Hutch's Mission Car Wash

SINCE 1955

DETAILING QUIK LUBE

November 15, 2011

Mark Detterman
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: RO0000451
Hutch's Car Wash
17945 Hesperian Blvd
San Lorenzo, CA 94580

Dear Mr. Detterman:

Attached please find a copy of the Soil Vapor Survey Report for the above referenced site.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,

Kirk Hutchison

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HUTCHSCW@SBCGLOBAL.NET

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October 31, 2011

REPORT
for a
SOIL VAPOR SURVEY
at
Hutch's Carwash
17945 Hesperian Boulevard
San Lorenzo, California

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
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1.0 INTRODUCTION

This submittal presents Aqua Science Engineer's, Inc. (ASE) report for a soil vapor survey (SVS) at the Hutch's Carwash property located at 17945 Hesperian Boulevard in San Lorenzo, California (Figure 1). The proposed site assessment activities were initiated by Mr. Kirk Hutchison, former owner of the property, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letters dated December 16, 2010 and April 11, 2011.

2.0 SITE HISTORY

2.1 Soil and Groundwater Assessment, December 1998

On December 1, 1998, eight soil borings were drilled at the site using a Geoprobe hydraulic sampling rig (Figure 2). Borings BH-A and BH-B were located near the former fuel dispensers. The remaining borings (BH-C through BH-H) were located in areas surrounding the underground storage tanks (USTs).

Soil samples were collected from each of the eight borings and were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene and total xylenes (collectively known as BTEX) and methyl tertiary butyl ether (MTBE), and total lead. None of the soil samples contained significant concentrations of any of the compounds analyzed. Groundwater samples collected from the six deeper borings were analyzed for TPH-G, BTEX and MTBE. The water samples contained up to 290 parts per billion (ppb) benzene, 620 ppb toluene, 3,000 ppb ethylbenzene, 7,100 ppb total xylenes, and 4,400 ppb MTBE. For complete details of the afore-mentioned assessment activities, see the ASE Assessment Report dated December 22, 1998.

2.2 UST Closure Activities

On January 21, 1999, ASE provided project management support for the closure-in-place of the two 5,000 gallon USTs and one 10,000 gallon UST at the subject site (Figure 2). Hutch's Carwash plan was to use the former fuel tanks for a water-reclamation system for their car washing operations. This proposed plan for the USTs' closure-in-place and subsequent re-use as water holding tanks was previously approved by the ACHCSA.

Clearwater Environmental Management, Inc. (Clearwater) mobilized to the site on January 21, 1999 with a pressure washing unit and a vacuum truck for UST evacuation. Using the pressure washer, the interior of the piping systems and each UST was rinsed. The rinsate and residual fuel was then removed from each UST using the vacuum truck. The liquid was transported by Clearwater from the site to the Alviso Independent Oil facility in Alviso, California where it was recycled.

Using a remote camera and television screen supplied by Rescue Rooter, the interior of each UST was inspected by ASE and Mr. Weston of the ACHCSA. It was visually obvious that the interior of the USTs had been coated with a sprayed-on coating that appeared shiny in most views. There did not appear to exist any obvious integrity failures, staining or scaling.

Hutch's personnel later filled each of the USTs to capacity with water then sealed all pipe and tank openings with caps and plugs as necessary. For complete details regarding the UST closure activities, see the ASE UST Closure Report dated February 8, 1999.

2.3 Monitoring Well Installation

In September 1999, ASE drilled three soil borings at the site and installed monitoring wells MW-1 through MW-3 in the borings. The only hydrocarbons detected in the soil samples collected during the assessment were 24 parts per million (ppm) TPH-G in the soil sample collected from 15.0-feet below ground surface (bgs) in boring MW-1, 200 ppm MTBE in the soil sample collected from 10.5-feet bgs in boring MW-1, 0.011 ppm MTBE in the soil sample collected from 11.0-feet bgs in boring MW-2 and 0.070 ppm in the soil sample collected from 15.0-feet bgs in boring MW-2. Lead was detected in the soil sample collected from 15.0-feet bgs in boring MW-1 at 5.0 ppm and in the soil sample collected from 15.0-feet bgs in boring MW-3 at 6.0 ppm. No other hydrocarbons or lead were detected in any of the soil samples analyzed.

The groundwater sample collected from monitoring well MW-1 contained 1,500 ppb TPH-G, 3.3 ppb benzene, 2.3 ppb ethyl benzene, 27 ppb toluene, 72 ppb total xylenes and 120 ppb MTBE. The groundwater sample collected from monitoring well MW-2 contained 18 ppb MTBE. No TPH-G or BTEX were detected in groundwater samples collected from monitoring well MW-2. No hydrocarbons were detected in groundwater samples collected from monitoring well MW-3.

2.4 Groundwater Monitoring

The site has been on a quarterly, and then semi-annual sampling program since the well installation. In general, the hydrocarbon concentrations have decreased and currently only groundwater samples are collected from monitoring well MW-1 following periods of non-detectable concentrations in monitoring wells MW-2 and MW-3. Depth to groundwater and analytical results from the groundwater monitoring is presented in Tables One and Two.

2.5 Workplan for Additional Assessment

In May 2008, ASE prepared a workplan to conduct an additional soil and groundwater assessment on the downgradient edge of the site. This workplan was generally approved by the ACHCSA in a letter dated October 23, 2008 with a requested modification of the spacing of the borings. This letter from the ACHCSA also requested that a preferential pathway survey and area well survey be conducted for the site.

2.6 Preferential Pathway Survey and Area Well Survey

In April 2010, ASE prepared a preferential pathway survey and area well survey for the site. The preferential pathway survey consisted of reviewing Underground Service Alert (USA) markings in the site vicinity, making visual inspections of the property and surrounding area, reviewing documents such as as-built drawings supplied by the city and individual utility companies, and contacting individuals that would have knowledge of the individual utility lines.

Based on the location and depth of the underground utility lines in the site vicinity and the depth to groundwater in the site vicinity, no potential preferential pathways for the migration of groundwater contamination that may have originated from the subject site were identified.

The area well survey consisted of reviewing records of wells in the site vicinity from the Alameda County Public Works Agency (ACPWA) and California Department of Water Resources (DWR) for wells located within 1/4-mile of the site. Forty wells were located during this survey. Of these wells, 29 are monitoring wells, two are extraction (remediation) wells, four are destroyed wells, three are irrigation wells, one is a boring, and one is a domestic well. In addition, there are three wells in the southern portion of the study area that could not be located precisely given the data provided that may also be in the study area. These additional wells are listed as a domestic well, a destroyed well and an irrigation well. It is believed that these wells are likely located in John F. Kennedy Park on the southern edge of the study area and in a crossgradient location of the site.

All of the wells listed as irrigation or domestic wells are located either upgradient of the site or crossgradient of the site at a distance of approximately 1,000-feet from the site. Based on this data, none of the domestic and irrigation wells in the site vicinity are at risk of contamination from hydrocarbons that originated from sources on the subject site. All of the downgradient wells are located at least 1/8th of a mile from the site and all are monitoring wells related to the Arco Petroleum Products environmental investigation.

2.7 July 2010 Soil and Groundwater Assessment

In July 2010, ASE drilled soil borings BH-I through BH-L at the site using a Geoprobe hydraulic sampling rig equipped with a dual-wall sampler. All of these borings were drilled in a straight line at a spacing of 30-feet along the western edge of the property. Soil samples collected from the capillary zone (13.5 to 14.5-feet bgs) and the bottom of the boring (34 to 39.5-feet bgs) were analyzed for total petroleum hydrocarbons as diesel (TPH-D), TPH-G, BTEX, five oxygenates and lead scavengers. In each boring, a soil sample from the capillary zone (13.5 to 14.5-feet bgs) and the bottom of the boring (34 to 39.5-feet bgs) were selected for analysis. No hydrocarbons, oxygenates or lead scavengers were detected in any of the soil samples analyzed. Groundwater samples were collected, or at least attempted to be collected, at each water-bearing zone encountered to a depth of 40-feet bgs. TPH-D concentrations above drinking water environmental screening levels (ESLs) were detected in three of the nine groundwater samples analyzed at concentrations up to 430 ppb. However, only one of these samples contained TPH-D concentrations above non-drinking water ESLs. The MTBE concentration of 59 ppb detected in the groundwater sample collected from 20-25-feet bgs in boring BH-K exceeded the drinking water ESL but not the non-drinking water ESL. No MTBE was detected in the deeper 26-28-feet bgs groundwater sample from this boring and none of the other samples from the other borings contained MTBE in excess of any ESL. No BTEX or lead scavengers were detected in any of the samples.

2.8 December 16, 2010 Directive Letter from the ACHCSA

On December 16, 2010, the ACHCSA issued a directive letter requesting that all three groundwater monitoring wells be sampled during the December 2010 groundwater monitoring event and requesting that a SVS be conducted for the site.

2.9 December 2010 Groundwater Monitoring Event

On December 27, 2010, ASE collected groundwater samples from all three groundwater monitoring wells at the site. The groundwater sample collected from monitoring well MW-1 contained 98 ppb TPH-G, 75 ppb MTBE, 19 ppb tert-amyl methyl ether (TAME), and 14 ppb tert-butanol (TBA). The TPH-G and MTBE concentrations are slightly higher than the concentrations in May 2010, but lower than the December 2009 results. There appears to be a long term decreasing trend in hydrocarbon concentrations. No BTEX has been detected since 2006. No hydrocarbons or oxygenates were detected in the groundwater samples collected from monitoring wells MW-2 and MW-3.

The MTBE and TBA concentrations in the groundwater sample collected from monitoring well MW-1 exceeded ESLs for sites where water is a current or potential source of drinking water but did not exceed the ESLs for sites where groundwater is not a current or potential source of drinking water.

3.0 PROPOSED SCOPE OF WORK

The ACHCSA requested a soil vapor survey to investigate and evaluate the potential for soil vapor intrusion at the site. The proposed SOW is as follows:

1) Obtain the necessary drilling permit from the ACPWA.

2) Notify Underground Service Alert (USA) of the drilling and contract with a private underground utility locating service to clean the drilling locations of underground utility lines

3) Collect soil vapor samples from three locations at the site.

4) Analyze the soil vapor sample from each boring at a CAL-EPA certified analytical laboratory for TPH-G and BTEX by EPA Method TO-15.

5) Backfill each boring with neat cement.

6) Prepare a report presenting the methods and findings of this assessment.

Details of the assessment are presented below.

4.0 COLLECT SOIL VAPOR SAMPLES

4.1 Drilling Permit and Underground Utility Line Clearance

Prior to drilling, ASE obtained a drilling permit from the ACPWA. A copy of this permit is presented in Appendix A.

ASE also notified Underground Service Alert (USA) to have public underground utility lines marked in the site vicinity. A private underground utility line locating service, Cruz Brothers of Scott's Valley, California, was also contracted to clear each boring location of underground utility lines.

4.2 Soil Vapor Sample Collection

Prior to conducting the project, ASE verified that there was no significant rainfall (no more than ¼-inch) for 5 days prior to the soil vapor sampling. There were no nearby irrigation systems.

On September 13, 2011, Vironex, Inc. of Concord, California pushed soil vapor points SVS-1 through SVS-3 to a depth of 5-feet bgs using a Geoprobe hydraulic sampling rig. The sampling locations are shown on Figure 2. ASE senior geologist Robert E. Kitay, P.G. directed the drilling.

The bottom of each rod contained an expendable point. Once at depth, ¼" Teflon tubing with a 1-inch screen was inserted inside the drive rod. The drive rod was then retracted approximately 6-inches separating the expendable point and the rods and creating the desired void for the sample collection Membrane. Sand was then added to fill the void to 6-inches above the sample point. Above the sand, 6-inches of dry granulated bentonite was added followed by hydrated bentonite to the surface to prevent ambient air intrusion into the borehole.

The borehole was then allowed to equilibrate 20 minutes prior to purging and sampling. A "vacuum shut in test" was then be conducted to verify there were no leaks in the sample train system. A minimum vacuum of 100-inches of water column was applied to the sampling manifold and valves system between the Summa canister and the probe for at least 5 minutes with all valves closed. A vacuum of 100-inches of water was maintained during the test for all three points.

For the sampling, the sampling probe and Summa canister were placed in a shroud consisting of a plastic shroud with glove entry. Helium was then added to the shroud as a tracer gas at a minimum concentration of 15% by volume. The tubing was then purged of at least three volumes to insure that all ambient air was removed from the tubing using a 5-liter Summa canister. The sample was then collected in a 1-liter Summa canister with a rate between 100 to 200-ml per minute and at a vacuum of less than 100-inches of water. The samples were labeled with the site location, sample designation, date and time the samples are collected, and the initials of the person collecting the sample. The samples were delivered under chain of custody to a CAL-EPA certified analytical laboratory for analysis.

All disposable equipment and supplies were discarded and non-disposable equipment was cleaned with an Alconox solution and triple rinsed between sampling locations.

4.3 Backfill the Borings

Following collection of the vapor samples, the boreholes were reamed out and then backfilled with neat cement placed by tremie pipe.

5.0 ANALYTICAL RESULTS FOR SOIL VAPOR SAMPLES

Each sample was analyzed by Air Toxics Limited of Folsom, California (ELAP 02110) for TPH-G and BTEX by EPA Method TO-15, and carbon dioxide, oxygen, nitrogen, methane and helium by ASTM D1946.

The analytical results are tabulated on Table Three, and the certified analytical report and chain of custody form are included in Appendix B.

Petroleum hydrocarbons were detected in all three soil vapor samples. However, none of the hydrocarbon concentrations exceeded either ESLs for shallow soil gas (vapor intrusion concerns) or California Human Health Screening Levels (CHHSLs) for either residential or commercial properties. ESLs are established by the California Regional Water Quality Control Board, San Francisco Bay Region in their "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document dated May 2008. CHHSLs are established by the California Department of Toxic Substances Control in their "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties" document dated January 2005.

Ratios of atmospheric gasses show very little evidence of bioremediation activity in SVS-1, with oxygen, nitrogen, carbon dioxide and methane all similar to natural atmospheric conditions. Ratios of atmospheric gasses in SVS-3 show some evidence of bioremediation, with slightly depleted oxygen, and slightly increased nitrogen and carbon from natural atmospheric conditions. Ratios of atmospheric gasses in SVS-2 show significant evidence of bioremediation activity, with significantly depleted oxygen, and significantly increased nitrogen, carbon dioxide, and methane compared to atmospheric conditions. The only helium concentration detected was in SVS-1. However, this concentration was less than 10% of the helium concentration within the shroud indicating a valid sample.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- Petroleum hydrocarbons were detected in all three soil vapor samples. However, none of the hydrocarbon concentrations exceeded ESLs or CHHSLs.

- Ratios of atmospheric gasses show very little evidence of bioremediation activity in SVS-1, some evidence of bioremediation activity in SVS-3, and significant evidence of bioremediation activity in SVS-2.

- ASE recommends that this case be reviewed for closure at this time. ASE recommends no further environmental assessment activities at this time.

7.0 REPORT LIMITATIONS

The results presented in this report represent conditions at the time of the soil vapor sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed by the laboratory.

This report does not fully characterize the site for contamination resulting from unknown sources 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 provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

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

Attachments: Figures 1 and 2
Tables One through Three
Appendices A and B

cc: Mr. Mark Detterman, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Mr. Kirk Hutchison, Hutch's Carwash, 6355 McCarran Blvd, Reno, NV 89509

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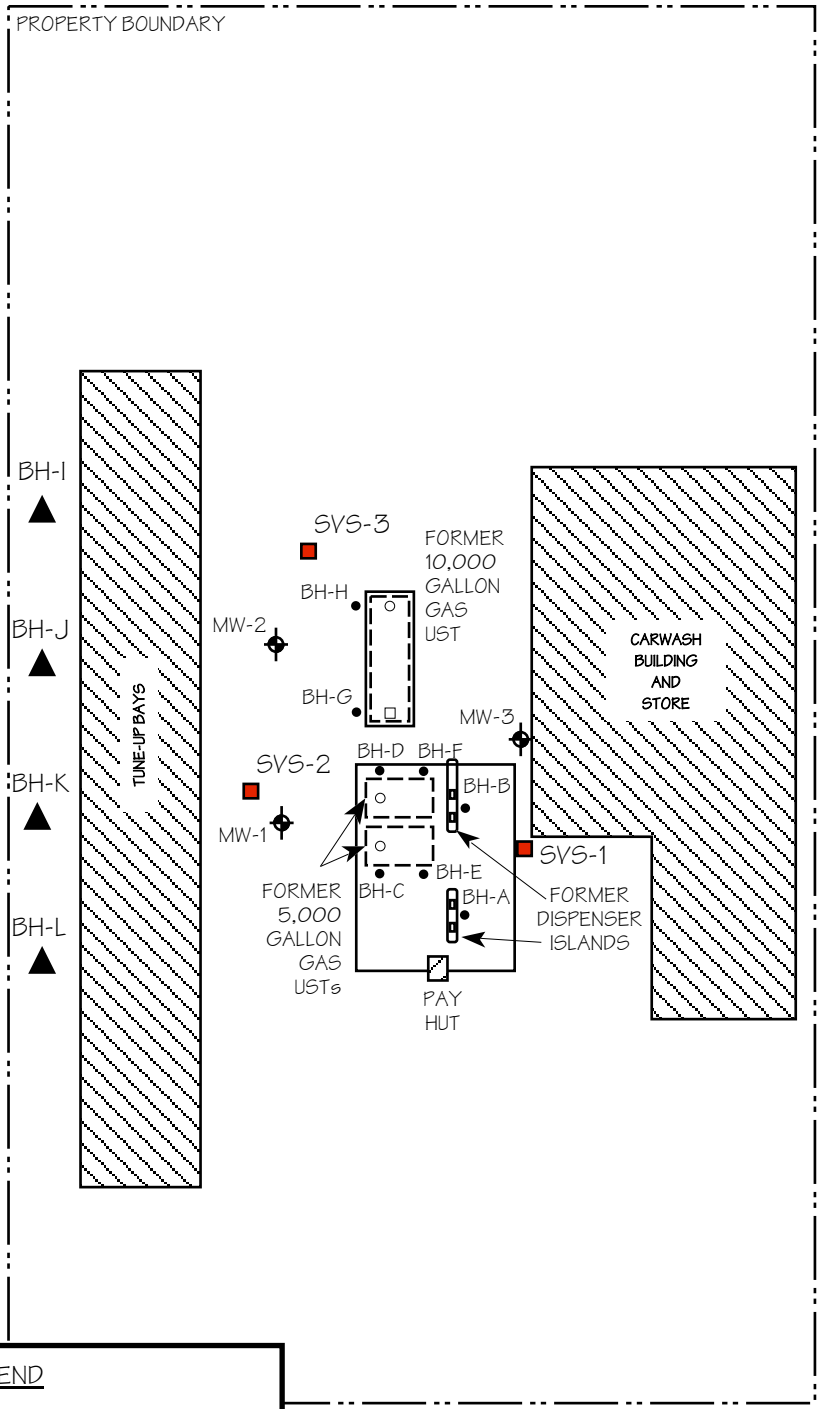
FIGURES

NORTH

SITE LOCATION MAP

HUTCH'S CARWASH
17945 HESPERIAN BOULEVARD
SAN LORENZO, CA

AQUA SCIENCE ENGINEERS, INC. | Figure 1



SOIL VAPOR SURVEY LOCATIONS &
PREVIOUS BORING &
WELL LOCATION MAP

HUTCH'S CARWASH
17945 HESPERIAN BOULEVARD
SAN LORENZO, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | FIGURE 2

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TABLES

TABLE ONE

Groundwater Elevation Data

Hutch's Carwash

17945 Hesperian Blvd., San Lorenzo, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	10/6/99	35.00	15.58	19.42
	1/13/00		15.58	19.42
	4/12/00		14.75	20.25
	7/19/00		15.29	19.71
	10/25/00		15.56	19.44
	1/16/01		15.22	19.78
	4/4/01		15.05	19.95
	7/6/01		15.49	19.51
	10/1/01		15.78	19.22
	1/7/02		13.83	21.17
	4/2/02		14.83	20.17
	7/9/02		15.41	19.59
	10/1/02		15.70	19.3
	1/24/03		14.69	20.31
	7/25/03		15.41	19.59
	1/16/04		14.73	20.27
	7/14/04		15.54	19.46
	1/29/05		14.38	20.62
	7/22/05		15.23	19.77
	1/25/06		14.00	21.00
	6/10/06		15.13	19.87
	1/26/07		15.30	19.70
	7/5/07		15.46	19.54
	1/30/08		14.32	20.68
	1/27/09		15.43	19.57
	12/8/09		15.57	19.43
	5/21/10		15.06	19.94
	12/27/10		**15.11**	**19.89**
MW-2	10/6/99	35.21	15.84	19.37
	1/13/00		15.78	19.43
	4/12/00		14.94	20.27
	7/19/00		15.54	19.67
	10/25/00		15.81	19.4
	1/16/01		15.50	19.71
	4/4/01		15.28	19.93
	7/6/01		15.73	19.48
	10/1/01		16.06	19.15
	1/7/02		14.08	21.13
	4/2/02		15.04	20.17
	7/9/02		15.66	19.55
	10/1/02		15.96	19.25
	1/24/03		14.90	20.31
	7/25/03		15.68	19.53
	1/16/04		14.93	20.28
	7/14/04		15.81	19.40
	1/29/05		14.90	20.31
	7/22/05		15.46	19.75
	1/25/06		14.16	21.05
	6/10/06		15.40	19.81
	1/26/07		15.55	19.66
	7/5/07		15.72	19.49
	1/30/08		14.51	20.70
	1/27/09		15.67	19.54
	12/8/09		15.85	19.36
	5/21/10		15.29	19.92
	12/27/10		**15.30**	**19.91**

TABLE ONE

Groundwater Elevation Data

Hutch's Carwash

17945 Hesperian Blvd., San Lorenzo, CA

Well ID	Date of Measurement	Top of Casing Elevation (Relative to Mean Sea Level)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-3	10/6/99	34.47	14.98	19.49
	1/13/00		14.98	19.49
	4/12/00		14.09	20.38
	7/19/00		14.70	19.77
	10/25/00		14.98	19.49
	1/16/01		14.58	19.89
	4/4/01		14.43	20.04
	7/6/01		14.85	19.62
	10/1/01		15.21	19.26
	1/7/02		13.24	21.23
	4/2/02		14.20	20.27
	7/9/02		14.81	19.66
	10/1/02		15.12	19.35
	1/24/03		14.05	20.42
	7/25/03		14.82	19.65
	1/16/04		14.08	20.39
	7/14/04		14.94	19.53
	1/29/05		14.03	20.44
	7/22/05		14.59	19.88
	1/25/06		13.31	21.16
	6/10/06		14.53	19.94
	1/26/07		14.69	19.78
	7/5/07		14.88	19.59
	1/30/08		13.64	20.83
	1/27/09		14.83	19.64
	12/8/09		14.98	19.49
	5/21/10		14.44	20.03
	12/27/10		**13.81**	**20.66**

TABLE TWO

Summary of Analytical Results for GROUNDWATER Samples

Hutch's Carwash

17945 Hesperian Blvd., San Lorenzo, CA

All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
MW-1									
10/6/99	1,500	3.3	2.3	27	72	120	---	---	---
1/13/00	1,500	15	19	19	33	650	---	---	---
4/12/00	1,700	18	13	45	79	2,600	---	---	---
7/19/00	2,200	31	< 5.0	81	100	2,000	---	---	---
10/25/00	3,300	20	< 5.0	98	9.4	3,300	---	---	---
1/16/01	4,100	34	14	60	120	1,300	---	---	---
4/4/01	2,900	14	< 0.5	34	32	2,000	---	---	---
7/6/01	1,300	4.4	< 0.5	12	13	700	---	---	---
10/1/01	1,100	4.1	< 0.5	18	19	520	---	---	---
1/7/02	1,400	34	< 0.5	13	15	1,300	---	---	---
4/2/02	1,900	30	6.7	24	30	1,000	---	---	---
7/9/02	1,500	26	< 5.0	12	8.6	820	---	---	---
10/1/02	830	3.6	< 2.5	7.4	2.9	520	---	---	---
1/24/03	1,300	6.2	< 5.0	12	< 5.0	680	---	---	---
7/25/03	520	15	< 1.0	11	1.0	250	---	---	---
1/16/04	540	3.9	< 2.5	8.3	3.1	290	---	---	---
7/14/04	220	< 1.0	< 1.0	8.1	< 1.0	140	---	---	---
1/29/05	160	1.0	< 0.5	2.5	< 1.0	60	---	---	---
7/22/05	380	2.5	< 1.0	9.1	< 2.0	210	---	---	---
1/25/06	250	1.2	< 1.0	3.3	< 2.0	220	---	---	---
6/10/06	< 100	< 1.0	< 1.0	1.3	< 2.0	180	---	---	---
1/26/07	< 50	< 0.5	< 0.5	< 0.5	< 1.0	18	---	---	---
7/5/07	< 50	< 0.5	< 0.5	< 0.5	< 1.0	37	---	---	---
1/30/08	< 200	< 2.0	< 2.0	< 2.0	< 4.0	290	---	---	---
1/27/09	140	< 0.5	< 0.5	< 0.5	< 0.5	170	---	---	---
12/8/09	170	< 0.5	< 0.5	< 0.5	< 0.5	150	---	---	---
5/20/10	69	< 0.5	< 0.5	< 0.5	< 0.5	33	---	---	---
12/27/10	**98**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**75**	**19**	**14**	**< 0.50**

TABLE TWO

Summary of Analytical Results for GROUNDWATER Samples
Hutch's Carwash
17945 Hesperian Blvd., San Lorenzo, CA
All results are in parts per billion (ppb)

Well ID & Dates Sampled	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TAME	TBA	Other Oxygenates
MW-2									
10/6/99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	18	---	---	---
1/13/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	16	---	---	---
4/12/00	< 100	< 1.0	< 1.0	< 1.0	< 1.0	240	---	---	---
7/19/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
10/25/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	6	---	---	---
1/16/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	8	---	---	---
4/4/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
7/6/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	6	---	---	---
10/1/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	21	---	---	---
1/7/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
4/2/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
7/9/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
12/27/10	**< 50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 5.0**	**< 0.50**
MW-3									
10/6/99	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
1/13/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
4/12/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
7/19/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
10/25/00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	---	---	---
12/27/10	**< 50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 0.50**	**< 5.0**	**< 0.50**
ESL (DW)	100	1	40	30	20	5	NE	12	Varies
ESL (NDW)	210	46	130	43	100	1,800	NE	18,000	Varies

Notes:

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

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

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

ESL = Environmental screening level presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (May 2008)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

DW = Groundwater is considered a current or potential source of drinking water
NDW = Groundwater is not considered a current or potential source of drinking water

Most current data is in **Bold**

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

NE = Not established

TABLE THREE

Summary of Analytical Results of Soil Vapor Samples
Petroleum Hydrocarbons, Atmospheric Gases and Helium
Hutch's Carwash, 17945 Hesperian Blvd, San Lorenzo, California

Sample Location	Sample Depth (ft)	Date Sampled	TPH Gasoline (ug/m3)	Benzene (ug/m3)	Toluene (ug/m3)	Ethyl Benzene (ug/m3)	m,p-Xylenes (ug/m3)	o' Xylenes (ug/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (%)
SVS-1	5	9/13/11	**2,700**	**6.6**	**12**	< 5.2	**6.6**	< 5.2	**21**	**78**	**0.058**	**0.0091**	**1.3**
SVS-2	5	9/13/11	**3,800**	**6.6**	**16**	< 5.2	**13**	< 5.2	**5.6**	**90**	**4.5**	**0.039**	< 0.12
SVS-3	5	9/13/11	**4,700**	**6.7**	**51**	**5.8**	**28**	**11**	**19**	**80**	**0.39**	**0.0014**	< 0.12
ESL (Residential)			10000	84	63000	980	21000	21000	NE	NE	NE	NE	NE
ESL (Commercial)			29000	280	180000	3,300	58000	58000	NE	NE	NE	NE	NE
CHHSL (Residentail)			NE	36.2	135000	NE	317000	315000	NE	NE	NE	NE	NE
CHHSL (Commercial)			NE	122	378000	NE	887000	879000	NE	NE	NE	NE	NE

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations in **BOLD**

ESL = Environmental Screening Levels presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated May 2008.

CHHSL = California Human Health Screening Level for shallow soil gas (vapor intrusion) presented in "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties" dated January 2005.

Note that m-xylene and p-xylene have different CHHSLs. The lowest one is listed in the table.

NE = Not established

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

APPENDIX A

Drilling Permit

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/31/2011 By jamesy

Permit Numbers: W2011-0568
Permits Valid from 09/13/2011 to 09/13/2011

Application Id: 1314755401544 **City of Project Site:** San Lorenzo
Site Location: 17945 Hesperian Blvd
Project Start Date: 09/13/2011 **Completion Date:** 09/13/2011
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Applicant: Aqua Science Engineers - Robert Kitay **Phone:** 925-820-9391
55 Oak Court, Suite 220, Danville, CA 94526
Property Owner: Danny Soroudi **Phone:** --
9595 Wilshire Boulevard, Suite 501, Beverly Hills, CA 90212
Client: Kirk Hutchison **Phone:** --
6355 McCarran Blvd, Reno, NV 89509

Total Due: $265.00
Receipt Number: WR2011-0267 **Total Amount Paid:** $265.00
Payer Name : Aqua Science Engineers Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 3 Boreholes
Driller: Vironex - Lic #: 705927 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2011-0568	08/31/2011	12/12/2011	3	2.00 in.	5.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or

waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation
For Soil Vapor Samples

Air Toxics LTD.
Laboratory Services Since 1989

9/23/2011
Mr. Robert Kitay
Aqua Science Engineers
55 Oak Court
Suite 220
Danville CA 95426

Project Name: Hutch's Car Wash
Project #: 2411
Workorder #: 1109266A

Dear Mr. Robert Kitay

The following report includes the data for the above referenced project for sample(s) received on 9/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1109266A

Work Order Summary

CLIENT:	Mr. Robert Kitay Aqua Science Engineers 55 Oak Court Suite 220 Danville, CA 95426	**BILL TO:**	Mr. Robert Kitay Aqua Science Engineers 55 Oak Court Suite 220 Danville, CA 95426
PHONE:	925-820-9391	**P.O. #**	NA
FAX:	925-837-4853	**PROJECT #**	2411 Hutch's Car Wash
DATE RECEIVED:	09/14/2011	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/23/2011		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVS-1	Modified TO-15	4.5 "Hg	15 psi
02A	SVS-2	Modified TO-15	5.0 "Hg	15 psi
03A	SVS-3	Modified TO-15	5.5 "Hg	15 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Linda D. Frumarn DATE: 09/23/11

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Aqua Science Engineers
Workorder# 1109266A

Three 1 Liter Summa Canister samples were received on September 14, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVS-1

Lab ID#: 1109266A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.8	6.6
Toluene	1.2	3.1	4.5	12
m,p-Xylene	1.2	1.5	5.2	6.6
TPH ref. to Gasoline (MW=100)	60	660	240	2700

Client Sample ID: SVS-2

Lab ID#: 1109266A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.9	6.6
Toluene	1.2	4.2	4.6	16
m,p-Xylene	1.2	3.0	5.2	13
TPH ref. to Gasoline (MW=100)	60	940	250	3800

Client Sample ID: SVS-3

Lab ID#: 1109266A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.9	6.7
Toluene	1.2	14	4.6	51
Ethyl Benzene	1.2	1.3	5.4	5.8
m,p-Xylene	1.2	6.4	5.4	28
o-Xylene	1.2	2.5	5.4	11
TPH ref. to Gasoline (MW=100)	62	1100	250	4700

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SVS-1

Lab ID#: 1109266A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091617**	**Date of Collection: 9/13/11 11:38:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 9/16/11 05:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.8	6.6
Toluene	1.2	3.1	4.5	12
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	1.5	5.2	6.6
o-Xylene	1.2	Not Detected	5.2	Not Detected
TPH ref. to Gasoline (MW=100)	60	660	240	2700

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SVS-2

Lab ID#: 1109266A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091618**	**Date of Collection: 9/13/11 12:13:00 PM**	
Dil. Factor:	**2.42**	**Date of Analysis: 9/16/11 06:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.9	6.6
Toluene	1.2	4.2	4.6	16
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	3.0	5.2	13
o-Xylene	1.2	Not Detected	5.2	Not Detected
TPH ref. to Gasoline (MW=100)	60	940	250	3800

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SVS-3

Lab ID#: 1109266A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091619**	**Date of Collection: 9/13/11 12:58:00 PM**	
Dil. Factor:	**2.47**	**Date of Analysis: 9/16/11 06:56 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.2	2.1	3.9	6.7
Toluene	1.2	14	4.6	51
Ethyl Benzene	1.2	1.3	5.4	5.8
m,p-Xylene	1.2	6.4	5.4	28
o-Xylene	1.2	2.5	5.4	11
TPH ref. to Gasoline (MW=100)	62	1100	250	4700

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	105	70-130

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Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1109266A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/11 10:09 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	99	70-130

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Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1109266A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/11 06:50 AM**	

Compound	%Recovery
Benzene	91
Toluene	91
Ethyl Benzene	98
m,p-Xylene	97
o-Xylene	101
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	109	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1109266A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/11 07:42 AM**	

Compound	**%Recovery**
Benzene	90
Toluene	89
Ethyl Benzene	100
m,p-Xylene	107
o-Xylene	110
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	116	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1109266A-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2091604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/11 08:16 AM**	

Compound	**%Recovery**
Benzene	89
Toluene	88
Ethyl Benzene	98
m,p-Xylene	106
o-Xylene	107
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	115	70-130

@Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Robert Kitay

Collected by: (Print and Sign) Robert Kitay

Company Aqua Science Engineers Email rkitay@aquascienceengineers.com

Address 550 Kett, Ste 220 City Danville State CA Zip 94526

Phone (925) 820-9391 Fax (925) 837-4853

Project Info:
P.O. # NA
Project # 2411
Project Name Hutch's car wash

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SVS-1	11835	9-13-11	1138	TPH-G, BTEX, CO_2, O_2, N_2, He, methane	-30	-5		
02A	SVS-2	1108	9-13-11	1213	↓	-30	-5		
03A	SVS-3	3393	9-13-11	1258	↓	-27	-5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Robert E. Kitay	9-14-11 1122		9-14-11 1127
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL DROP OFF		N/A	Good	Yes No (None)	1109206

Form 1293 rev.11

Air Toxics LTD.
Laboratory Services Since 1989

9/27/2011
Mr. Robert Kitay
Aqua Science Engineers
55 Oak Court
Suite 220
Danville CA 95426

Project Name: Hutch's Car Wash
Project #: 2411
Workorder #: 1109266B

Dear Mr. Robert Kitay

The following report includes the data for the above referenced project for sample(s) received on 9/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1109266B

Work Order Summary

CLIENT:	Mr. Robert Kitay Aqua Science Engineers 55 Oak Court Suite 220 Danville, CA 95426	**BILL TO:**	Mr. Robert Kitay Aqua Science Engineers 55 Oak Court Suite 220 Danville, CA 95426
PHONE:	925-820-9391	**P.O. #**	NA
FAX:	925-837-4853	**PROJECT #**	2411 Hutch's Car Wash
DATE RECEIVED:	09/14/2011	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/27/2011		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVS-1	Modified ASTM D-1946	4.5 "Hg	15 psi
02A	SVS-2	Modified ASTM D-1946	5.0 "Hg	15 psi
03A	SVS-3	Modified ASTM D-1946	5.5 "Hg	15 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
04B	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Linda D. Fruman DATE: 09/27/11

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Aqua Science Engineers
Workorder# 1109266B

Three 1 Liter Summa Canister samples were received on September 14, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SVS-1

Lab ID#: 1109266B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Nitrogen	0.24	78
Carbon Dioxide	0.024	0.058
Methane	0.00024	0.0091
Helium	0.12	1.3

Client Sample ID: SVS-2

Lab ID#: 1109266B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	5.6
Nitrogen	0.24	90
Carbon Dioxide	0.024	4.5
Methane	0.00024	0.039

Client Sample ID: SVS-3

Lab ID#: 1109266B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	80
Carbon Dioxide	0.025	0.39
Methane	0.00025	0.0014

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Client Sample ID: SVS-1

Lab ID#: 1109266B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092107**	**Date of Collection:**	**9/13/11 11:38:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/21/11 09:05 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Nitrogen	0.24	78
Carbon Dioxide	0.024	0.058
Methane	0.00024	0.0091
Helium	0.12	1.3

Container Type: 1 Liter Summa Canister

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Client Sample ID: SVS-2

Lab ID#: 1109266B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092108**	**Date of Collection: 9/13/11 12:13:00 PM**	
Dil. Factor:	**2.42**	**Date of Analysis: 9/21/11 09:57 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	5.6
Nitrogen	0.24	90
Carbon Dioxide	0.024	4.5
Methane	0.00024	0.039
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SVS-3

Lab ID#: 1109266B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092109**	**Date of Collection:**	**9/13/11 12:58:00 PM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**9/21/11 10:32 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	80
Carbon Dioxide	0.025	0.39
Methane	0.00025	0.0014
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1109266B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092105**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/11 08:16 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Carbon Dioxide	0.010	Not Detected
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1109266B-04B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092104b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/11 07:48 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1109266B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/11 06:52 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Dioxide	100
Methane	98
Helium	94

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1109266B-05AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092129**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/11 08:04 PM**	

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Dioxide	99
Methane	99
Helium	94

Container Type: NA - Not Applicable

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
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Project Manager Robert Kitay

Collected by: (Print and Sign) Robert Kitay

Company Aqua Science Engineers Email rkitay@aquascienceengineers.com

Address 550 Kett, Ste 220 City Danville State CA Zip 94526

Phone (925) 820-9391 Fax (925) 837-4853

Project Info:
P.O. # NA
Project # 2411
Project Name Hutch's car wash

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SVS-1	11835	9-13-11	1138	TPH-G, BTEX, CO_2, O_2, N_2, He, methane	-30	-5		
02A	SVS-2	1108	9-13-11	1213	↓	-30	-5		
03A	SVS-3	3393	9-13-11	1258	↓	-27	-5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Robert E. Kitay	9-14-11 1122		9-14-11 1127
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	ATL DROP OFF		N/A	Good	Yes No (None)	1109206

Form 1293 rev.11