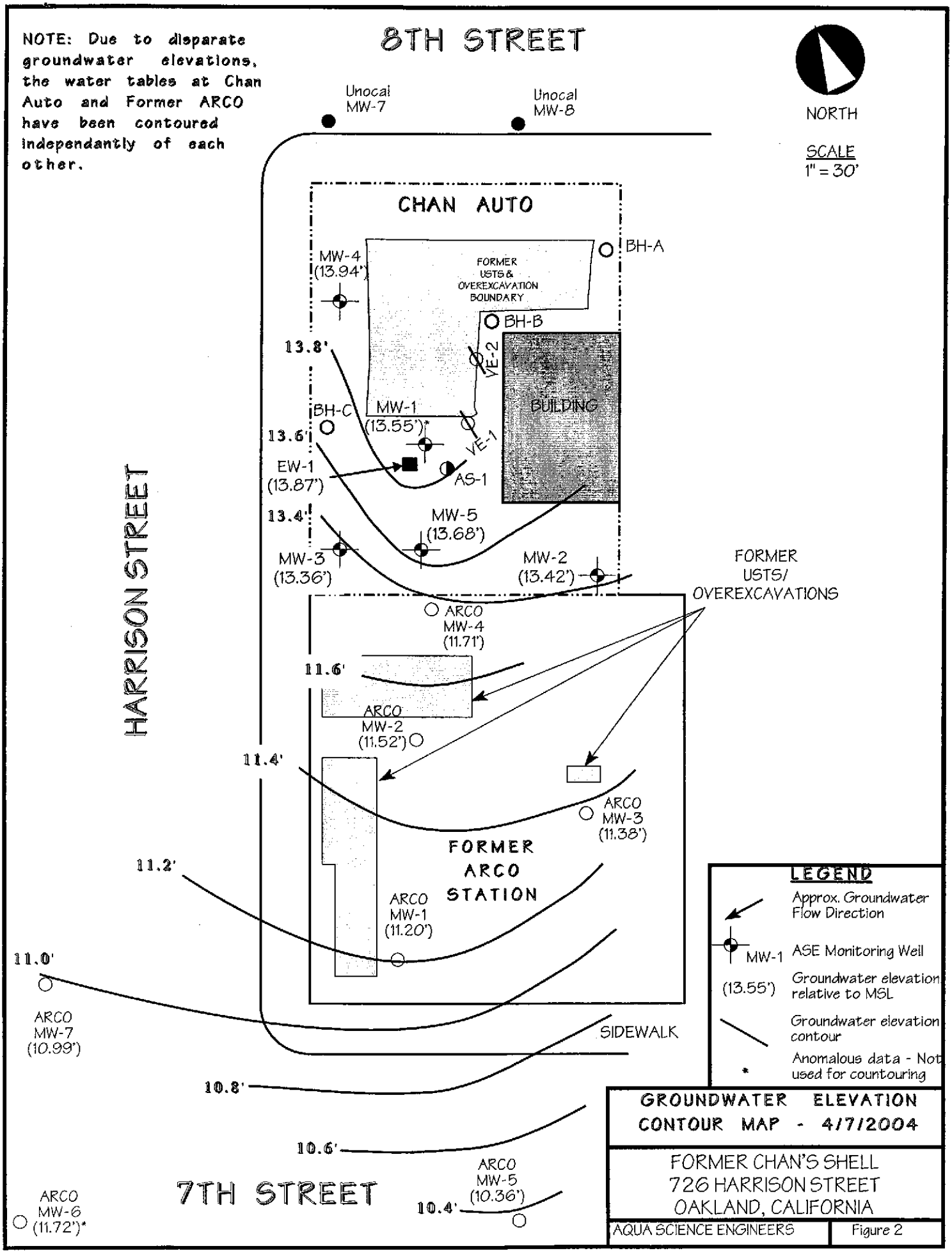

NOTE: Due to disparate groundwater elevations, the water tables at Chan Auto and Former ARCO have been contoured independantly of each other.
8TH STREET
NORTH
SCALE
1" = 30'
Unocal MW-7
Unocal MW-8
CHAN AUTO
MW-4 (13.94')
FORMER USTS & OVEREXCAVATION BOUNDARY
BH-A
BH-B
VE-2
BUILDING
BH-C
MW-1 (13.55')*
VE-1
EW-1 (13.87')
AS-1
MW-5 (13.68')
MW-3 (13.36')
MW-2 (13.42')
FORMER USTS/ OVEREXCAVATIONS
HARRISON STREET
ARCO MW-4 (11.71')
ARCO MW-2 (11.52')
ARCO MW-3 (11.38')
FORMER ARCO STATION
ARCO MW-1 (11.20')
13.8'
13.6'
13.4'
11.6'
11.4'
11.2'
11.0'
10.8'
10.6'
10.4'
ARCO MW-7 (10.99')
SIDEWALK
ARCO MW-5 (10.36')
ARCO MW-6 (11.72')*
7TH STREET
LEGEND
Approx. Groundwater Flow Direction
MW-1 ASE Monitoring Well
(13.55') Groundwater elevation relative to MSL
Groundwater elevation contour
* Anomalous data - Not used for countouring
GROUNDWATER ELEVATION CONTOUR MAP - 4/7/2004
FORMER CHAN'S SHELL
726 HARRISON STREET
OAKLAND, CALIFORNIA
AQUA SCIENCE ENGINEERS
Figure 2

TABLE ONE
Groundwater Elevation Data
Former Chan's Shell Station
726 Harrison St., Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	12/15/98	31.95*	17.32	14.63
	3/4/99		15.52	16.43
	6/17/99		16.9	15.05
	8/27/99		17.39	14.56
	12/9/99		18.03	13.92
	3/7/00		15.11	16.84
	6/7/00		16.66	15.29
	10/11/00		18.08	13.87
	1/18/01		17.96	13.99
	4/5/01		16.35	15.60
	7/17/01		16.94	15.01
	10/5/01	28.98	17.35	11.63
	1/18/02		15.40	13.58
	4/11/02		15.76	13.22
	7/8/02		16.17	12.81
	10/9/02		16.72	12.26
	1/29/03		16.26	12.72
	4/11/03		16.56	12.42
	7/18/03		16.42	12.56
	10/9/03		16.88	12.10
	1/28/04		16.10	12.88
	4/7/04		**15.43**	**13.55**
MW-2	12/15/98	32.40*	18.03	14.37
	3/4/99		16.11	16.29
	6/17/99		17.72	14.68
	8/27/99	Inaccessible		
	12/9/99	Inaccessible		
	3/7/00	Inaccessible		
	6/7/00		17.67	14.73
	10/11/00		18.91	13.49
	1/18/01		18.66	13.74
	4/5/01		16.97	15.43
	7/17/01		17.54	14.86
	10/5/01	29.44	17.98	11.46
	1/18/02		15.87	13.57
	4/11/02		16.36	13.08
	7/8/02		16.72	12.72
	10/9/02		17.33	12.11
	1/29/03		16.82	12.62
	4/11/03		17.15	12.29
	7/18/03		17.05	12.39
	10/9/03		17.52	11.92
	1/28/04		16.70	12.74
	4/7/04		**16.02**	**13.42**
MW-3	12/15/98	31.61*	17.26	14.35
	3/4/99		15.47	16.14
	6/17/99		16.92	14.69
	8/27/99		17.40	14.21
	12/9/99		18.01	13.60
	3/7/00		16.15	15.46
	6/7/00		16.85	14.76
	10/11/00		18.07	13.54
	1/18/01		17.89	13.72
	4/5/01		16.21	15.40
	7/17/01		16.90	14.71
	10/5/01	28.64	17.32	11.32
	1/18/02		15.35	13.29
	4/11/02		15.82	12.82
	7/8/02		16.15	12.49
	10/9/02		16.67	11.97
	1/29/03		16.19	12.45
	4/11/03		16.49	12.15
	7/18/03		16.42	12.22
	10/9/03		16.80	11.84
	1/28/03		15.94	12.70
	4/7/04		**15.28**	**13.36**

TABLE ONE
Groundwater Elevation Data
Former Chan's Shell Station
726 Harrison St., Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-4	12/15/98	32.53*	17.59	14.94
	3/4/99		15.88	16.65
	6/17/99		17.14	15.39
	8/27/99		17.65	14.88
	12/9/99		18.28	14.25
	3/7/00		15.41	17.12
	6/7/00		17.09	15.44
	10/11/00		18.33	14.20
	1/18/01		18.23	14.30
	4/5/01		16.69	15.84
	7/17/01		17.32	15.21
	10/5/01	29.58	17.71	11.87
	1/18/02		15.85	13.73
	4/11/02		16.14	13.44
	7/8/02		16.56	13.02
	10/9/02		17.09	12.49
	1/29/03		16.65	12.93
	4/11/03		16.93	12.65
	7/18/03		16.78	12.80
	10/9/03		17.26	12.32
	1/28/04		16.38	13.20
	4/7/04		**15.64**	**13.94**
MW-5	8/29/01	29.06	17.42	11.64
	1/18/02		15.68	13.38
	4/11/02		16.17	12.89
	7/8/02		16.51	12.55
	10/9/02		17.10	11.96
	1/29/03		16.58	12.48
	4/11/03		16.87	12.19
	7/18/03		16.77	12.29
	10/9/03		17.21	11.85
	1/28/04		16.34	12.72
	4/7/04		**15.38**	**13.68**
EW-1	1/18/02	28.89	15.35	13.54
	4/11/02		15.73	13.16
	7/8/02		16.13	12.76
	10/9/02		16.70	12.19
	1/29/03		16.20	12.69
	4/11/03		16.52	12.37
	7/18/03		16.38	12.51
	10/9/03		16.84	12.05
	1/28/04		15.94	12.95
	4/7/04		**15.02**	**13.87**

* Top of casing elevation relative to arbitrary project datum

TABLE TWO
Groundwater Elevation Data
Former ARCO Station
706 Harrison St., Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation* (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	7/18/03	29.15	14.50	14.65
	10/9/03	26.17	13.81	12.36
	1/28/04		13.09	13.08
	4/7/04		14.97	11.20
MW-2	7/18/03	30.51	16.84	13.67
	10/9/03	27.53	16.05	11.48
	1/28/04		15.39	12.14
	4/7/04		16.01	11.52
MW-3	7/18/03	29.77	14.80	14.97
	10/9/03	26.79	14.13	12.66
	1/28/04		13.47	13.32
	4/7/04		15.41	11.38
MW-4	7/18/03	31.18	17.08	14.10
	10/9/03	28.20	16.25	11.95
	1/28/04		15.65	12.55
	4/7/04		16.49	11.71
MW-5	7/18/03	28.04	14.28	13.76
	10/9/03	25.07	13.36	11.71
	1/28/04		12.68	12.39
	4/7/04		14.71	10.36
MW-6	7/18/03	29.10	15.47	13.63
	10/9/03	26.13	14.73	11.40
	1/28/04		14.05	12.08
	4/7/04		14.41	11.72
MW-7	7/18/03	29.67	15.19	14.48
	10/9/03	26.70	14.45	12.25
	1/28/04		13.88	12.82
	4/7/04		15.71	10.99

* Survey data updated on 10/27/2003

TABLE THREE

Certified Analytical Results for GROUNDWATER Samples
Former Chan's Shell Station
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1						
7/3/97	18,000	2,700	350	450	900	7,400
12/5/98	18,000	1,500	270	260	560	14,000
3/4/99	44,000	2,800	400	440	960	43,000
6/17/99	33,000	2,200	250	460	660	25,000
8/27/99	6,000	1,000	97	190	230	14,000/ 16,000*
12/9/99	15,000	1,500	160	220	420	17,000
3/7/00	9,300	1,500	210	66	530	12,000
6/7/00	26,000**	1,700	< 250	360	580	30,000
10/11/00	13,000**	1,600	< 100	140	160	19,000
1/18/01	14,000**	450	< 100	110	230	9,600
4/5/01	38,000	2,200	180	290	590	35,000
7/17/01	35,000**	1,800	< 100	300	170	35,000
10/5/01	17,000	1,500	210	420	790	27,000
1/18/02	18,000	1,500	120	160	220	22,000
4/11/02	41,000	2,700	210	340	380	30,000
7/8/02	36,000	2,800	140	360	300	31,000
10/9/02	30,000	1,700	310	< 100	< 100	19,000
1/29/03	26,000	2,400	< 100	310	520	20,000
4/11/03	22,000	1,700	< 100	270	580	16,000
7/18/03	40,000	3,200	290	480	830	39,000
10/9/03	54,000**	3,300	< 130	350	310	49,000
1/28/04	26,000***	3,000	310	420	800	31,000
4/7/04	**33,000*** **	**2,800**	**130**	**310**	**310**	**39,000**
MW-2						
12/5/98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
3/4/99		Inaccessible due to car parked over well				
6/17/99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
8/27/99		Inaccessible due to car parked over well				
12/9/99		Inaccessible due to car parked over well				
3/7/00		Inaccessible due to car parked over well				
6/7/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
10/11/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
1/18/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
4/5/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
MW-3						
12/5/98	6,500***	< 50	50	60	50	3,900
3/4/99	2,800	< 25	< 25	< 25	< 25	1,600
6/17/99	1,000	< 10	< 10	< 10	< 10	1,400
8/27/99	230	< 0.5	0.51	0.5	1	1,500/ 1,600*
12/9/99	870**	< 0.5	< 0.5	< 0.5	< 0.5	2,100
3/7/00	150**	4	< 0.5	< 0.5	< 0.5	830
6/7/00	140**	< 0.5	< 0.5	< 0.5	< 0.5	1,100
10/11/00	620**	< 5.0	< 5.0	< 5.0	< 5.0	1,500
1/18/01	1,200**	< 5.0	< 5.0	< 5.0	< 5.0	1,000
4/5/01	1,700**	< 5.0	< 5.0	< 5.0	< 5.0	1,900
7/17/01	1,400**	< 10	< 10	< 10	< 10	1,700
10/5/01	< 1,000	< 10	< 10	< 10	< 10	1,700
1/18/02	1,600	26	20	16	54	2,100
4/11/02	2,600	21	16	< 10	21	2,300
7/8/02	2,800	< 10	< 10	< 10	< 10	3,800
10/9/02	6,000	< 50	< 50	< 50	< 50	4,900
1/29/03	1,800	< 10	< 10	< 10	< 10	2,300
4/11/03	2,900	< 25	< 25	< 25	< 25	3,100
7/18/03	3,400	< 10	< 10	< 10	< 10	3,200
10/9/03	2,300	< 10	< 10	< 10	< 10	2,700
1/28/03	1,700**	< 10	< 10	< 10	< 10	2,900
4/7/04	**2,700****	**< 10**	**< 10**	**< 10**	**< 20**	**3,600**

TABLE THREE
Certified Analytical Results for GROUNDWATER Samples
Former Chan's Shell Station
726 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-4						
12/5/98	880	3	<0.5	<0.5	<0.5	950
3/4/99	3,800	<25	<25	<25	<25	3,700
6/17/99	2,700	<25	<25	<25	<25	2,700
8/27/99	440	4.7	1.1	0.58	1.3	1,600/ 1,700*
12/9/99	1,100**	<2.5	<2.5	<2.5	<2.5	1,700
3/7/00	<250	<2.5	<2.5	<2.5	<2.5	1,700
6/7/00	530**	8.8	<2.5	<2.5	<2.5	440
10/11/00	700**	3.9	<2.5	<2.5	<2.5	680
1/18/01	2,000**	<2.5	<2.5	<2.5	<2.5	780
4/5/01	810**	<2.5	<2.5	<2.5	<2.5	620
7/17/01	880**	<2.5	<2.5	<2.5	<2.5	570
10/5/01	550**	<2.5	<2.5	<2.5	<2.5	710
1/18/02	960**	<5.0	<5.0	<5.0	<5.0	1,300
4/11/02	1,100**	<5.0	<5.0	<5.0	<5.0	550
7/8/02	1,200**	<5.0	<5.0	<5.0	<5.0	890
10/9/02	1,300**	<5.0	<5.0	<5.0	<5.0	880
1/29/03	530**	<1.0	<1.0	<1.0	<1.0	190
4/11/03	690**	<2.5	<2.5	<2.5	<2.5	310
7/18/03	1,600**	<10	<10	<10	<10	1,300
10/9/03	1500***	<10	<10	<10	<10	1,400
1/28/04	1,200**	<10	<10	<10	<10	1,900
4/7/04	**1,900****	**<10**	**<10**	**<10**	**<20**	**2,200**
MW-5						
8/29/01	14,000	1,300	470	230	800	14,000
1/18/02	24,000	3,200	1,300	390	1,500	5,700
4/11/02	23,000	2,700	980	38	950	4,300
7/8/02	19,000	3,300	25	360	1,100	2,100
10/9/02	24,000	2,800	990	360	820	2,400
1/29/03	17,000	2,100	1,400	380	1,400	<250
4/11/03	26,000	2,900	2,200	590	2,200	630
7/18/03	26,000	3,500	1,700	480	1,300	1,300
10/9/03	27,000	3,800	1,900	510	1,700	1,200
1/28/04	29,000	4,800	2,900	770	2,300	3,300
4/7/04	**23,000**	**4,400**	**2,700**	**720**	**2,200**	**1,700**
EW-1						
1/18/02	11,000	1,000	<100	220	350	6,700
4/11/02	17,000	1,000	<100	120	140	9,700
7/8/02	21,000	1,300	<100	<100	200	12,000
10/9/02	12,000	900	<25	<25	200	9,200
1/29/03	12,000	860	73	130	500	4,500
4/11/03	8,700	890	<25	<25	82	5,400
7/18/03	8,200	650	77	99	140	4,300
10/9/03	5,700**	500	28	53	35	3,600
1/28/04	17,000***	1,600	90	250	280	9,700
ESL	400	46	130	290	13	1,800

Notes:

* EPA Method 8020/EPA Method 8260 (MTBE confirmation)

** Hydrocarbon reported in the gasoline range does not match the laboratory gasoline standard

*** Sample contains a discrete peak in addition to gasoline

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

Most current data is in **Bold**

Non-detectable concentrations noted by the less than sign (<) followed by the laboratory method reporting limit.

TABLE FOUR

Certified Analytical Results for GROUNDWATER Samples
Former ARCO Station
706 Harrison St., Oakland, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
10/9/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/28/04	<50	<0.5	<0.5	<0.5	<0.5	<5.0
4/7/04	**180**	**60**	**0.56**	**1.9**	**<0.5**	**<5.0**
MW-2						
7/18/03	57,000	2,100	8,700	2,200	10,000	<50*
10/9/03	49,000	1,800	7,000	1,700	7,600	26*
1/28/04	550	21	33	3	61	<100
4/7/04	**41,000**	**2,500**	**11,000**	**1,900**	**8,000**	**<2,000**
MW-3						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/28/04	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
MW-4						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	0.74*
10/9/03	210	5	0.57	1.6	1.1	10*
1/28/04	<50	<0.5	<0.5	<0.5	<0.5	<5.0
4/12/04	**770**	**56**	**3.2**	**7.0**	**6.5**	**160***
MW-5						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/28/04	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
MW-6						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/28/04	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
MW-7						
7/18/03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
1/28/04	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
ESL	400	46	130	290	13	1,800

Notes:

* EPA Method 8260

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

Most current data is in **Bold**

Non-detectable concentrations noted by the less than sign (<) followed by the laboratory method reporting limit.

APPENDIX A

Well Sampling Field Logs

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHAN
Job #: _____
Well Name: MW-1 Date of sampling: 4/7/04
Total depth of well (feet): 27.2 Sampled by: DH
Depth to water before sampling (feet): 15.43 Well diameter (inches): 2
Thickness of floating product if any: ~~11.77~~
Depth of well casing in water (feet): 11.77
Number of gallons per well casing volume (gallons): 1.9
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 5.7
Equipment used to purge the well: BAILER
Time Evacuation Began: 0720 Time Evacuation Finished: 733
Approximate volume of groundwater purged: 5.7
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 735
Depth to water at time of sampling: 16.12
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: SLIGHT HC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1.9	64.1	6.85	649
3.8	65.1	6.99	682
5.7	66.4	7.01	685

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40 mL	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHAN
Job #: _____ Date of sampling: 4/7/09
Well Name: MW-9 Sampled by: DH
Total depth of well (feet): _____ Well diameter (inches): 2
Depth to water before sampling (feet): 16.02
Thickness of floating product if any: _____
Depth of well casing in water (feet): _____
Number of gallons per well casing volume (gallons): _____
Number of well casing volumes to be removed: _____
Required volume of groundwater to be purged before sampling (gallons): _____
Equipment used to purge the well: _____
Time Evacuation Began: _____ Time Evacuation Finished: _____
Approximate volume of groundwater purged: _____
Did the well go dry? _____ After how many gallons: _____
Time samples were collected: _____
Depth to water at time of sampling: _____
Percent recovery at time of sampling: _____
Samples collected with: _____
Sample color: _____ Odor: _____
Description of sediment in sample: _____

NOT SAMPLED THIS QUARTER

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHAW
Job #: _____ Date of sampling: 4/7/04
Well Name: MW-3 Sampled by: DH
Total depth of well (feet): 29.7 Well diameter (inches): 2
Depth to water before sampling (feet): 15.78
Thickness of floating product if any: —
Depth of well casing in water (feet): 14.42
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6.9
Equipment used to purge the well: BAILER
Time Evacuation Began: 0825 Time Evacuation Finished: 0840
Approximate volume of groundwater purged: 7
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 0845
Depth to water at time of sampling: 15.32
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: NC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.3	63.9	6.20	657
4.6	65.5	6.34	666
6.9	66.1	6.40	667

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-3	3	40 ml VOA	HCl		

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHAW
Job #: _____
Well Name: MW-4 Date of sampling: 4/7/09
Total depth of well (feet): 29.7 Sampled by: DH
Depth to water before sampling (feet): 15.64 Well diameter (inches): 2
Thickness of floating product if any: ~~11.66~~
Depth of well casing in water (feet): 14.06
Number of gallons per well casing volume (gallons): 2.3
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6.7
Equipment used to purge the well: _____
Time Evacuation Began: 0805 Time Evacuation Finished: 815
Approximate volume of groundwater purged: 6.8
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 820
Depth to water at time of sampling: 16.21
Percent recovery at time of sampling: _____
Samples collected with: BAILER
Sample color: — Odor: NC
Description of sediment in sample: _____

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.3	65.9	6.12	728
4.6	66.8	6.42	731
6.8	66.9	6.54	735

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-4	3	40 mL VOA	HCL	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHAN
Job #: _____
Well Name: MW-5 Date of sampling: 4/7/04
Sampled by: DH
Total depth of well (feet): 28.5 Well diameter (inches): 2
Depth to water before sampling (feet): 15.38
Thickness of floating product if any: —
Depth of well casing in water (feet): 13.12
Number of gallons per well casing volume (gallons): 2.1
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6.3
Equipment used to purge the well: BAILER
Time Evacuation Began: 1146 Time Evacuation Finished: 1455
Approximate volume of groundwater purged: 6.3
Did the well go dry?: NO After how many gallons: _____
Time samples were collected: 0800
Depth to water at time of sampling: 15.68
Percent recovery at time of sampling: _____
Samples collected with: BAILER
Sample color: — Odor: HC
Description of sediment in sample: —

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
2.1	64.9	6.34	910
4.2	65.7	6.66	1028
6.3	66.1	6.65	1031

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-5	3	40 mL VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: CHW
Job #: _____ Date of sampling: 4/7/09
Well Name: EW-1 Sampled by: DH
Total depth of well (feet): _____ Well diameter (inches): 6
Depth to water before sampling (feet): 15.02
Thickness of floating product if any: _____
Depth of well casing in water (feet): _____
Number of gallons per well casing volume (gallons): _____
Number of well casing volumes to be removed: _____
Required volume of groundwater to be purged before sampling (gallons): _____
Equipment used to purge the well: _____
Time Evacuation Began: _____ Time Evacuation Finished: _____
Approximate volume of groundwater purged: _____
Did the well go dry? _____ After how many gallons: _____
Time samples were collected: _____
Depth to water at time of sampling: _____
Percent recovery at time of sampling _____
Samples collected with: _____
Sample color: _____ Odor: _____
Description of sediment in sample: _____

NOT SAMPLED THIS QUARTER

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

SEVERN TRENT STL

Submission#: 2004-04-0217

Aqua Science Engineers, Inc.

April 15, 2004

208 West El Pintado
Danville, CA 94526

Attn.: Damian Hriciga

Project#: 3412
Project: Chan
Site: Harrison St., Oakland

Dear Mr. Hriciga,

Attached is our report for your samples received on 04/07/2004 17:25
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 05/22/2004 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	04/07/2004 07:35	Water	1
MW-3	04/07/2004 08:45	Water	2
MW-4	04/07/2004 08:20	Water	3

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Prep(s): 5030B
Sample ID: **MW-1**
Sampled: 04/07/2004 07:35
Matrix: Water
Analysis Flag: o (See Legend and Note Section)

Test(s): 8260B
Lab ID: 2004-04-0217 - 1
Extracted: 4/12/2004 18:31
QC Batch#: 2004/04/12-02.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	33000	13000	ug/L	250.00	04/12/2004 18:31	dp
Methyl tert-butyl ether (MTBE)	39000	130	ug/L	250.00	04/12/2004 18:31	
Benzene	2800	130	ug/L	250.00	04/12/2004 18:31	
Toluene	130	130	ug/L	250.00	04/12/2004 18:31	
Ethylbenzene	310	130	ug/L	250.00	04/12/2004 18:31	
Total xylenes	310	250	ug/L	250.00	04/12/2004 18:31	
Surrogate(s)						
1,2-Dichloroethane-d4	109.0	76-114	%	250.00	04/12/2004 18:31	
Toluene-d8	90.1	88-110	%	250.00	04/12/2004 18:31	

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Prep(s): 5030B
Test(s): 8260B
Sample ID: **MW-3**
Lab ID: 2004-04-0217 - 2
Sampled: 04/07/2004 08:45
Extracted: 4/12/2004 18:50
Matrix: Water
QC Batch#: 2004/04/12-02.68
Analysis Flag: o (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	2700	1000	ug/L	20.00	04/12/2004 18:50	g
Methyl tert-butyl ether (MTBE)	3600	10	ug/L	20.00	04/12/2004 18:50	
Benzene	ND	10	ug/L	20.00	04/12/2004 18:50	
Toluene	ND	10	ug/L	20.00	04/12/2004 18:50	
Ethylbenzene	ND	10	ug/L	20.00	04/12/2004 18:50	
Total xylenes	ND	20	ug/L	20.00	04/12/2004 18:50	
Surrogate(s)						
1,2-Dichloroethane-d4	105.0	76-114	%	20.00	04/12/2004 18:50	
Toluene-d8	91.4	88-110	%	20.00	04/12/2004 18:50	

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Prep(s): 5030B
Sample ID: **MW-4**
Sampled: 04/07/2004 08:20
Matrix: Water
Analysis Flag: o (See Legend and Note Section)

Test(s): 8260B
Lab ID: 2004-04-0217 - 3
Extracted: 4/12/2004 19:09
QC Batch#: 2004/04/12-02.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1900	1000	ug/L	20.00	04/12/2004 19:09	g
Methyl tert-butyl ether (MTBE)	2200	10	ug/L	20.00	04/12/2004 19:09	
Benzene	ND	10	ug/L	20.00	04/12/2004 19:09	
Toluene	ND	10	ug/L	20.00	04/12/2004 19:09	
Ethylbenzene	ND	10	ug/L	20.00	04/12/2004 19:09	
Total xylenes	ND	20	ug/L	20.00	04/12/2004 19:09	
Surrogate(s)						
1,2-Dichloroethane-d4	100.6	76-114	%	20.00	04/12/2004 19:09	
Toluene-d8	92.4	88-110	%	20.00	04/12/2004 19:09	

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2004/04/12-02.68-056

Water

Test(s): 8260B
QC Batch # 2004/04/12-02.68
Date Extracted: 04/12/2004 17:56

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	04/12/2004 17:56	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/12/2004 17:56	
Benzene	ND	0.5	ug/L	04/12/2004 17:56	
Toluene	ND	0.5	ug/L	04/12/2004 17:56	
Ethylbenzene	ND	0.5	ug/L	04/12/2004 17:56	
Total xylenes	ND	1.0	ug/L	04/12/2004 17:56	
Surrogates(s)					
1,2-Dichloroethane-d4	99.2	76-114	%	04/12/2004 17:56	
Toluene-d8	93.3	88-110	%	04/12/2004 17:56	

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/04/12-02.68**

LCS 2004/04/12-02.68-018 Extracted: 04/12/2004 Analyzed: 04/12/2004 17:18
LCSD 2004/04/12-02.68-037 Extracted: 04/12/2004 Analyzed: 04/12/2004 17:37

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	25.3	25.2	25.0	101.2	100.8	0.4	65-165	20		
Benzene	22.4	25.0	25.0	89.6	100.0	11.0	69-129	20		
Toluene	23.7	26.0	25.0	94.8	104.0	9.3	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	469	428	500	93.8	85.6		76-114			
Toluene-d8	471	489	500	94.2	97.8		88-110			

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Legend and Notes

Analysis Flag

o

Reporting limits were raised due to high level of analyte present in the sample.

Result Flag

dp

Sample contains discrete peak in addition to gasoline.

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-5	04/07/2004 08:00	Water	4

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Prep(s): 5030B
Sample ID: **MW-5**
Sampled: 04/07/2004 08:00
Matrix: Water
Analysis Flag: o (See Legend and Note Section)

Test(s): 8260B
Lab ID: 2004-04-0217 - 4
Extracted: 4/14/2004 12:08
QC Batch#: 2004/04/14-01.68

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	23000	5000	ug/L	100.00	04/14/2004 12:08	
Methyl tert-butyl ether (MTBE)	1700	50	ug/L	100.00	04/14/2004 12:08	
Benzene	4400	50	ug/L	100.00	04/14/2004 12:08	
Toluene	2700	50	ug/L	100.00	04/14/2004 12:08	
Ethylbenzene	720	50	ug/L	100.00	04/14/2004 12:08	
Total xylenes	2200	100	ug/L	100.00	04/14/2004 12:08	
Surrogate(s)						
1,2-Dichloroethane-d4	92.3	76-114	%	100.00	04/14/2004 12:08	
Toluene-d8	99.4	88-110	%	100.00	04/14/2004 12:08	

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/04/14-01.68**

MB: 2004/04/14-01.68-059 — Date Extracted: 04/14/2004 08:59

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	04/14/2004 08:59	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/14/2004 08:59	
Benzene	ND	0.5	ug/L	04/14/2004 08:59	
Toluene	ND	0.5	ug/L	04/14/2004 08:59	
Ethylbenzene	ND	0.5	ug/L	04/14/2004 08:59	
Total xylenes	ND	1.0	ug/L	04/14/2004 08:59	
Surrogates(s)					
1,2-Dichloroethane-d4	96.8	76-114	%	04/14/2004 08:59	
Toluene-d8	97.8	88-110	%	04/14/2004 08:59	

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/04/14-01.68**

LCS 2004/04/14-01.68-021 Extracted: 04/14/2004 Analyzed: 04/14/2004 08:21
LCSD 2004/04/14-01.68-040 Extracted: 04/14/2004 Analyzed: 04/14/2004 08:40

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	23.9	23.1	25.0	95.6	92.4	3.4	65-165	20		
Benzene	24.0	24.7	25.0	96.0	98.8	2.9	69-129	20		
Toluene	24.2	24.5	25.0	96.8	98.0	1.2	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	438	438	500	87.6	87.6		76-114			
Toluene-d8	483	502	500	96.6	100.4		88-110			

SEVERN TRENT STL

Submission #: 2004-04-0217

Fuel Oxygenates by 8260B

Aqua Science Engineers, Inc.
Attn.: Damian Hriciga

208 West El Pintado
Danville, CA 94526
Phone: (925) 820-9391 Fax: (925) 837-4853

Project: 3412
Chan

Received: 04/07/2004 17:25

Site: Harrison St., Oakland

Legend and Notes

Analysis Flag

o

Reporting limits were raised due to high level of analyte present in the sample.

2004.04.0217

84611

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)

PROJECT NAME C HAJ JOB NO. 3412

ADDRESS HARBOR ST. OAKLAND

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SEND COC

T0600102122

SAMPLE ID	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015/8021)	TPH-DIESEL (EPA 3510/8015)	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240/8260)	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 EPA 605/8060)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G/BTEX/5 OXYS/1,2 DA/MTBE (EPA 8260)	LEAD		
MW-1	4/7/04	0735	W	3	X																
MW-3		0845	W	3	X																
MW-4		0820	W	3	X																
MW-5		0900	W	3	X																

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) 1230 (time)	(signature) 1450 (time)	(signature) 17:25 (time)	(signature) 17'25 (time)	4.5°C
(printed name) DAMAN HERCLAH 4/7/04 (date)	(printed name) RODNEY ALLEN 4/7/04 (date)	(printed name) R ALLEN 4/7/04 (date)	(printed name) Neuna E. 4/07/04 (date)	TURN AROUND TIME: (STANDARD) 24Hr 48Hr 72Hr
Company: ASE	Company: STL-SF	Company: STL-SF	Company: STL-SF	OTHER: