aqua science engineers inc.

February 19, 2003

QUARTERLY GROUNDWATER MONITORING REPORT
JANUARY 2002 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 January 2003 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.

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On January 29, 2003, ASE measured the depth to groundwater in five site monitoring wells and one site extraction well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. No free-floating hydrocarbons or sheen were observed in any site well. Groundwater elevation data is presented in Table One. A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction is generally to the south/southwest with a gradient of approximately 0.0081-feet/foot.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, monitoring wells MW-1, MW-3, MW-4, MW-5, and extraction well EW-1 were purged of three well casing volumes of groundwater using dedicated polyethylene bailers or a submersible pump. Groundwater monitoring well MW-2 is no longer being sampled at the site in accordance with ASE's recommendation in the April 2001 quarterly groundwater monitoring report and the May 14, 2001 letter from the ACHCSA. Petroleum hydrocarbon odors were noted during the purging and sampling of monitoring wells MW-1, MW-4, MW-5, and extraction well EW-1. The parameters pH, temperature, and conductivity were monitored during the well purging, and 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 Severn Trent Laboratories (STL) San Francisco, of Pleasanton California (ELAP #1049) under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A.

The well purge water was placed into 55-gallon steel drums, labeled, and left 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) by EPA Method 5030/8015M, benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) by EPA Method 8021B and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. The analytical results for this and previous sampling

periods are presented in Table Two. The certified analytical report and chain-of-custody documentation are included as Appendix B.

4.0 CONCLUSIONS

In general, the groundwater samples had hydrocarbon concentrations consistent with previous findings and remain elevated. The TPH-G, BTEX and/or MTBE concentrations that were detected in groundwater samples collected from all the monitoring and extraction wells sampled exceeded Risk Based Screening Levels (RBSLs) as presented in the "Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region dated December 2001.

5.0 RECOMMENDATIONS

ASE recommends continued groundwater monitoring on a quarterly basis. The next groundwater sampling is scheduled for April 2003. ASE will be submitting costs to the Underground Storage Tank Cleanup Fund for pre-approval to conduct a soil overexcavation as outlined in ASE's Remedial Action Plan (RAP) during the next quarter.

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-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 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,

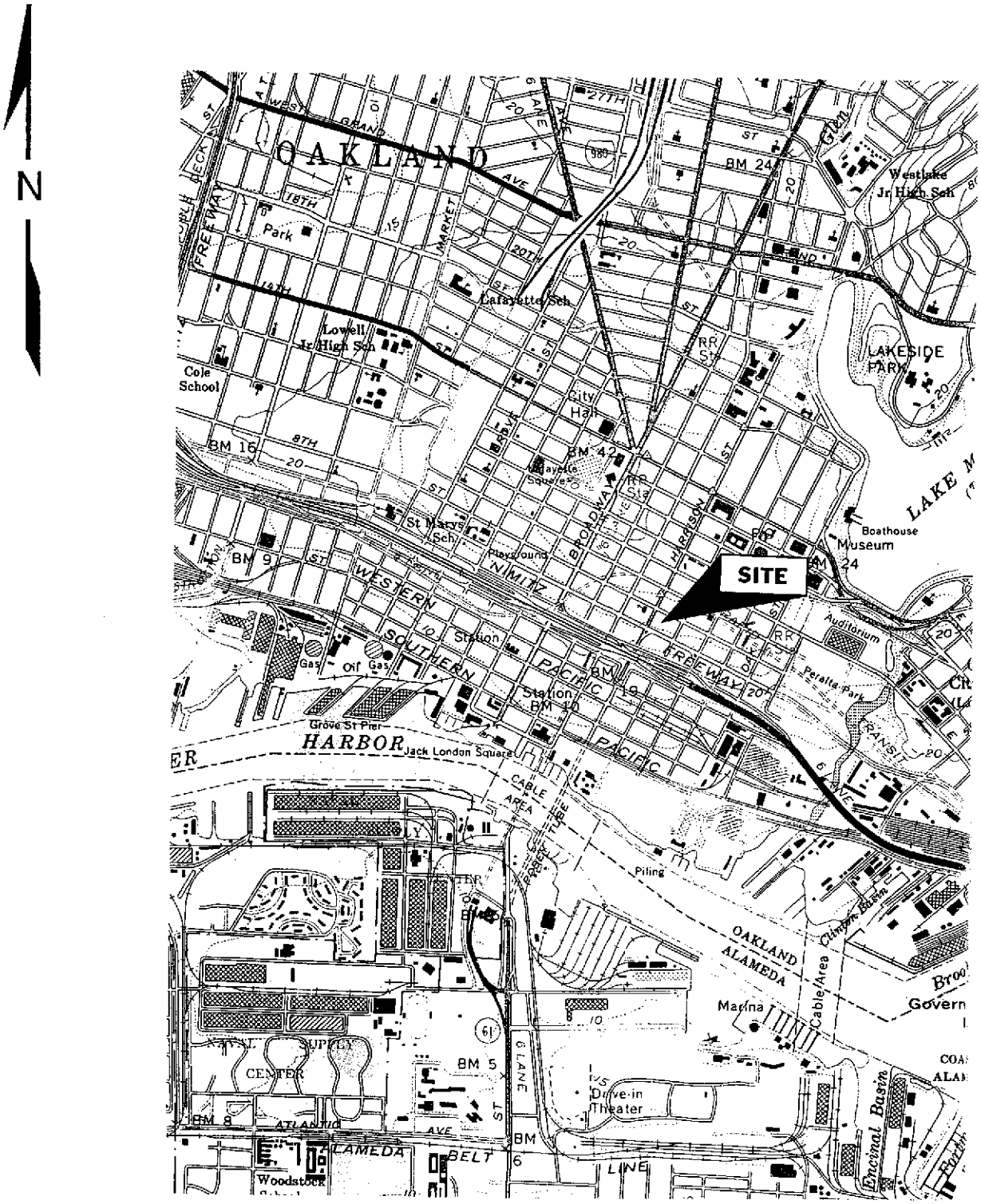
AQUA SCIENCE ENGINEERS, INC.

Erik H. Paddleford
Associate Geologist

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

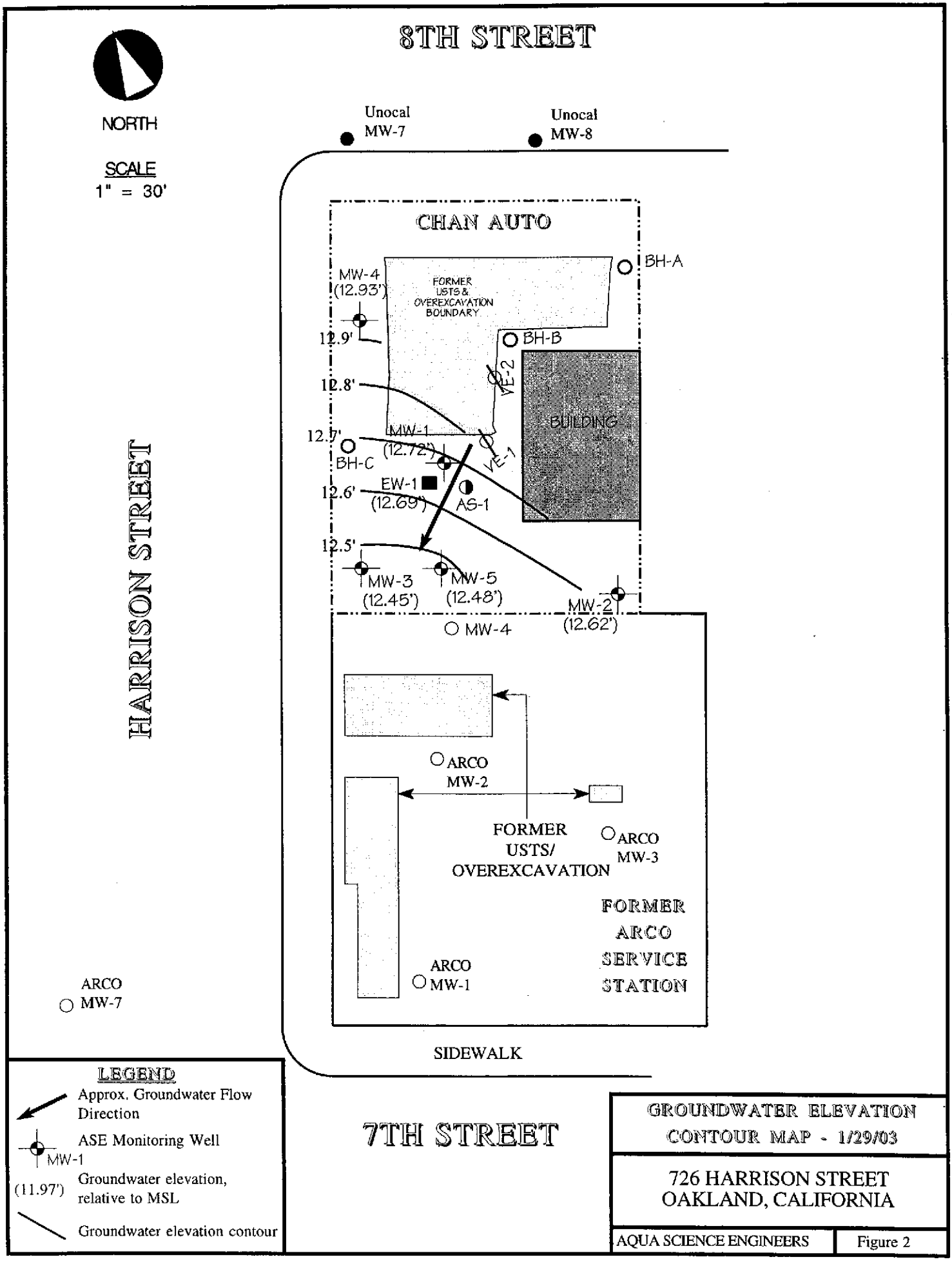

8TH STREET
NORTH
SCALE
1" = 30'
Unocal
MW-7
Unocal
MW-8
CHAN AUTO
BH-A
MW-4
(12.93')
FORMER
USTS &
OVEREXCAVATION
BOUNDARY
12.9'
BH-B
VE-2
12.8'
BUILDING
12.7'
MW-1
(12.72')
BH-C
VE-1
EW-1
12.6'
(12.69')
AS-1
12.5'
MW-3
(12.45')
MW-5
(12.48')
MW-2
(12.62')
MW-4
HARRISON STREET
ARCO
MW-2
FORMER
USTS/
OVEREXCAVATION
ARCO
MW-3
FORMER
ARCO
SERVICE
STATION
ARCO
MW-1
ARCO
MW-7
SIDEWALK
7TH STREET
LEGEND
Approx. Groundwater Flow Direction
ASE Monitoring Well
MW-1
(11.97')
Groundwater elevation, relative to MSL
Groundwater elevation contour
GROUNDWATER ELEVATION
CONTOUR MAP - 1/29/03
726 HARRISON STREET
OAKLAND, CALIFORNIA
AQUA SCIENCE ENGINEERS
Figure 2

TABLE ONE
Groundwater Elevation Data
Chan's Former Shell Station

Well ID	Date of Measurement	Top of Casing Elevation (relative to Project Datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	12/15/1998	31.95	17.32	14.63
	3/4/1999		15.52	16.43
	6/17/1999		16.9	15.05
	8/27/1999		17.39	14.56
	12/9/1999		18.03	13.92
	3/7/2000		15.11	16.84
	6/7/2000		16.66	15.29
	10/11/2000		18.08	13.87
	1/18/2001		17.96	13.99
	4/5/2001		16.35	15.60
	7/17/2001		16.94	15.01
	10/5/2001	28.98	17.35	11.63
	1/18/2002		15.40	13.58
	4/11/2002		15.76	13.22
	7/8/2002		16.17	12.81
	10/9/2002		16.72	12.26
	1/29/2003		**16.26**	**12.72**
MW-2	12/15/1998	32.40	18.03	14.37
	3/4/1999		16.11	16.29
	6/17/1999		17.72	14.68
	8/27/1999	Inaccessible		
	12/9/1999	Inaccessible		
	3/7/2000	Inaccessible		
	6/7/2000		17.67	14.73
	10/11/2000		18.91	13.49
	1/18/2001		18.66	13.74
	4/5/2001		16.97	15.43
	7/17/2001		17.54	14.86
	10/5/2001	29.44	17.98	11.46
	1/18/2002		15.87	13.57
	4/11/2002		16.36	13.08
	7/8/2002		16.72	12.72
	10/9/2002		17.33	12.11
	1/29/2003		**16.82**	**12.62**
MW-3	12/15/1998	31.61	17.26	14.35
	3/4/1999		15.47	16.14
	6/17/1999		16.92	14.69
	8/27/1999		17.40	14.21
	12/9/1999		18.01	13.60
	3/7/2000		16.15	15.46
	6/7/2000		16.85	14.76
	10/11/2000		18.07	13.54
	1/18/2001		17.89	13.72
	4/5/2001		16.21	15.40
	7/17/2001		16.90	14.71
	10/5/2001	28.64	17.32	11.32
	1/18/2002		15.35	13.29
	4/11/2002		15.82	12.82
	7/8/2002		16.15	12.49
	10/9/2002		16.67	11.97
	1/29/2003		**16.19**	**12.45**

TABLE ONE
Groundwater Elevation Data
Chan's Former Shell Station

Well ID	Date of Measurement	Top of Casing Elevation (relative to Project Datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-4	12/15/1998	32.53	17.59	14.94
	3/4/1999		15.88	16.65
	6/17/1999		17.14	15.39
	8/27/1999		17.65	14.88
	12/9/1999		18.28	14.25
	3/7/2000		15.41	17.12
	6/7/2000		17.09	15.44
	10/11/2000		18.33	14.20
	1/18/2001		18.23	14.30
	4/5/2001		16.69	15.84
	7/17/2001		17.32	15.21
	10/5/2001	29.58	17.71	11.87
	1/18/2002		15.85	13.73
	4/11/2002		16.14	13.44
	7/8/2002		16.56	13.02
	10/9/2002		17.09	12.49
	1/29/2003		**16.65**	**12.93**
MW-5	8/29/2001	29.06	17.42	11.64
	1/18/2002		15.68	13.38
	4/11/2002		16.17	12.89
	7/8/2002		16.51	12.55
	10/9/2002		17.10	11.96
	1/29/2003		**16.58**	**12.48**
EW-1	1/18/2002	28.89	15.35	13.54
	4/11/2002		15.73	13.16
	7/8/2002		16.13	12.76
	10/9/2002		16.70	12.19
	1/29/2003		**16.20**	**12.69**

TABLE TWO

Certified Analytical Results for GROUNDWATER Samples
Chan's Former Shell Station
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-1						
7/3/1997	18,000	2,700	350	450	900	7,400
12/5/1998	18,000	1,500	270	260	560	14,000
3/4/1999	44,000	2,800	400	440	960	43,000
6/17/1999	33,000	2,200	250	460	660	25,000
8/27/1999	6,000	1,000	97	190	230	14,000/ 16,000*
12/9/1999	15,000	1,500	160	220	420	17,000
3/7/2000	9,300	1,500	210	66	530	12,000
6/7/2000	26,000**	1,700	< 250	360	580	30,000
10/11/2000	13,000**	1,600	< 100	140	160	19,000
1/18/2001	14,000**	450	< 100	110	230	9,600
4/5/2001	38,000	2,200	180	290	590	35,000
7/17/2001	35,000**	1,800	< 100	300	170	35,000
10/5/2001	17,000	1,500	210	420	790	27,000
1/18/2002	18,000	1,500	120	160	220	22,000
4/11/2002	41,000	2,700	210	340	380	30,000
7/8/2002	36,000	2,800	140	360	300	31,000
10/9/2002	30,000	1,700	310	< 100	< 100	19,000
1/29/2003	**26,000**	**2,400**	**< 100**	**310**	**520**	**20,000**
MW-2						
12/5/1998	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
3/4/1999	Inaccessible due to car parked over well					
6/17/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5
8/27/1999	Inaccessible due to car parked over well					
12/9/1999	Inaccessible due to car parked over well					
3/7/2000	Inaccessible due to car parked over well					
6/7/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
10/11/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
1/18/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
4/5/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
7/17/2001	**No Longer Sampled**					
MW-3						
12/5/1998	6,500	< 50	50	60	50	3,900
3/4/1999	2,800	< 25	< 25	< 25	< 25	1,600
6/17/1999	1,000	< 10	< 10	< 10	< 10	1,400
8/27/1999	230	< 0.5	0.51	0.5	1	1,500/ 1,600*
12/9/1999	870**	< 0.5	< 0.5	< 0.5	< 0.5	2,100
3/7/2000	150**	4	< 0.5	< 0.5	< 0.5	830
6/7/2000	140**	< 0.5	< 0.5	< 0.5	< 0.5	1,100
10/11/2000	620**	< 5.0	< 5.0	< 5.0	< 5.0	1,500
1/18/2001	1,200**	< 5.0	< 5.0	< 5.0	< 5.0	1,000
4/5/2001	1,700**	< 5.0	< 5.0	< 5.0	< 5.0	1,900
7/17/2001	1,400**	< 10	< 10	< 10	< 10	1,700
10/5/2001	< 1,000	< 10	< 10	< 10	< 10	1,700
1/18/2002	1,600	26	20	16	54	2,100
4/11/2002	2,600	21	16	< 10	21	2,300
7/8/2002	2,800	< 10	< 10	< 10	< 10	3,800
10/9/2002	6,000	< 50	< 50	< 50	< 50	4,900
1/29/2003	**1,800**	**< 10**	**< 10**	**< 10**	**< 10**	**2,300**

TABLE TWO

Certified Analytical Results for GROUNDWATER Samples
Chan's Former Shell Station
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-4						
12/5/1998	880	3	< 0.5	< 0.5	< 0.5	950
3/4/1999	3,800	< 25	< 25	< 25	< 25	3,700
6/17/1999	2,700	< 25	< 25	< 25	< 25	2,700
8/27/1999	440	4.7	1.1	0.58	1.3	1,600/ 1,700*
12/9/1999	1,100**	< 2.5	< 2.5	< 2.5	< 2.5	1,700
3/7/2000	< 250	< 2.5	< 2.5	< 2.5	< 2.5	1,700
6/7/2000	530**	8.8	< 2.5	< 2.5	< 2.5	440
10/11/2000	700**	3.9	< 2.5	< 2.5	< 2.5	680
1/18/2001	2,000**	< 2.5	< 2.5	< 2.5	< 2.5	780
4/5/2001	810**	< 2.5	< 2.5	< 2.5	< 2.5	620
7/17/2001	880**	< 2.5	< 2.5	< 2.5	< 2.5	570
10/5/2001	550**	< 2.5	< 2.5	< 2.5	< 2.5	710
1/18/2002	960**	< 5.0	< 5.0	< 5.0	< 5.0	1,300
4/11/2002	1,100**	< 5.0	< 5.0	< 5.0	< 5.0	550
7/8/2002	1,200**	< 5.0	< 5.0	< 5.0	< 5.0	890
10/9/2002	1,300**	< 5.0	< 5.0	< 5.0	< 5.0	880
1/29/2003	**530****	**< 1.0**	**< 1.0**	**< 1.0**	**< 1.0**	**190**
MW-5						
8/29/2001	14,000	1,300	470	230	800	14,000
1/18/2002	24,000	3,200	1,300	390	1,500	5,700
4/11/2002	23,000	2,700	980	38	950	4,300
7/8/2002	19,000	3,300	25	360	1,100	2,100
10/9/2002	24,000	2,800	990	360	820	2,400
1/29/2003	**17,000**	**2,100**	**1,400**	**380**	**1,400**	**< 250**
EW-1						
1/18/2002	11,000	1,000	< 100	220	350	6,700
4/11/2002	17,000	1,000	< 100	120	140	9,700
7/8/2002	21,000	1,300	< 100	< 100	200	12,000
10/9/2002	12,000	900	< 25	< 25	200	9,200
1/29/2003	**12,000**	**860**	**73**	**130**	**500**	**4,500**
RBSL	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

RBSL = Risk Based Screening Levels presented in the "Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater" 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 detection limit.

APPENDIX A

Well Sampling Field Logs

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WELL SAMPLING FIELD LOG

Project Name and Address: Chevron Auto
Job #: 3412 Date of sampling: 1-29-03
Well Name: MW-1 Sampled by: EP
Total depth of well (feet): 27.21 Well diameter (inches): 2
Depth to water before sampling (feet): 16.26
Thickness of floating product if any: -
Depth of well casing in water (feet): 10.95
Number of gallons per well casing volume (gallons): 1.8
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 5.4
Equipment used to purge the well: bailer
Time Evacuation Began: 850 Time Evacuation Finished: 905
Approximate volume of groundwater purged: 5.5
Did the well go dry?: NO After how many gallons: -
Time samples were collected: 910
Depth to water at time of sampling: -
Percent recovery at time of sampling: -
Samples collected with: bailer
Sample color: clear / gray Odor: strong
Description of sediment in sample: silt / F sand

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	63.9	6.89	756
2	62.6	6.78	755
3	62.3	6.74	754

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	3	40 ml VOA	x	x	

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WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 1-29-03
Well Name: MW-2 Sampled by: ep
Total depth of well (feet): 27.0 Well diameter (inches): 2
Depth to water before sampling (feet): 16.82
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: _____
Req'd 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: Clear Odor: _____
Description of sediment in sample: _____

CHEMICAL DATA

SAMPLED

Volume Purged	Temp	pH	Conductivity

SAMPLES COLLECTED

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

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WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 1-29-03
Well Name: MW-3 Sampled by: ep
Total depth of well (feet): 29.66 Well diameter (inches): 2
Depth to water before sampling (feet): 16.19
Thickness of floating product if any: -
Depth of well casing in water (feet): 13.47
Number of gallons per well casing volume (gallons): 2.16
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6
Equipment used to purge the well: bailer
Time Evacuation Began: 920 Time Evacuation Finished: 940
Approximate volume of groundwater purged: 6
Did the well go dry?: no After how many gallons: -
Time samples were collected: 945
Depth to water at time of sampling: -
Percent recovery at time of sampling: -
Samples collected with: bailer
Sample color: clear/brown Odor: none
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	63.5	6.45	611
2	63.2	6.41	610
3	63.1	6.40	607

SAMPLES COLLECTED

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

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WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 1-29-03
Well Name: MW-4 Sampled by: EJ
Total depth of well (feet): 29.97 Well diameter (inches): 2
Depth to water before sampling (feet): 16.65
Thickness of floating product if any: -
Depth of well casing in water (feet): 13.32
Number of gallons per well casing volume (gallons): 2
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 6
Equipment used to purge the well: bailer
Time Evacuation Began: 730 Time Evacuation Finished: 745
Approximate volume of groundwater purged: 6
Did the well go dry?: no After how many gallons: -
Time samples were collected: 750
Depth to water at time of sampling: -
Percent recovery at time of sampling: -
Samples collected with: bailer
Sample color: clear/brown Odor: slight
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	57.1	7.45	966
2	57.1	7.43	984
3	57.0	7.42	981

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-4	3	40 ml VOA	x	x	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Chem Auto
Job #: 3412 Date of sampling: 1-29-03
Well Name: MW-5 Sampled by: RP
Total depth of well (feet): 28.50 Well diameter (inches): 2
Depth to water before sampling (feet): 16.58
Thickness of floating product if any: –
Depth of well casing in water (feet): 11.92
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): 5.8
Equipment used to purge the well: bailer
Time Evacuation Began: 1000 Time Evacuation Finished: 1015
Approximate volume of groundwater purged: 6
Did the well go dry?: No After how many gallons: –
Time samples were collected: 1025
Depth to water at time of sampling: –
Percent recovery at time of sampling: –
Samples collected with: bailer
Sample color: clear/gray Odor: moderate
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	64.6	6.	1015
2			
3			

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-5	3	40 ml VOA	x	x	

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WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 1-8-03
Well Name: ew-1 Sampled by: EP
Total depth of well (feet): 28.45 Well diameter (inches): 4
Depth to water before sampling (feet): 16.20
Thickness of floating product if any: —
Depth of well casing in water (feet): 11.75
Number of gallons per well casing volume (gallons): 7.6
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 23
Equipment used to purge the well: Sub pump
Time Evacuation Began: 800 Time Evacuation Finished: 830
Approximate volume of groundwater purged: 23
Did the well go dry?: no After how many gallons: —
Time samples were collected: 840
Depth to water at time of sampling: —
Percent recovery at time of sampling: ~~bailer~~
Samples collected with: bailer
Sample color: clear Odor: strong
Description of sediment in sample: silt / f sand

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	62.4	6.99	609
2	62.0	6.84	603
3	61.8	6.78	598

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
ew-1	3	40 ml VOA	x	x	

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

SEVERN TRENT STL

Submission#: 2003-01-0568

Aqua Science Engineers, Inc.

February 07, 2003

208 West El Pintado
Danville, CA 94526
Attn.: Erik Paddleford
Project#: 3412
Project: Chan Auto

Attached is our report for your samples received on 01/30/2003 15:00
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 03/16/2003 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: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

SEVERN TRENT STL

Submission #: 2003-01-0568

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	01/29/2003 09:10	Water	1
MW-3	01/29/2003 09:45	Water	2
MW-4	01/29/2003 07:50	Water	3
MW-5	01/29/2003 10:25	Water	4
EW-1	01/29/2003 08:40	Water	5

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-1**	Lab ID:	2003-01-0568 - 1
Sampled:	01/29/2003 09:10	Extracted:	2/5/2003 16:38
Matrix:	Water	QC Batch#:	2003/02/05-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	26000	10000	ug/L	200.00	02/05/2003 16:38	dp
Benzene	2400	100	ug/L	200.00	02/05/2003 16:38	
Toluene	ND	100	ug/L	200.00	02/05/2003 16:38	
Ethyl benzene	310	100	ug/L	200.00	02/05/2003 16:38	
Xylene(s)	520	100	ug/L	200.00	02/05/2003 16:38	
MTBE	20000	1000	ug/L	200.00	02/05/2003 16:38	
Surrogates(s)						
Trifluorotoluene	98.2	58-124	%	200.00	02/05/2003 16:38	
4-Bromofluorobenzene-FID	84.7	50-150	%	200.00	02/05/2003 16:38	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-3**	Lab ID:	2003-01-0568 - 2
Sampled:	01/29/2003 09:45	Extracted:	2/7/2003 12:22
Matrix:	Water	QC Batch#:	2003/02/07-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1800	1000	ug/L	20.00	02/07/2003 12:22	g
Benzene	ND	10	ug/L	20.00	02/07/2003 12:22	
Toluene	ND	10	ug/L	20.00	02/07/2003 12:22	
Ethyl benzene	ND	10	ug/L	20.00	02/07/2003 12:22	
Xylene(s)	ND	10	ug/L	20.00	02/07/2003 12:22	
MTBE	2300	100	ug/L	20.00	02/07/2003 12:22	
Surrogates(s)						
Trifluorotoluene	100.4	58-124	%	20.00	02/07/2003 12:22	
4-Bromofluorobenzene-FID	85.1	50-150	%	20.00	02/07/2003 12:22	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-4**	Lab ID:	2003-01-0568 - 3
Sampled:	01/29/2003 07:50	Extracted:	2/6/2003 14:53
Matrix:	Water	QC Batch#:	2003/02/06-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	530	100	ug/L	2.00	02/06/2003 14:53	g
Benzene	ND	1.0	ug/L	2.00	02/06/2003 14:53	
Toluene	ND	1.0	ug/L	2.00	02/06/2003 14:53	
Ethyl benzene	ND	1.0	ug/L	2.00	02/06/2003 14:53	
Xylene(s)	ND	1.0	ug/L	2.00	02/06/2003 14:53	
MTBE	190	10	ug/L	2.00	02/06/2003 14:53	
Surrogates(s)						
Trifluorotoluene	95.1	58-124	%	2.00	02/06/2003 14:53	
4-Bromofluorobenzene-FID	87.7	50-150	%	2.00	02/06/2003 14:53	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-5**	Lab ID:	2003-01-0568 - 4
Sampled:	01/29/2003 10:25	Extracted:	2/6/2003 15:26
Matrix:	Water	QC Batch#:	2003/02/06-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	17000	2500	ug/L	50.00	02/06/2003 15:26	
Benzene	2100	25	ug/L	50.00	02/06/2003 15:26	
Toluene	1400	25	ug/L	50.00	02/06/2003 15:26	
Ethyl benzene	380	25	ug/L	50.00	02/06/2003 15:26	
Xylene(s)	1400	25	ug/L	50.00	02/06/2003 15:26	
MTBE	ND	250	ug/L	50.00	02/06/2003 15:26	
Surrogates(s)						
Trifluorotoluene	98.0	58-124	%	50.00	02/06/2003 15:26	
4-Bromofluorobenzene-FID	89.4	50-150	%	50.00	02/06/2003 15:26	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**EW-1**	Lab ID:	2003-01-0568 - 5
Sampled:	01/29/2003 08:40	Extracted:	2/5/2003 22:32
Matrix:	Water	QC Batch#:	2003/02/05-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	12000	2500	ug/L	50.00	02/05/2003 22:32	dp
Benzene	860	25	ug/L	50.00	02/05/2003 22:32	
Toluene	73	25	ug/L	50.00	02/05/2003 22:32	
Ethyl benzene	130	25	ug/L	50.00	02/05/2003 22:32	
Xylene(s)	500	25	ug/L	50.00	02/05/2003 22:32	
MTBE	4500	250	ug/L	50.00	02/05/2003 22:32	
Surrogates(s)						
Trifluorotoluene	77.6	58-124	%	50.00	02/05/2003 22:32	
4-Bromofluorobenzene-FID	76.8	50-150	%	50.00	02/05/2003 22:32	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030 Test(s): 8015M

Method Blank **Water** **QC Batch # 2003/02/05-01.05**

MB: 2003/02/05-01.05-005 Date Extracted: 02/05/2003 10:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	02/05/2003 10:00	
Benzene	ND	0.5	ug/L	02/05/2003 10:00	
Toluene	ND	0.5	ug/L	02/05/2003 10:00	
Ethyl benzene	ND	0.5	ug/L	02/05/2003 10:00	
Xylene(s)	ND	0.5	ug/L	02/05/2003 10:00	
MTBE	ND	5.0	ug/L	02/05/2003 10:00	
Surrogates(s)					
Trifluorotoluene	89.6	58-124	%	02/05/2003 10:00	
4-Bromofluorobenzene-FID	88.9	50-150	%	02/05/2003 10:00	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030
Method Blank

Water

Test(s): 8015M
QC Batch # 2003/02/06-01.05

MB: 2003/02/06-01.05-011

Date Extracted: 02/06/2003 13:41

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	02/06/2003 13:41	
Benzene	ND	0.5	ug/L	02/06/2003 13:41	
Toluene	ND	0.5	ug/L	02/06/2003 13:41	
Ethyl benzene	ND	0.5	ug/L	02/06/2003 13:41	
Xylene(s)	ND	0.5	ug/L	02/06/2003 13:41	
MTBE	ND	5.0	ug/L	02/06/2003 13:41	
Surrogates(s)					
Trifluorotoluene	98.7	58-124	%	02/06/2003 13:41	
4-Bromofluorobenzene-FID	89.6	50-150	%	02/06/2003 13:41	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030 | Test(s): 8015M

Method Blank | **Water** | **QC Batch # 2003/02/07-01.05**

MB: 2003/02/07-01.05-004 | Date Extracted: 02/07/2003 09:34

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	02/07/2003 09:34	
Benzene	ND	0.5	ug/L	02/07/2003 09:34	
Toluene	ND	0.5	ug/L	02/07/2003 09:34	
Ethyl benzene	ND	0.5	ug/L	02/07/2003 09:34	
Xylene(s)	ND	0.5	ug/L	02/07/2003 09:34	
MTBE	ND	5.0	ug/L	02/07/2003 09:34	
Surrogates(s)					
Trifluorotoluene	98.2	58-124	%	02/07/2003 09:34	
4-Bromofluorobenzene-FID	87.9	50-150	%	02/07/2003 09:34	

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike **Water** **QC Batch # 2003/02/05-01.05**

LCS 2003/02/05-01.05-006 Extracted: 02/05/2003 Analyzed: 02/05/2003 10:33
LCSD 2003/02/05-01.05-007 Extracted: 02/05/2003 Analyzed: 02/05/2003 11:05

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	97.4	105	100.0	97.4	105.0	7.5	77-123	20		
Toluene	97.9	105	100.0	97.9	105.0	7.0	78-122	20		
Ethyl benzene	96.2	101	100.0	96.2	101.0	4.9	70-130	20		
Xylene(s)	289	302	300	96.3	100.7	4.5	75-125	20		
Surrogates(s)										
Trifluorotoluene	454	515	500	90.8	103.0		58-124			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8015M

Laboratory Control Spike **Water** **QC Batch # 2003/02/05-01.05**

LCS 2003/02/05-01.05-008 Extracted: 02/05/2003 Analyzed: 02/05/2003 11:37
LCSD 2003/02/05-01.05-009 Extracted: 02/05/2003 Analyzed: 02/05/2003 12:09

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	495	527	500	99.0	105.4	6.3	75-125	20		
Surrogates(s)										
4-Bromofluorobenzene-FID	441	457	500	88.2	91.4		50-150			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike **Water** **QC Batch # 2003/02/06-01.05**

LCS 2003/02/06-01.05-007 Extracted: 02/06/2003 Analyzed: 02/06/2003 11:32
LCSD 2003/02/06-01.05-008 Extracted: 02/06/2003 Analyzed: 02/06/2003 12:04

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	101	101	100.0	101.0	101.0	0.0	77-123	20		
Toluene	103	100	100.0	103.0	100.0	3.0	78-122	20		
Ethyl benzene	100	96.2	100.0	100.0	96.2	3.9	70-130	20		
Xylene(s)	300	289	300	100.0	96.3	3.8	75-125	20		
Surrogates(s)										
Trifluorotoluene	482	489	500	96.4	97.8		58-124			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8015M

Laboratory Control Spike **Water** **QC Batch # 2003/02/06-01.05**

LCS 2003/02/06-01.05-009 Extracted: 02/06/2003 Analyzed: 02/06/2003 12:37
LCSD 2003/02/06-01.05-010 Extracted: 02/06/2003 Analyzed: 02/06/2003 13:09

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	550	496	500	110.0	99.2	10.3	75-125	20		
Surrogates(s)										
4-Bromofluorobenzene-FID	473	434	500	94.6	86.8		50-150			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike **Water** **QC Batch # 2003/02/07-01.05**

LCS 2003/02/07-01.05-005 Extracted: 02/07/2003 Analyzed: 02/07/2003 10:06
LCSD 2003/02/07-01.05-006 Extracted: 02/07/2003 Analyzed: 02/07/2003 10:38

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	104	106	100.0	104.0	106.0	1.9	77-123	20		
Toluene	104	106	100.0	104.0	106.0	1.9	78-122	20		
Ethyl benzene	101	104	100.0	101.0	104.0	2.9	70-130	20		
Xylene(s)	303	310	300	101.0	103.3	2.3	75-125	20		
Surrogates(s)										
Trifluorotoluene	494	483	500	98.8	96.6		58-124			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Batch QC Report

Prep(s): 5030

Test(s): 8015M

Laboratory Control Spike **Water** **QC Batch # 2003/02/07-01.05**

LCS 2003/02/07-01.05-007 Extracted: 02/07/2003 Analyzed: 02/07/2003 11:10
LCSD 2003/02/07-01.05-008 Extracted: 02/07/2003 Analyzed: 02/07/2003 11:43

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	493	539	500	98.6	107.8	8.9	75-125	20		
Surrogates(s)										
4-Bromofluorobenzene-FID	436	464	500	87.2	92.8		50-150			

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.
Attn.: Erik Paddleford

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

Project: 3412
Chan Auto

Received: 01/30/2003 15:00

Legend and Notes

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 SERVICES

STL San Francisco

Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 • Fax: (925) 484-1096
Email: info@chromalab.com

2003-01-0568

Reference #: 71723

Date 1/30/03 Page 1 of 1

Report To

Attn: E Paddleford
Company: ASE
Address: Danville, CA
Phone: 925-820-9391 Email:
Bill To: Sampled By:
Attn: Phone:

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA 8015/8021 ☐ 8260B ☒ Gas w/ ☒ BTEX ☒ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ____	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other, ____	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4					Number of Containers
MW-1	1/29/03	910	W	HCl	X																									1
MW-3	↓	945	↓	↓	X																									1
MW-4		750			X																									1
MW-5		1025			X																									1
EW-1		840			X																									1

Project Info.

Project Name: Chan Ajio
Project#: 3412
PO#:
Credit Card#:

Sample Receipt

of Containers:
Head Space:
Temp: 4.9
Conforms to record:

TAT: (Std 5 Day) 72h 48h 24h Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF ☐ Global ID ____
Special Instructions / Comments:

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
E Baddleford / 1500		
Signature / Time	Signature / Time	Signature / Time
E Paddleford / 1/30/03		
Printed Name / Date	Printed Name / Date	Printed Name / Date
ASE		
Company	Company	Company

1) Received by:	2) Received by:	3) Received by:
		C Rowley / 1500
Signature / Time	Signature / Time	Signature / Time
		ROWLEY / 01/30/03
Printed Name / Date	Printed Name / Date	Printed Name / Date
		STL
Company	Company	Company

Rev 01/02

SEVERN TRENT STL

STL San Francisco

Sample Receipt Checklist

Submission #:2003- 01 - 0568

Checklist completed by: (initials) DSH Date: 01/30/03

Courier name: ☐ STL San Francisco ☑ Client _____

Custody seals intact on shipping container/samples	Yes____ No____	Not Present ✓
Chain of custody present?	Yes ✓	No____
Chain of custody signed when relinquished and received?	Yes ✓	No____
Chain of custody agrees with sample labels?	Yes ✓	No____
Samples in proper container/bottle?	Yes ✓	No____
Sample containers intact?	Yes ✓	No____
Sufficient sample volume for indicated test?	Yes ✓	No____
All samples received within holding time?	Yes ✓	No____
Container/Temp Blank temperature in compliance (4^{o} C ± 2)?	Temp: 4.9°C	Yes ✓ No____
Water - VOA vials have zero headspace?	No VOA vials submitted ~~✓~~ DSH	Yes ✓ No____

(if bubble is present, refer to approximate bubble size and itemize in comments as **S** (small ~O), **M** (medium ~ O) or **L** (large ~ O)

Water - **pH acceptable upon receipt?** ☒ Yes ☐ No

☐ **pH adjusted**– Preservative used: ☐ HNO_3 ☐ HCl ☐ H_2SO_4 ☐ NaOH ☐ ZnOAc

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments: _____

Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) _____ Date: _____/_____/03

Client contacted: ☐ Yes ☐ No

Summary of discussion: _____

Corrective Action (per PM/Client): _____