aqua science engineers inc.

February 12, 2002

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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 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 January 18, 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 0.010-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 four 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 8020 and methyl tertiary butyl ether (MTBE) by EPA Method 8020. 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

The groundwater samples collected from monitoring well MW-1 contained 18,000 parts per billion (ppb) TPH-G, 1,500 ppb benzene, 120 ppb toluene, 160 ppb ethyl benzene, 220 ppb total xylenes, and 22,000 ppb MTBE. The groundwater samples collected from monitoring well MW-3 contained 1,600 ppb TPH-G, 26 ppb benzene, 20 ppb toluene, 16 ppb ethyl benzene 54 ppb total xylenes, and 2,100 ppb MTBE. The groundwater samples collected from monitoring well MW-4 contained 960 ppb TPH-G and 1,300 ppb MTBE. The groundwater samples collected from monitoring well MW-5 contained 24,000 ppb TPH-G, 3,200 ppb benzene, 1,300 ppb toluene, 390 ppb ethyl benzene, 1,500 ppb total xylenes, and 5,700 ppb MTBE. The groundwater samples collected from extraction well EW-1 contained 11,000 ppb TPH-G, 1,000 ppb benzene, 220 ppb ethyl benzene, 350 ppb total xylenes, and 6,700 ppb MTBE. The TPH-G concentration detected in monitoring well MW-4 did not match the laboratory gasoline standard.

In general, the groundwater samples had hydrocarbon concentrations consistent with previous findings. There was a slight increase in MTBE concentrations detected in groundwater samples collected from monitoring wells MW-3 and MW-4. There was an increase in hydrocarbon concentrations detected in groundwater samples collected from monitoring well MW-5 except for MTBE, which decreased in that well this quarter.

The TPH-G, benzene, total xylene, and MTBE concentrations detected in groundwater samples collected from monitoring wells MW-1, MW-5, and extraction well EW-1 exceeded Risk Based Screening Levels (RBSLs) for those compounds 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 August 2000. The TPH-G, total xylene, and MTBE concentrations detected in groundwater samples collected from monitoring well MW-3 exceeded RBSLs for those compounds. The TPH-G concentration detected in the groundwater sample collected from monitoring well MW-4 also exceeded the RBSL.

5.0 RECOMMENDATIONS

ASE recommends continued groundwater monitoring on a quarterly basis. The next groundwater sampling is scheduled for April 2002.

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

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**
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**
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**

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**
MW-5	8/29/2001	29.06	17.42	11.64
	1/18/2002		**15.68**	**13.38**
EW-1	**1/18/2002**	**28.89**	**15.35**	**13.54**

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**
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			
1/18/2002			**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**

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**
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**
EW-1						
1/18/2002	**11,000**	**1,000**	**< 100**	**220**	**350**	**6,700**
RBSL	400	46	130	290	13	1,800

Notes:

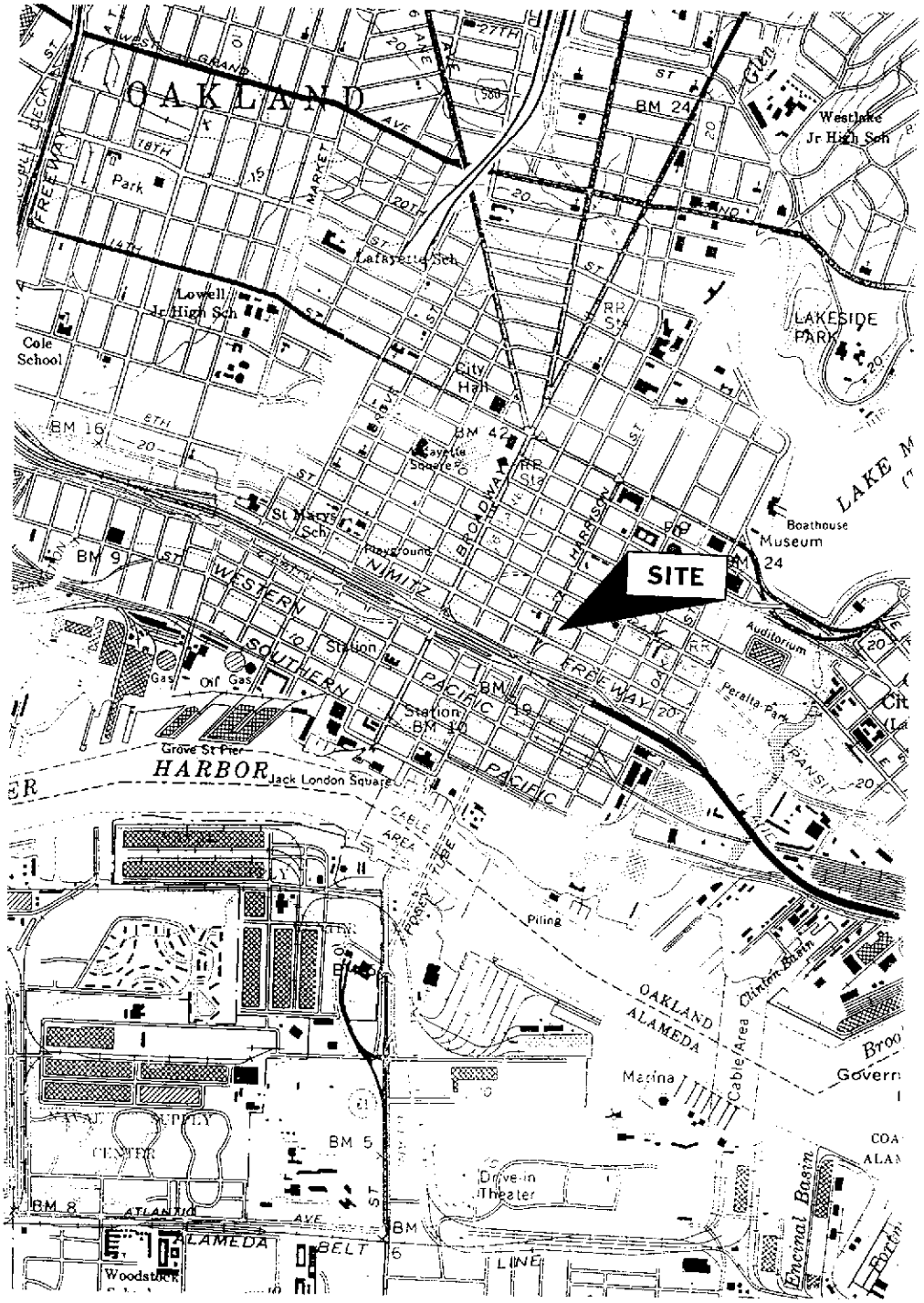
* EPA Method 5020/EPA Method 8260 (MTBE confirmation)

** 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.



SITE LOCATION MAP

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

Aqua Science Engineers | Figure 1

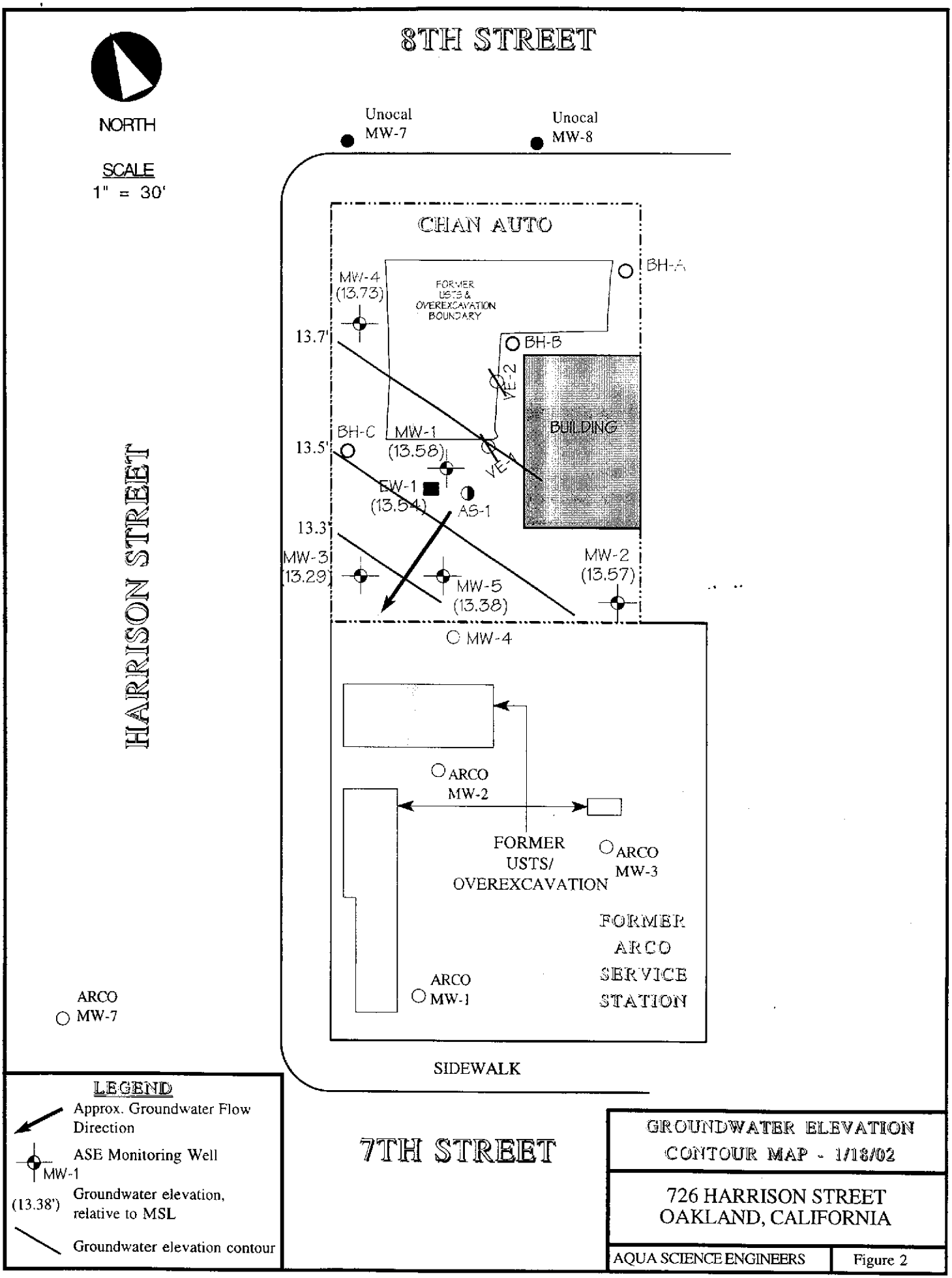

8TH STREET
NORTH
SCALE
1" = 30'
Unocal
MW-7
Unocal
MW-8
CHAN AUTO
BH-A
MW-4
(13.73)
FORMER
USTS &
OVEREXCAVATION
BOUNDARY
13.7'
BH-B
VE-2
BUILDING
BH-C
MW-1
(13.58)
13.5'
VE-1
EW-1
(13.54)
AS-1
13.3'
MW-3
(13.29)
MW-5
(13.38)
MW-2
(13.57)
MW-4
HARRISON STREET
ARCO
MW-2
FORMER
USTS/
OVEREXCAVATION
ARCO
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
(13.38')
Groundwater elevation, relative to MSL
Groundwater elevation contour
GROUNDWATER ELEVATION
CONTOUR MAP - 1/18/02
726 HARRISON STREET
OAKLAND, CALIFORNIA
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Figure 2

APPENDIX A

Well Sampling Field Logs

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WELL SAMPLING FIELD LOG

Project Name and Address: Chan Auto
Job #: 3412 Date of sampling: 1/4/02
Well Name: MW-1 Sampled by: EP
Total depth of well (feet): 27.21 Well diameter (inches): 2
Depth to water before sampling (feet): 15.40
Thickness of floating product if any: —
Depth of well casing in water (feet): 11.81
Number of gallons per well casing volume (gallons): 1.88
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 7.5
Equipment used to purge the well: bailer
Time Evacuation Began: 920 Time Evacuation Finished: 935
Approximate volume of groundwater purged: 7.5
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 940
Depth to water at time of sampling: —
Percent recovery at time of sampling: —
Samples collected with: bailer
Sample color: clear / gray Odor: strong HC odor
Description of sediment in sample:

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	63.2	6.64	755
2	63.8	6.82	751
3	63.9	7.41	748
4	64.1	7.59	744

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: 1/18/02
Well Name: MW-2 Sampled by: EP
Total depth of well (feet): 27.0 Well diameter (inches): 2
Depth to water before sampling (feet): 15.87
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: _____

SAMPLED

CHEMICAL DATA

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:
Well Name: MW-3 Sampled by:
Total depth of well (feet): 29.66 Well diameter (inches):
Depth to water before sampling (feet): 15.35
Thickness of floating product if any: Ø
Depth of well casing in water (feet): 14.31
Number of gallons per well casing volume (gallons): 2.28
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 9
Equipment used to purge the well: bailer
Time Evacuation Began: 1040 Time Evacuation Finished: 1100
Approximate volume of groundwater purged: 9
Did the well go dry?: NO After how many gallons: -
Time samples were collected: 1105
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	67.3	7.14	828
2	67.0	7.38	809
3	66.4	7.47	774
4	66.2	7.54	763

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: 1/18/02
Well Name: MW-4 Sampled by: EF
Total depth of well (feet): 29.97 Well diameter (inches): 2
Depth to water before sampling (feet): 15.85
Thickness of floating product if any: -
Depth of well casing in water (feet): 14.12
Number of gallons per well casing volume (gallons): 2.25
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 9
Equipment used to purge the well: bailer
Time Evacuation Began: 840 Time Evacuation Finished: 900
Approximate volume of groundwater purged: 9
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: ~~gray~~ clear/brown Odor: slight HC odor
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	60.8	7.13	1058
2	62.3	7.28	842
3	63.0	7.30	815
4	63.2	7.31	804

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-4	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: 1/18/02
Well Name: MW-5 Sampled by: EP
Total depth of well (feet): 28-50 Well diameter (inches): 2
Depth to water before sampling (feet): 15.68
Thickness of floating product if any: ~~[illegible]~~ -
Depth of well casing in water (feet): 12.82
Number of gallons per well casing volume (gallons): 2.5
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 10
Equipment used to purge the well: bailer
Time Evacuation Began: 1000 Time Evacuation Finished: 1020
Approximate volume of groundwater purged: 10
Did the well go dry?: NO After how many gallons: -
Time samples were collected: 1030
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	7.31	1147
2	65.6	7.38	1114
3	65.3	7.42	1094
4	65.1	7.46	1080

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: 1/18/02
Well Name: EW-1 Sampled by: EP
Total depth of well (feet): 28.45 Well diameter (inches): 4
Depth to water before sampling (feet): 15.35
Thickness of floating product if any: -
Depth of well casing in water (feet): 13.10
Number of gallons per well casing volume (gallons): 8.5
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 34
Equipment used to purge the well: Sub pump
Time Evacuation Began: 915 Time Evacuation Finished: 945
Approximate volume of groundwater purged: 35
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: gray / clear Odor: strong HC
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	63.1	7.41	780
2	63.6	7.38	779
3	63.7	7.35	778
4	63.9	7.33	777

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

Submission #: 2002-01-0339

Date: January 29, 2002

SEVERN TRENT SERVICES

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#1094

Aqua Science Engineers, Inc.
208 West El Pintado
Danville, CA 94526

Attn: Erik Paddleford

Project: 3412
Chan Automotive
Site: 72b Harrision Street

Attached is our report for your samples received on Monday January 21, 2002
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 March 7, 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 #: 2002-01-0339

Gas/BTEX Compounds by 8015M/8021

SEVERN TRENT SERVICES

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#1094

Aqua Science Engineers, Inc.	✉ 208 West El Pintado Danville, CA 94526
Attn: Erik Paddleford	Phone: (925) 820-9391 Fax: (925) 837-4853
3412 Site72b Harrision Street	Project: Chan Automotive

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	01/18/2002 09:40	1
MW-3	Water	01/18/2002 11:05	2
MW-4	Water	01/18/2002 09:10	3
MW-5	Water	01/18/2002 10:30	4
EW-1	Water	01/18/2002 09:50	5

Submission #: 2002-01-0339

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Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn: Erik Paddleford

Test Method: 8015M
8021B

Prep Method: 5030

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CA DHS ELAP#1094

Sample ID:	**MW-1**	Lab Sample ID:	2002-01-0339-001
Project:	3412 Chan Automotive	Received:	01/21/2002 16:17
Site:	72b Harrison Street Oakland, Ca	Extracted:	01/22/2002 23:04
Sampled:	01/18/2002 09:40	QC-Batch:	2002/01/22-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	18000	10000	ug/L	200.00	01/22/2002 23:04	
Benzene	1500	100	ug/L	200.00	01/22/2002 23:04	
Toluene	120	100	ug/L	200.00	01/22/2002 23:04	
Ethyl benzene	160	100	ug/L	200.00	01/22/2002 23:04	
Xylene(s)	220	100	ug/L	200.00	01/22/2002 23:04	
MTBE	22000	1000	ug/L	200.00	01/22/2002 23:04	
Surrogate(s)						
Trifluorotoluene	83.8	58-124	%	200.00	01/22/2002 23:04	
4-Bromofluorobenzene-FID	85.0	50-150	%	200.00	01/22/2002 23:04	

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn: Erik Paddleford

Test Method: 8015M 8021B

Prep Method: 5030

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CA DHS ELAP#1094

Sample ID:	**MW-3**	Lab Sample ID:	2002-01-0339-002
Project:	3412 Chan Automotive	Received:	01/21/2002 16:17
Site:	72b Harrision Street Oakland, Ca	Extracted:	01/22/2002 23:36
Sampled:	01/18/2002 11:05	QC-Batch:	2002/01/22-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	1600	1000	ug/L	20.00	01/22/2002 23:36	
Benzene	26	10	ug/L	20.00	01/22/2002 23:36	
Toluene	20	10	ug/L	20.00	01/22/2002 23:36	
Ethyl benzene	16	10	ug/L	20.00	01/22/2002 23:36	
Xylene(s)	54	10	ug/L	20.00	01/22/2002 23:36	
MTBE	2100	100	ug/L	20.00	01/22/2002 23:36	
Surrogate(s)						
Trifluorotoluene	75.8	58-124	%	20.00	01/22/2002 23:36	
4-Bromofluorobenzene-FID	90.1	50-150	%	20.00	01/22/2002 23:36	

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn: Erik Paddleford

Test Method: 8015M
8021B

Prep Method: 5030

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CA DHS ELAP#1094

Sample ID:	**MW-4**	Lab Sample ID:	2002-01-0339-003
Project:	3412 Chan Automotive	Received:	01/21/2002 16:17
Site:	72b Harrision Street Oakland, Ca	Extracted:	01/24/2002 23:12
Sampled:	01/18/2002 09:10	QC-Batch:	2002/01/24-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	960	500	ug/L	10.00	01/24/2002 23:12	g
Benzene	ND	5.0	ug/L	10.00	01/24/2002 23:12	
Toluene	ND	5.0	ug/L	10.00	01/24/2002 23:12	
Ethyl benzene	ND	5.0	ug/L	10.00	01/24/2002 23:12	
Xylene(s)	ND	5.0	ug/L	10.00	01/24/2002 23:12	
MTBE	1300	50	ug/L	10.00	01/24/2002 23:12	
Surrogate(s)						
Trifluorotoluene	59.9	58-124	%	10.00	01/24/2002 23:12	
4-Bromofluorobenzene-FID	80.5	50-150	%	10.00	01/24/2002 23:12	

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn: Erik Paddleford

Test Method: 8015M 8021B

Prep Method: 5030

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CA DHS ELAP#1094

Sample ID:	**MW-5**	Lab Sample ID:	2002-01-0339-004
Project:	3412 Chan Automotive	Received:	01/21/2002 16:17
Site:	72b Harrision Street Oakland, Ca	Extracted:	01/23/2002 00:40
Sampled:	01/18/2002 10:30	QC-Batch:	2002/01/22-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	24000	10000	ug/L	200.00	01/23/2002 00:40	
Benzene	3200	100	ug/L	200.00	01/23/2002 00:40	
Toluene	1300	100	ug/L	200.00	01/23/2002 00:40	
Ethyl benzene	390	100	ug/L	200.00	01/23/2002 00:40	
Xylene(s)	1500	100	ug/L	200.00	01/23/2002 00:40	
MTBE	5700	1000	ug/L	200.00	01/23/2002 00:40	
Surrogate(s)						
Trifluorotoluene	80.9	58-124	%	200.00	01/23/2002 00:40	
4-Bromofluorobenzene-FID	87.4	50-150	%	200.00	01/23/2002 00:40	

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

Gas/BTEX Compounds by 8015M/8021

Aqua Science Engineers, Inc.

Attn: Erik Paddleford

Test Method: 8015M
8021B

Prep Method: 5030

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CA DHS ELAP#1094

Sample ID:	**EW-1**	Lab Sample ID:	2002-01-0339-005
Project:	3412 Chan Automotive	Received:	01/21/2002 16:17
Site:	72b Harrision Street Oakland, Ca	Extracted:	01/25/2002 13:39
Sampled:	01/18/2002 09:50	QC-Batch:	2002/01/25-01.02
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	11000	10000	ug/L	200.00	01/25/2002 13:39	
Benzene	1000	100	ug/L	200.00	01/25/2002 13:39	
Toluene	ND	100	ug/L	200.00	01/25/2002 13:39	
Ethyl benzene	220	100	ug/L	200.00	01/25/2002 13:39	
Xylene(s)	350	100	ug/L	200.00	01/25/2002 13:39	
MTBE	6700	1000	ug/L	200.00	01/25/2002 13:39	
Surrogate(s)						
Trifluorotoluene	89.7	58-124	%	200.00	01/25/2002 13:39	
4-Bromofluorobenzene-FID	86.6	50-150	%	200.00	01/25/2002 13:39	

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M
8021B

Prep Method: 5030

Method Blank **Water** **QC Batch # 2002/01/22-01.02**

MB: 2002/01/22-01.02-003 Date Extracted: 01/22/2002 08:10

Compound	Result	Rep.Limit	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/22/2002 08:10	
Benzene	ND	0.5	ug/L	01/22/2002 08:10	
Toluene	ND	0.5	ug/L	01/22/2002 08:10	
Ethyl benzene	ND	0.5	ug/L	01/22/2002 08:10	
Xylene(s)	ND	0.5	ug/L	01/22/2002 08:10	
MTBE	ND	5.0	ug/L	01/22/2002 08:10	
Surrogate(s)					
Trifluorotoluene	92.7	58-124	%	01/22/2002 08:10	
4-Bromofluorobenzene-FID	97.3	50-150	%	01/22/2002 08:10	

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M
8021B

Prep Method: 5030

Method Blank | **Water** | **QC Batch # 2002/01/24-01.02**

MB: 2002/01/24-01.02-003 | Date Extracted: 01/24/2002 08:13

Compound	Result	Rep.Limit	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/24/2002 08:13	
Benzene	ND	0.5	ug/L	01/24/2002 08:13	
Toluene	ND	0.5	ug/L	01/24/2002 08:13	
Ethyl benzene	ND	0.5	ug/L	01/24/2002 08:13	
Xylene(s)	ND	0.5	ug/L	01/24/2002 08:13	
MTBE	ND	5.0	ug/L	01/24/2002 08:13	
Surrogate(s)					
Trifluorotoluene	84.8	58-124	%	01/24/2002 08:13	
4-Bromofluorobenzene-FID	91.9	50-150	%	01/24/2002 08:13	

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M
8021B

Prep Method: 5030

Method Blank **Water** **QC Batch # 2002/01/25-01.02**

MB: 2002/01/25-01.02-003

Date Extracted: 01/25/2002 08:09

Compound	Result	Rep.Limit	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	01/25/2002 08:09	
Benzene	ND	0.5	ug/L	01/25/2002 08:09	
Toluene	ND	0.5	ug/L	01/25/2002 08:09	
Ethyl benzene	ND	0.5	ug/L	01/25/2002 08:09	
Xylene(s)	ND	0.5	ug/L	01/25/2002 08:09	
MTBE	ND	5.0	ug/L	01/25/2002 08:09	
Surrogate(s)					
Trifluorotoluene	77.6	58-124	%	01/25/2002 08:09	
4-Bromofluorobenzene-FID	84.0	50-150	%	01/25/2002 08:09	

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8021B Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/22-01.02**

LCS: 2002/01/22-01.02-004 Extracted: 01/22/2002 08:42 Analyzed: 01/22/2002 08:42

LCSD: 2002/01/22-01.02-005 Extracted: 01/22/2002 09:14 Analyzed: 01/22/2002 09:14

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Benzene	96.8	96.0	100.0	100.0	96.8	96.0	0.8	77-123	20		
Toluene	91.6	91.0	100.0	100.0	91.6	91.0	0.7	78-122	20		
Ethyl benzene	96.3	96.1	100.0	100.0	96.3	96.1	0.2	70-130	20		
Xylene(s)	282	282	300	300	94.0	94.0	0.0	75-125	20		
Surrogate(s)											
Trifluorotoluene	478	477	500	500	95.6	95.4		58-124			

Submission #: 2002-01-0339

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Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/22-01.02**

LCS: 2002/01/22-01.02-006 Extracted: 01/22/2002 09:46 Analyzed: 01/22/2002 09:46

LCSD: 2002/01/22-01.02-007 Extracted: 01/22/2002 10:18 Analyzed: 01/22/2002 10:18

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Gasoline	414	451	500	500	82.8	90.2	8.6	75-125	20		
Surrogate(s)											
4-Bromofluorobenzene	506	518	500	500	101.2	103.6		50-150			

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8021B Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/24-01.02**

LCS: 2002/01/24-01.02-004 Extracted: 01/24/2002 08:45 Analyzed: 01/24/2002 08:45

LCSD: 2002/01/24-01.02-005 Extracted: 01/24/2002 09:17 Analyzed: 01/24/2002 09:17

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Benzene	96.6	95.1	100.0	100.0	96.6	95.1	1.6	77-123	20		
Toluene	92.6	91.4	100.0	100.0	92.6	91.4	1.3	78-122	20		
Ethyl benzene	96.3	95.4	100.0	100.0	96.3	95.4	0.9	70-130	20		
Xylene(s)	284	280	300	300	94.7	93.3	1.5	75-125	20		
Surrogate(s)											
Trifluorotoluene	479	462	500	500	95.8	92.4		58-124			

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/24-01.02**

LCS: 2002/01/24-01.02-006 Extracted: 01/24/2002 09:49 Analyzed: 01/24/2002 09:49

LCSD: 2002/01/24-01.02-007 Extracted: 01/24/2002 10:21 Analyzed: 01/24/2002 10:21

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Gasoline	429	427	500	500	85.8	85.4	0.5	75-125	20		
Surrogate(s)											
4-Bromofluorobenzene	512	494	500	500	102.4	98.8		50-150	0		

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8021B Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/25-01.02**

LCS: 2002/01/25-01.02-004 Extracted: 01/25/2002 08:41 Analyzed: 01/25/2002 08:41

LCSD: 2002/01/25-01.02-005 Extracted: 01/25/2002 09:14 Analyzed: 01/25/2002 09:14

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Benzene	95.1	93.4	100.0	100.0	95.1	93.4	1.8	77-123	20		
Toluene	89.9	89.3	100.0	100.0	89.9	89.3	0.7	78-122	20		
Ethyl benzene	94.0	93.4	100.0	100.0	94.0	93.4	0.6	70-130	20		
Xylene(s)	277	275	300	300	92.3	91.7	0.7	75-125	20		
Surrogate(s)											
Trifluorotoluene	472	460	500	500	94.4	92.0		58-124			

Submission #: 2002-01-0339

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Batch QC report

Test Method: 8015M Prep Method: 5030

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 2002/01/25-01.02**

LCS: 2002/01/25-01.02-006 Extracted: 01/25/2002 09:46 Analyzed: 01/25/2002 09:46

LCSD: 2002/01/25-01.02-007 Extracted: 01/25/2002 10:17 Analyzed: 01/25/2002 10:17

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Gasoline	447	430	500	500	89.4	86.0	3.9	75-125	20		
Surrogate(s)											
4-Bromofluorobenzene	520	504	500	500	104.0	100.8		50-150			

Submission #: 2002-01-0339

SEVERN TRENT SERVICES

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CA DHS ELAP#1094

Gas/BTEX Compounds by 8015M/8021

Legend & Notes

Test Method: 8021B
8015M

Prep Method: 5030

Analyte Flags

g

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

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

2002-01-0337

PAGE 1 OF 1

SAMPLER (SIGNATURE) E Paddleford (PHONE NO.)

PROJECT NAME Chan Automotive JOB NO. 3412

ADDRESS 72b Harrison Street Oakland, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
email results to:
e_paddleford@MSN.com

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	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 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G/BTEX/5 OXYS (EPA 8260)	TPH-G/BTEX/7 OXYS / HVOCS (EPA 8260)			COMPOSITE
MW-1	1/18/02	940	Water	3	X																	
MW-3		1105			X																	
MW-4		910			X																	
MW-5		1030			X																	
EW-1		950			X																	

RELINQUISHED BY: (signature) (time)	RECEIVED BY: (signature) 1012 (time)	RELINQUISHED BY: (signature) 1617 (time)	RECEIVED BY LABORATORY: (signature) 1617 ~~14:35~~ NM (time) 1/21/02	COMMENTS: 4.0°C
E Paddleford (printed name) (date)	B Morris 1/21/02 (printed name) (date)	B Morris (printed name) (date) 1/21/02	Nauna Kinam-mouretry (printed name) (date) 1/21/02	TURN AROUND TIME
Company- ASE	Company- STL-SF	Company- STL-SF	Company- STL SF.	STANDARD 24Hr 48Hr 72Hr ~~OTHER:~~