

# Hutch's Car Washes

SINCE 1955

DETAILING

QUIK LUBE

**RECEIVED**

9:45 am, Jan 25, 2011

Alameda County  
Environmental Health

January 20, 2011

Mark Detterman  
Alameda County Health Care Services  
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 most recent groundwater sampling 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,

  
Allen Kirk Hutchison

Attachment



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

January 12, 2011

GROUNDWATER MONITORING REPORT  
DECEMBER 2010 GROUNDWATER SAMPLING  
ASE JOB NO. 3411  
at  
Hutch's Carwash  
17945 Hesperian Boulevard  
San Lorenzo, California

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
55 Oak Court, Suite 220  
Danville, CA 94526  
(925) 820-9391



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

## **1.0 INTRODUCTION**

The following is a report detailing the results of the December 27, 2010 groundwater sampling at the Hutch's Carwash property located at 17945 Hesperian Boulevard in San Lorenzo, California (Figures 1 and 2).

## **2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT**

On December 27, 2010, ASE measured the depth to water in each site monitoring 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 of the monitoring wells. Groundwater elevation data is presented in Table One.

The groundwater flow is to the west at a gradient of 0.016-feet/foot. Groundwater elevation (potentiometric surface) contours are plotted on Figure 2.

## **3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS**

On December 27, 2010, ASE collected a groundwater sample from all three monitoring wells for analyses. Monitoring wells MW-2 and MW-3 were sampled for the first time in at least eight years at the request of the Alameda County Health Care Services Agency (ACHCSA) to confirm current conditions as a preparation for possible case closure. Prior to sampling, the monitoring wells were purged of three well casing volumes of groundwater. The parameters pH, temperature, and conductivity were monitored during the well purging, and samples were not collected until these parameters stabilized. Samples were then collected using disposable polyethylene bailers. The groundwater samples were decanted from the bottom of the bailers using a low-flow emptying device into 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, labeled, and stored on ice for transport to Kiff Analytical, LLC of Davis, California (CA ELAP #2236) under appropriate chain of custody documentation.

The well sampling purge water was contained in a sealed and labeled 55-gallon steel drum. The well sampling field logs are included as Appendix A.

The groundwater samples were analyzed by Kiff Analytical, LLC for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene, and total xylenes (collectively known as BTEX) and five fuel oxygenates, including methyl tertiary butyl ether (MTBE) by EPA Method 8260B.

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



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

#### **4.0 RESULTS AND CONCLUSIONS**

The groundwater sample collected from monitoring well MW-1 contained 98 parts per billion (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 the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Levels (ESLs) presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater" document dated May 2008 for sites where water is a current or potential source of drinking water. However, the MTBE and TBA concentrations did not exceed the ESLs for sites where groundwater is not a current or potential source of drinking water.

#### **5.0 RECOMMENDATIONS**

A workplan to conduct a soil vapor survey will be prepared during the next quarter.

#### **6.0 REPORT LIMITATIONS**

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

It 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-DHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.



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

Aqua Science Engineers appreciates the opportunity to 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.

A handwritten signature in black ink that reads "Robert E. Kitay". The signature is written in a cursive style with a long horizontal stroke at the end.



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

Attachments: Figures 1 and 2  
Appendices A and B

cc: Mr. Kirk Hutchison, Hutch's Car Wash  
Mr. Mark Detterman, Alameda County Health Care Services Agency



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

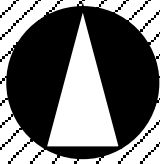
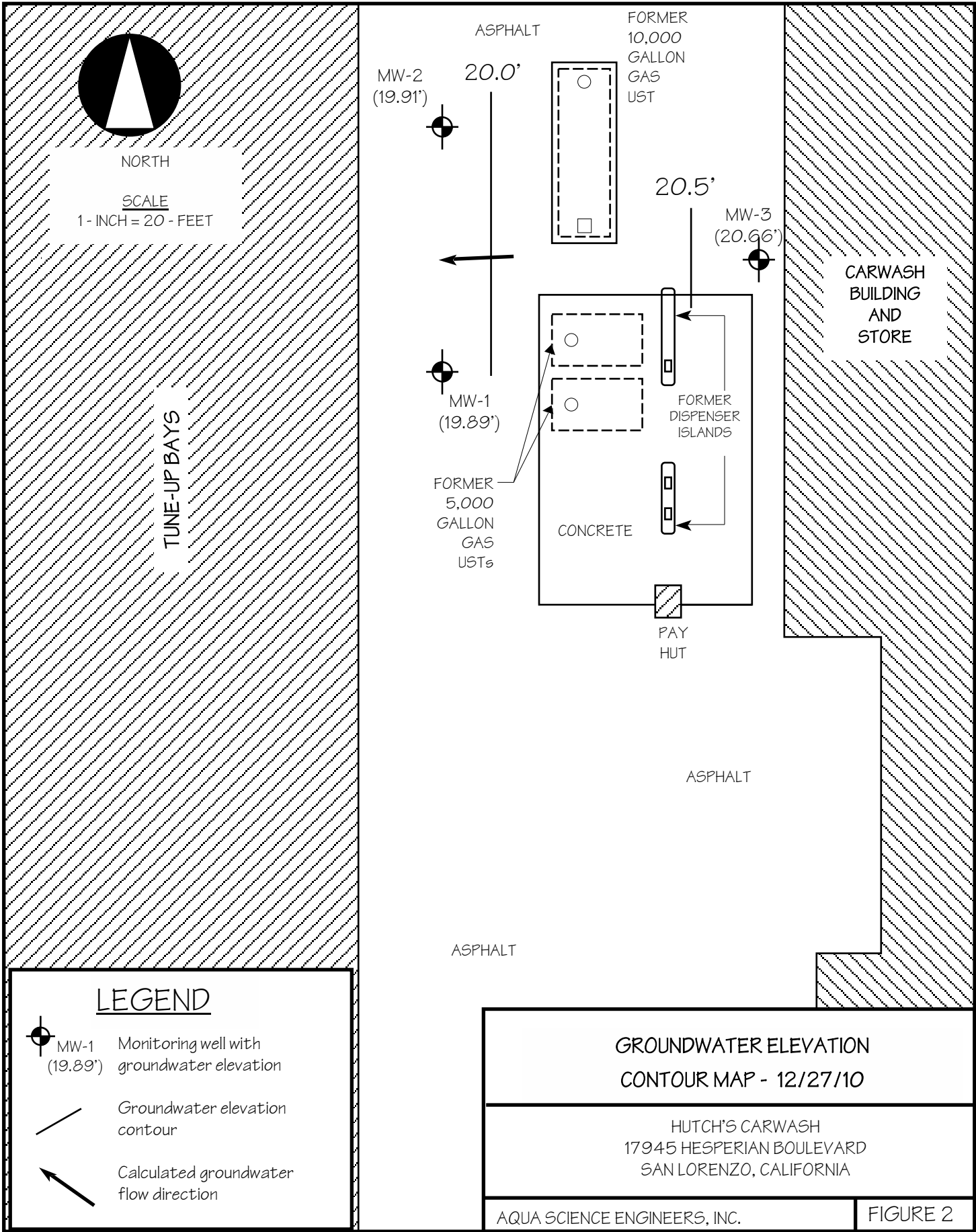
## **FIGURES**



NORTH



SITE LOCATION MAP	
HUTCH'S CARWASH 17945 HESPERIAN BOULEVARD SAN LORENZO, CA	
AQUA SCIENCE ENGINEERS, INC.	Figure 1



NORTH

SCALE

1 - INCH = 20 - FEET

TUNE-UP BAYS

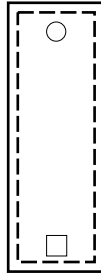
ASPHALT

MW-2  
(19.91')

20.0'



FORMER  
10,000  
GALLON  
GAS  
UST



20.5'

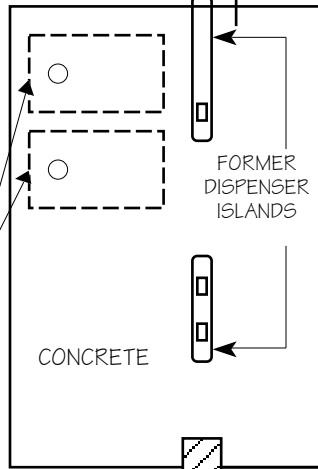
MW-3  
(20.66')



CARWASH  
BUILDING  
AND  
STORE



MW-1  
(19.89')



FORMER  
DISPENSER  
ISLANDS

FORMER  
5,000  
GALLON  
GAS  
USTs

CONCRETE

PAY  
HUT

ASPHALT

ASPHALT

**LEGEND**



MW-1 (19.89') Monitoring well with groundwater elevation



Groundwater elevation contour



Calculated groundwater flow direction

**GROUNDWATER ELEVATION CONTOUR MAP - 12/27/10**

HUTCH'S CARWASH  
17945 HESPERIAN BOULEVARD  
SAN LORENZO, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

FIGURE 2





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

## **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		
<b>12/27/10</b>		<b>15.11</b>	<b>19.89</b>	
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		
<b>12/27/10</b>		<b>15.30</b>	<b>19.91</b>	

**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)
<b>MW-3</b>	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		
<b>12/27/10</b>	<b>13.81</b>	<b>20.66</b>		

**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
<b>MW-1</b>									
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	---	---	---
<b>12/27/10</b>	<b>98</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>75</b>	<b>19</b>	<b>14</b>	<b>&lt; 0.50</b>

**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
<b>MW-2</b>									
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	---	---	---
<b>12/27/10</b>	<b>&lt; 50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 5.0</b>	<b>&lt; 0.50</b>
<b>MW-3</b>									
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	---	---	---
<b>12/27/10</b>	<b>&lt; 50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 0.50</b>	<b>&lt; 5.0</b>	<b>&lt; 0.50</b>
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



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

## **APPENDIX A**

Well Sampling Field Logs

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME Hutch's Car Wash

JOB NUMBER 3411 DATE OF SAMPLING 12-27-10

WELL ID. MW-1 SAMPLER RK

TOTAL DEPTH OF WELL 260' WELL DIAMETER 2"

DEPTH TO WATER PRIOR TO PURGING 15.11 TIME OF MEASUREMENT 1257

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 10.89

NUMBER OF GALLONS PER WELL CASING VOLUME 1.85

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5.5

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

TIME EVACUATION STARTED 1335 TIME EVACUATION COMPLETED 1350

TIME SAMPLES WERE COLLECTED 1350

DID WELL GO DRY No AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 5.5 gal

SAMPLING DEVICE NEW DISPOSABLE BAILER

SAMPLE COLOR slight yellow brown ODOR/SEDIMENT None/slight yellow-brown silt

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.3	6.9	780
2	19.2	6.9	780
3	19.2	6.9	780

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-1	5	40-ml VaA	TPH-C/BTEX/MSA	HCl

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME Hutch's Car Wash

JOB NUMBER 3411 DATE OF SAMPLING 12-27-10

WELL ID. MW-2 SAMPLER RK

TOTAL DEPTH OF WELL 27.0' WELL DIAMETER 2"

DEPTH TO WATER PRIOR TO PURGING 15.30 TIME OF MEASUREMENT 1251

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 11.7

NUMBER OF GALLONS PER WELL CASING VOLUME 2.0

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 60 gal

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

TIME EVACUATION STARTED 1305 TIME EVACUATION COMPLETED 1320

TIME SAMPLES WERE COLLECTED 1320

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 60 gal

SAMPLING DEVICE NEW DISPOSABLE BAILER

SAMPLE COLOR turbid brown ODOR/SEDIMENT None / brown silt

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
<u>1</u>	<u>19.3</u>	<u>6.8</u>	<u>830</u>
<u>2</u>	<u>19.3</u>	<u>6.8</u>	<u>820</u>
<u>3</u>	<u>19.3</u>	<u>6.8</u>	<u>820</u>

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-2</u>	<u>5</u>	<u>40-ml VOA</u>	<u>TPH-L/BTEX/MTBE HCl</u>	



# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME Hutcl's Car Wash

---

JOB NUMBER 3411 DATE OF SAMPLING 12-27-10

---

WELL ID. MW-3 SAMPLER PK

---

TOTAL DEPTH OF WELL 27.0' WELL DIAMETER 2"

---

DEPTH TO WATER PRIOR TO PURGING 13.81 TIME OF MEASUREMENT 12:45

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 13.19

---

NUMBER OF GALLONS PER WELL CASING VOLUME 2.2

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 6.6 gal

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 1410 TIME EVACUATION COMPLETED 1430

---

TIME SAMPLES WERE COLLECTED 1430

---

DID WELL GO DRY No AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 6.6 gal

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR Slight yellow brown ODOR/SEDIMENT None / yellow brown silt

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	18.3	6.9	790
2	18.2	6.9	810
3	18.2	6.9	810

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-3	5	40-ml VOA	TPH-6/DTX/MIBK HPL	



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

## **APPENDIX B**

Certified Analytical Report  
and  
Chain of Custody Documentation



## Laboratory Results

Robert Kitay  
Aqua Science Engineers, Inc.  
55 Oak Court, Suite 220  
Danville, CA 94526

Subject : 3 Water Samples  
Project Name : Hutch's Car Wash  
Project Number : 3411

Dear Mr. Kitay,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC standard. All soil samples are reported on a total weight (wet weight) basis unless noted otherwise in the case narrative. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,



Joel Kiff

Subject : 3 Water Samples  
Project Name : Hutch's Car Wash  
Project Number : 3411

## Case Narrative

Matrix Spike/Matrix Spike Duplicate results associated with samples MW-1, MW-2, and MW-3 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Project Name : **Hutch's Car Wash**

Project Number : **3411**

Sample : **MW-1**

Matrix : Water

Lab Number : 75882-01

Sample Date :12/27/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
<b>Methyl-t-butyl ether (MTBE)</b>	<b>75</b>	0.50	ug/L	EPA 8260B	12/29/10 10:20
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 10:20
<b>Tert-amyl methyl ether (TAME)</b>	<b>19</b>	0.50	ug/L	EPA 8260B	12/29/10 10:20
<b>Tert-Butanol</b>	<b>14</b>	5.0	ug/L	EPA 8260B	12/29/10 10:20
<b>TPH as Gasoline</b>	<b>98</b>	50	ug/L	EPA 8260B	12/29/10 10:20
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	12/29/10 10:20
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	12/29/10 10:20
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	12/29/10 12:14
Octacosane (Silica Gel Surr)	96.6		% Recovery	M EPA 8015	12/29/10 12:14

Project Name : **Hutch's Car Wash**

Project Number : **3411**

Sample : **MW-2**

Matrix : Water

Lab Number : 75882-02

Sample Date :12/27/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:18
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/29/10 13:18
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/29/10 13:18
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	12/29/10 13:18
Toluene - d8 (Surr)	97.6		% Recovery	EPA 8260B	12/29/10 13:18
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	12/29/10 11:29
Octacosane (Silica Gel Surr)	99.8		% Recovery	M EPA 8015	12/29/10 11:29

Project Name : **Hutch's Car Wash**

Project Number : **3411**

Sample : **MW-3**

Matrix : Water

Lab Number : 75882-03

Sample Date :12/27/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/29/10 13:49
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/29/10 13:49
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/29/10 13:49
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	12/29/10 13:49
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	12/29/10 13:49
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	12/29/10 13:12
Octacosane (Silica Gel Surr)	87.6		% Recovery	M EPA 8015	12/29/10 13:12

**QC Report : Method Blank Data**

Project Name : **Hutch's Car Wash**

Project Number : **3411**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	12/29/2010
Octacosane (Silica Gel Surr)	99.4		%	M EPA 8015	12/29/2010
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/29/2010
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/29/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/29/2010
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	12/29/2010
Toluene - d8 (Surr)	101		%	EPA 8260B	12/29/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
-----------	----------------	------------------------	-------	-----------------	---------------



## QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Hutch's Car Wash**Project Number : **3411**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)	BLANK	<50	1000	1000	862	887	ug/L	M EPA 8015	12/29/10	86.2	88.7	2.87	70-130	25
Benzene	75882-01	<0.50	40.0	40.0	38.2	37.7	ug/L	EPA 8260B	12/29/10	95.6	94.2	1.46	80-120	25
Diisopropyl ether	75882-01	<0.50	40.0	40.0	39.0	39.4	ug/L	EPA 8260B	12/29/10	97.5	98.5	0.964	80-120	25
Ethyl-tert-butyl ether	75882-01	<0.50	40.0	40.0	40.0	40.5	ug/L	EPA 8260B	12/29/10	99.8	101	1.43	76.5-120	25
Ethylbenzene	75882-01	<0.50	40.0	40.0	40.3	39.6	ug/L	EPA 8260B	12/29/10	101	99.0	1.71	80-120	25
<b>Methyl-t-butyl ether</b>	75882-01	75	39.9	39.9	95.1	95.2	ug/L	EPA 8260B	12/29/10	<b>51.0</b>	<b>51.3</b>	0.594	69.7-121	25
P + M Xylene	75882-01	<0.50	40.0	40.0	40.3	40.1	ug/L	EPA 8260B	12/29/10	101	100	0.539	76.8-120	25
Tert-Butanol	75882-01	14	200	200	198	198	ug/L	EPA 8260B	12/29/10	92.2	92.0	0.187	80-120	25
Tert-amyl-methyl ether	75882-01	19	40.0	40.0	53.8	54.3	ug/L	EPA 8260B	12/29/10	87.6	88.9	1.41	78.9-120	25

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Project Name : **Hutch's Car Wash**

Project Number : **3411**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Toluene	75882-01	<0.50	40.0	40.0	38.7	37.8	ug/L	EPA 8260B	12/29/10	96.8	94.4	2.54	80-120	25

**QC Report : Laboratory Control Sample (LCS)**Project Name : **Hutch's Car Wash**Project Number : **3411**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.2	ug/L	EPA 8260B	12/29/10	96.3	80-120
Diisopropyl ether	40.2	ug/L	EPA 8260B	12/29/10	100	80-120
Ethyl-tert-butyl ether	40.2	ug/L	EPA 8260B	12/29/10	102	76.5-120
Ethylbenzene	40.2	ug/L	EPA 8260B	12/29/10	103	80-120
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	12/29/10	104	69.7-121
P + M Xylene	40.2	ug/L	EPA 8260B	12/29/10	103	76.8-120
TPH as Gasoline	501	ug/L	EPA 8260B	12/29/10	96.6	70.0-130
Tert-Butanol	201	ug/L	EPA 8260B	12/29/10	97.0	80-120
Tert-amyl-methyl ether	40.2	ug/L	EPA 8260B	12/29/10	100	78.9-120
Toluene	40.2	ug/L	EPA 8260B	12/29/10	100	80-120



