aqua science engineers inc.

November 5, 2002

[redacted]

QUARTERLY GROUNDWATER MONITORING REPORT
OCTOBER 2002 GROUNDWATER SAMPLING
ASE JOB NO. 3412

at
Former Chan's Shell Station
726 Harrison Street
Oakland, CA 94607

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 October 2002 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 October 9, 2002, 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 0.0095-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 wells sampled and extraction well EW-1 exceeded Risk Based Screening Levels (RBSLs) for those compounds 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 January 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

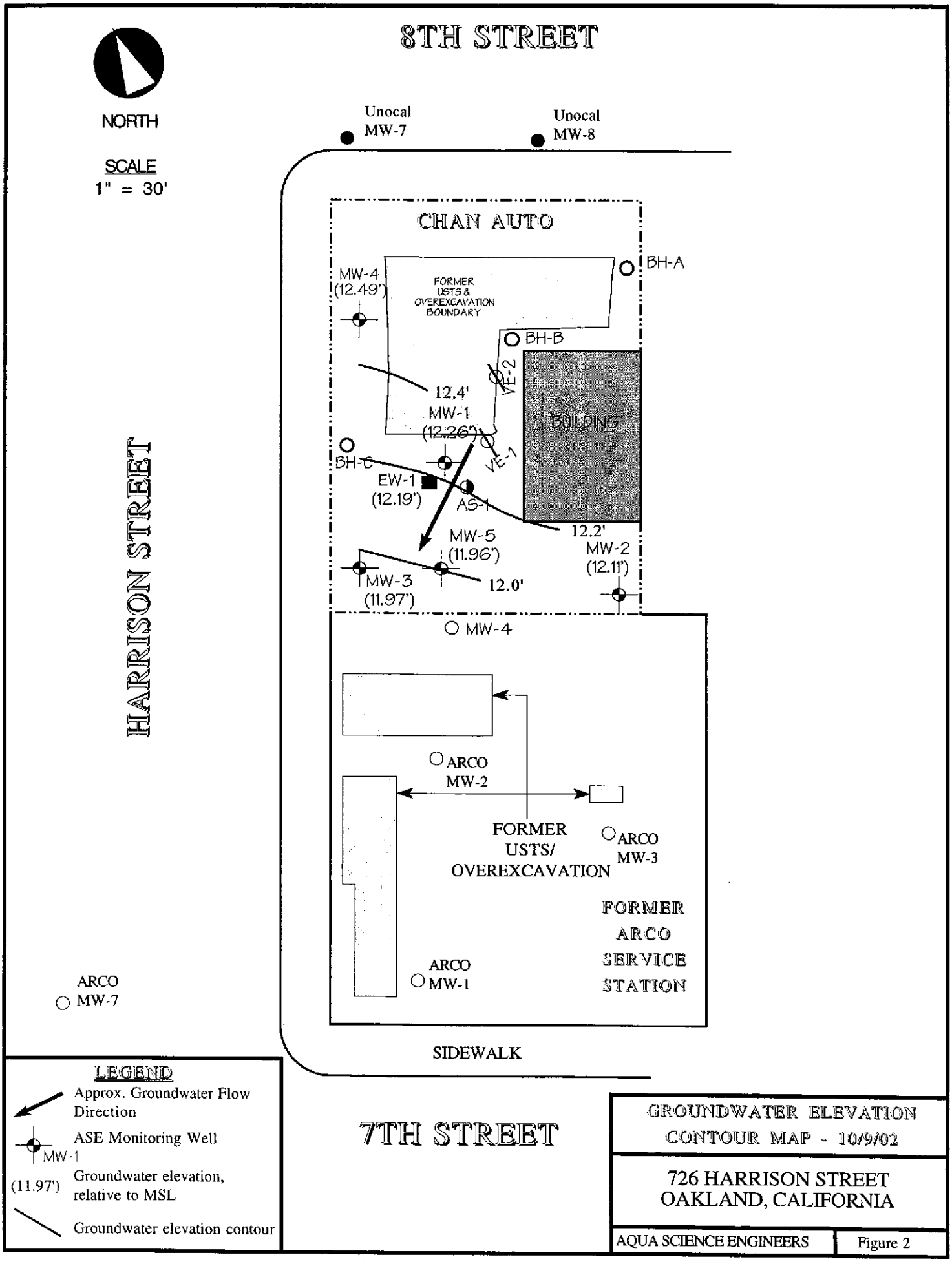

8TH STREET
NORTH
SCALE
1" = 30'
Unocal
MW-7
Unocal
MW-8
CHAN AUTO
MW-4
(12.49')
FORMER
USTS &
OVEREXCAVATION
BOUNDARY
BH-A
BH-B
VE-2
12.4'
MW-1
(12.26')
BUILDING
VE-1
BH-C
EW-1
(12.19')
AS-1
12.2'
MW-2
(12.11')
MW-5
(11.96')
MW-3
(11.97')
12.0'
MW-4
HARRISON STREET
ARCO
MW-2
FORMER
USTS/
OVEREXCAVATION
ARCO
MW-3
FORMER
ARCO
SERVICE
STATION
ARCO
MW-1
ARCO
MW-7
SIDEWALK
7TH STREET
LEGEND
Approx. Groundwater Flow Direction
MW-1
ASE Monitoring Well
(11.97')
Groundwater elevation, relative to MSL
Groundwater elevation contour
GROUNDWATER ELEVATION
CONTOUR MAP - 10/9/02
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**
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**
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		**16.67**	**11.97**
	10/9/2002			

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**
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**
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**

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**
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**

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**
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**
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**
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

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 10/9/02
Well Name: MW-1 Sampled by: RP
Total depth of well (feet): 27.21 Well diameter (inches): 2
Depth to water before sampling (feet): 16.72
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.49
Number of gallons per well casing volume (gallons): 1.67
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 5
Equipment used to purge the well: sub pump
Time Evacuation Began: 835 Time Evacuation Finished: 845
Approximate volume of groundwater purged: 5
Did the well go dry?: No After how many gallons: —
Time samples were collected: 855
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	64.3	5.80	803
2	66.0	6.42	848
3	66.2	6.46	856

SAMPLES COLLECTED

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

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 10/9/02
Well Name: MW-2 Sampled by: CP
Total depth of well (feet): 27.0 Well diameter (inches): 2
Depth to water before sampling (feet): 17.33
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: _____ Odor: _____
Description of sediment in sample: _____

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: Chan Ave
Job #: 3912 Date of sampling: 10/9/02
Well Name: MW-3 Sampled by: ep
Total depth of well (feet): 29.66 Well diameter (inches): 2
Depth to water before sampling (feet): 16.67
Thickness of floating product if any: —
Depth of well casing in water (feet): 12.99
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: 755 Time Evacuation Finished: 810
Approximate volume of groundwater purged: 6
Did the well go dry?: No After how many gallons: —
Time samples were collected: 820
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	66.4	6.44	637
2	66.6	6.42	637
3	66.8	6.41	638

SAMPLES COLLECTED

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

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Chevron Auto
Job #: 3412 Date of sampling: 10/9/02
Well Name: MW-4 Sampled by: EP
Total depth of well (feet): 29.97 Well diameter (inches): 2
Depth to water before sampling (feet): 17.09
Thickness of floating product if any: -
Depth of well casing in water (feet): 12.88
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: 720 Time Evacuation Finished: 735
Approximate volume of groundwater purged: 6
Did the well go dry?: no After how many gallons: -
Time samples were collected: 745
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	65.4	6.00	871
2	66.0	6.13	782
3	66.2	6.16	771

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: Chan Auto
Job #: 3412 Date of sampling: 10/9/02
Well Name: MW-5 Sampled by: RP
Total depth of well (feet): 28.50 Well diameter (inches): 2
Depth to water before sampling (feet): 17.10
Thickness of floating product if any: -
Depth of well casing in water (feet): 11.4
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: 955 Time Evacuation Finished: 1010
Approximate volume of groundwater purged: 5.5
Did the well go dry?: no After how many gallons: -
Time samples were collected: 1020
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	65.7	5.72	997
2	65.4	6.15	862
3	65.2	6.30	845

SAMPLES COLLECTED

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

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 10/9/02
Well Name: EW-1 Sampled by: ep
Total depth of well (feet): 28.45 Well diameter (inches): 4
Depth to water before sampling (feet): 16.70
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: 910 Time Evacuation Finished: 940
Approximate volume of groundwater purged: 23
Did the well go dry?: no After how many gallons: —
Time samples were collected: 950
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
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	65.4	6.56	639
2	65.2	6.52	613
3	65.0	6.47	609

SAMPLES COLLECTED

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

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

Submission#: 2002-10-0256

October 17, 2002

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Ln
Pleasanton CA 94566

Tel.: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

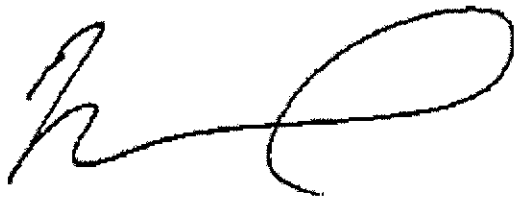
CA DHS ELAP#:2496

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

Attached is our report for your samples received on 10/10/2002 17:51
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 11/24/2002 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@chromalab.com

Sincerely,



Vincent Vancil
Project Manager

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	10/09/2002 08:55	Water	1
MW-3	10/09/2002 07:55	Water	2
MW-4	10/09/2002 07:20	Water	3
MW-5	10/09/2002 10:20	Water	4
EW-1	10/09/2002 09:50	Water	5

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-1**	Lab ID:	2002-10-0256 - 1
Sampled:	10/09/2002 08:55	Extracted:	10/15/2002 12:58
Matrix:	Water	QC Batch#:	2002/10/15-01.03

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	30000	10000	ug/L	200.00	10/15/2002 12:58	g
Benzene	1700	100	ug/L	200.00	10/15/2002 12:58	
Toluene	310	100	ug/L	200.00	10/15/2002 12:58	
Ethyl benzene	ND	100	ug/L	200.00	10/15/2002 12:58	
Xylene(s)	ND	100	ug/L	200.00	10/15/2002 12:58	
MTBE	19000	1000	ug/L	200.00	10/15/2002 12:58	
Surrogates(s)						
Trifluorotoluene	112.6	58-124	%	1.00	10/15/2002 12:58	
4-Bromofluorobenzene-FID	86.4	50-150	%	1.00	10/15/2002 12:58	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 5030
5030

Test(s): 8015M
8021B

Sample ID: **MW-3**

Lab ID: 2002-10-0256 - 2

Sampled: 10/09/2002 07:55

Extracted: 10/16/2002 12:37

Matrix: Water

QC Batch#: 2002/10/16-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	6000	5000	ug/L	100.00	10/16/2002 12:37	g
Benzene	ND	50	ug/L	100.00	10/16/2002 12:37	
Toluene	ND	50	ug/L	100.00	10/16/2002 12:37	
Ethyl benzene	ND	50	ug/L	100.00	10/16/2002 12:37	
Xylene(s)	ND	50	ug/L	100.00	10/16/2002 12:37	
MTBE	4900	500	ug/L	100.00	10/16/2002 12:37	
Surrogates(s)						
Trifluorotoluene	112.2	58-124	%	100.00	10/16/2002 12:37	
4-Bromofluorobenzene-FID	85.6	50-150	%	100.00	10/16/2002 12:37	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-4**	Lab ID:	2002-10-0256 - 3
Sampled:	10/09/2002 07:20	Extracted:	10/15/2002 13:59
Matrix:	Water	QC Batch#:	2002/10/15-01.03

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1300	500	ug/L	10.00	10/15/2002 13:59	g
Benzene	ND	5.0	ug/L	10.00	10/15/2002 13:59	
Toluene	ND	5.0	ug/L	10.00	10/15/2002 13:59	
Ethyl benzene	ND	5.0	ug/L	10.00	10/15/2002 13:59	
Xylene(s)	ND	5.0	ug/L	10.00	10/15/2002 13:59	
MTBE	880	50	ug/L	10.00	10/15/2002 13:59	
Surrogates(s)						
Trifluorotoluene	82.5	58-124	%	1.00	10/15/2002 13:59	
4-Bromofluorobenzene-FID	86.9	50-150	%	1.00	10/15/2002 13:59	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**MW-5**	Lab ID:	2002-10-0256 - 4
Sampled:	10/09/2002 10:20	Extracted:	10/15/2002 14:29
Matrix:	Water	QC Batch#:	2002/10/15-01.03

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	24000	2500	ug/L	50.00	10/15/2002 14:29	
Benzene	2800	25	ug/L	50.00	10/15/2002 14:29	
Toluene	990	25	ug/L	50.00	10/15/2002 14:29	
Ethyl benzene	360	25	ug/L	50.00	10/15/2002 14:29	
Xylene(s)	820	25	ug/L	50.00	10/15/2002 14:29	
MTBE	2400	250	ug/L	50.00	10/15/2002 14:29	
Surrogates(s)						
Trifluorotoluene	105.6	58-124	%	1.00	10/15/2002 14:29	
4-Bromofluorobenzene-FID	89.1	50-150	%	1.00	10/15/2002 14:29	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s):	5030 5030	Test(s):	8015M 8021B
Sample ID:	**EW-1**	Lab ID:	2002-10-0256 - 5
Sampled:	10/09/2002 09:50	Extracted:	10/16/2002 13:09
Matrix:	Water	QC Batch#:	2002/10/16-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	12000	2500	ug/L	50.00	10/16/2002 13:09	
Benzene	900	25	ug/L	50.00	10/16/2002 13:09	
Toluene	ND	25	ug/L	50.00	10/16/2002 13:09	
Ethyl benzene	ND	25	ug/L	50.00	10/16/2002 13:09	
Xylene(s)	200	25	ug/L	50.00	10/16/2002 13:09	
MTBE	9200	250	ug/L	50.00	10/16/2002 13:09	
Surrogates(s)						
Trifluorotoluene	113.7	58-124	%	50.00	10/16/2002 13:09	
4-Bromofluorobenzene-FID	88.8	50-150	%	50.00	10/16/2002 13:09	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030
Method Blank
MB: 2002/10/15-01.03-003

Water

Test(s): 8015M
QC Batch # 2002/10/15-01.03
Date Extracted: 10/15/2002 08:25

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/15/2002 08:25	
Benzene	ND	0.5	ug/L	10/15/2002 08:25	
Toluene	ND	0.5	ug/L	10/15/2002 08:25	
Ethyl benzene	ND	0.5	ug/L	10/15/2002 08:25	
Xylene(s)	ND	0.5	ug/L	10/15/2002 08:25	
MTBE	ND	5.0	ug/L	10/15/2002 08:25	
Surrogates(s)					
Trifluorotoluene	121.5	58-124	%	10/15/2002 08:25	
4-Bromofluorobenzene-FID	100.9	50-150	%	10/15/2002 08:25	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

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

Method Blank **Water** **QC Batch # 2002/10/16-01.05**

MB: 2002/10/16-01.05-008 Date Extracted: 10/16/2002 11:36

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/16/2002 11:36	
Benzene	ND	0.5	ug/L	10/16/2002 11:36	
Toluene	ND	0.5	ug/L	10/16/2002 11:36	
Ethyl benzene	ND	0.5	ug/L	10/16/2002 11:36	
Xylene(s)	ND	0.5	ug/L	10/16/2002 11:36	
MTBE	ND	5.0	ug/L	10/16/2002 11:36	
Surrogates(s)					
Trifluorotoluene	105.0	58-124	%	10/16/2002 11:36	
4-Bromofluorobenzene-FID	81.5	50-150	%	10/16/2002 11:36	

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike **Water** **QC Batch # 2002/10/15-01.03**

LCS 2002/10/15-01.03-004 Extracted: 10/15/2002 Analyzed: 10/15/2002 08:56
LCSD 2002/10/15-01.03-005 Extracted: 10/15/2002 Analyzed: 10/15/2002 09:26

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	96.0	84.2	100.0	96.0	84.2	13.1	77-123	20		
Toluene	94.4	82.3	100.0	94.4	82.3	13.7	78-122	20		
Ethyl benzene	94.0	83.2	100.0	94.0	83.2	12.2	70-130	20		
Xylene(s)	281	255	300	93.7	85.0	9.7	75-125	20		
Surrogates(s)										
Trifluorotoluene	509	420	500	101.8	84.0		58-124			

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

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

Laboratory Control Spike **Water** **QC Batch # 2002/10/15-01.03**

LCS 2002/10/15-01.03-006 Extracted: 10/15/2002 Analyzed: 10/15/2002 09:56
LCSD 2002/10/15-01.03-007 Extracted: 10/15/2002 Analyzed: 10/15/2002 10:26

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	509	489	500	101.8	97.8	4.0	75-125	20		
Surrogates(s)										
4-Bromofluorobenzene-FID	448	437	500	89.6	87.4		50-150			

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030 Test(s): 8021B

Laboratory Control Spike **Water** **QC Batch # 2002/10/16-01.05**

LCS 2002/10/16-01.05-004 Extracted: 10/16/2002 Analyzed: 10/16/2002 09:09
LCSD 2002/10/16-01.05-005 Extracted: 10/16/2002 Analyzed: 10/16/2002 09:41

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	99.3	102	100.0	99.3	102.0	2.7	77-123	20		
Toluene	97.2	98.1	100.0	97.2	98.1	0.9	78-122	20		
Ethyl benzene	98.7	99.9	100.0	98.7	99.9	1.2	70-130	20		
Xylene(s)	298	302	300	99.3	100.7	1.4	75-125	20		
Surrogates(s)										
Trifluorotoluene	561	575	500	112.2	115.0		58-124			

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

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

Laboratory Control Spike **Water** **QC Batch # 2002/10/16-01.05**

LCS 2002/10/16-01.05-006 Extracted: 10/16/2002 Analyzed: 10/16/2002 10:13
LCSD 2002/10/16-01.05-007 Extracted: 10/16/2002 Analyzed: 10/16/2002 10:45

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	521	547	500	104.2	109.4	4.9	75-125	20		
Surrogates(s)										
4-Bromofluorobenzene-FID	447	470	500	89.4	94.0		50-150			

Submission #: 2002-10-0256

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: 10/10/2002 17:51

SEVERN TRENT LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Legend and Notes

Result Flag

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@stlconlab.com

2002-10-0256

Reference #: 69471

Date 10/9/02 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	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4					Number of Containers
MW-1	10/9/02	855	W	HCl	X																							3
MW-3	10/9/02	755			X																								
MW-4	10/9/02	720			X																								
MW-5	10/9/02	1020			X																								
EW-1	10/9/02	950	V	V	X																							V	

Project Info.

Project Name: Chevron Alto
Project#: 3412
PO#:
Credit Card#:

Sample Receipt

of Containers:
Head Space:
Temp: 4.0°C
Conforms to record:
Other:

TAT: Std 5 Day | 72h | 48h | 24h

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

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
E Paddleford		[signature] 1751
Signature Time	Signature Time	Signature Time
E Paddleford		B Morrow 10/10/02
Printed Name Date	Printed Name Date	Printed Name Date
ASE		STL-SF
Company	Company	Company

1) Received by:	2) Received by:	3) Received by:
[signature]		Nounak 1751
Signature Time	Signature Time	Signature Time
B Morrow		Nounak.
Printed Name Date	Printed Name Date	Printed Name Date
STL-SF		STL-SF 10-10-02
Company	Company	Company

Rev 01/02

SEVERN TRENT SERVICES

STL San Francisco

Sample Receipt Checklist

Submission #: 2002- 10 - 0254

Checklist completed by: (initials) CR Date: 10/11/02

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: 4.0 °C Yes ✓ No____	
Water - VOA vials have zero headspace?	No VOA vials submitted____ 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: _____/_____/02

Client contacted: ☐ Yes ☐ No

Summary of discussion:

Corrective Action (per PM/Client):