

SINCE 1955

DETAILING

QUIK LUBE

February 10, 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 <u>Workplan for the Soil Vapor Survey</u> 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

RECEIVED

2:56 pm, Feb 22, 2011

Alameda County

Environmental Health



February 8, 2011

WORKPLAN 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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Danville, CA 94526
(925) 820-9391



1.0 INTRODUCTION

This submittal presents Aqua Science Engineer's, Inc. (ASE) workplan 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 letter dated December 16, 2010.

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 are 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) each boring 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.



TASK 1 OBTAIN NECESSARY PERMITS

ASE will obtain a drilling permit from the ACPWA prior to drilling.

TASK 2 NOTIFY USA AND CLEAR DRILLING LOCATIONS OF UNDERGROUND UTILITY LINES

ASE will mark the proposed boring locations with white paint and will notify Underground Service Alert (USA) to have underground utility lines marked in the site vicinity at least 48-hours prior to drilling. ASE will also contract with a subsurface utility locating company to clear the proposed drilling location of underground lines.

TASK 3 COLLECT SOIL VAPOR SAMPLES FROM THREE LOCATIONS AT THE SITE

ASE will push three vapor points to 3-feet bgs using drilling rods driven with a Geoprobe. The bottom of each rod will contain an expendable point. Once at depth, the drive rod will be retracted separating the expendable point and the rods and creating the desired void for the sample collection. A Geoprobe Point Run Tubing (PRT) system adapter and new, unused polyethylene tubing will then be advanced through the inner drive rod and secured to the expendable point holder at the base of the rods. A hydrated bentonite seal will be placed around the rods and the ground surface to prevent ambient air intrusion into the borehole. The borehole will then be allowed to equilibrate prior to purging and sampling. The tubing will then be purged of five volumes to insure that all ambient air is removed from the tubing using the Geoprobe vacuum/volume system. The sample will be collected in a 1-liter Summa canister with a rate between 100 to 200-ml per minute. The samples will be 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 will then be delivered under chain of custody to a CAL-EPA certified analytical laboratory for analysis.

TASK 4 ANALYZE THE SOIL VAPOR SAMPLES

Each sample will be analyzed at a CAL-EPA certified analytical laboratory for TPH-G and BTEX by EPA Method TO-15.

TASK 5 BACKFILL THE BORINGS WITH NEAT CEMENT

Following collection of the vapor samples, the boreholes will be backfilled with neat cement placed by tremie pipe.

TASK 6 PREPARE A REPORT

ASE will prepare a report outlining the methods and findings of this soil vapor survey. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this assessment including tabulated analytical results, conclusions and recommendations. Copies of the analytical report and chain of custody will be included as appendices.



4.0 SCHEDULE

ASE plans to begin field activities immediately upon approval of this workplan by the ACHCSA.

Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Rolling Rent E 47, 4 No. 6588

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

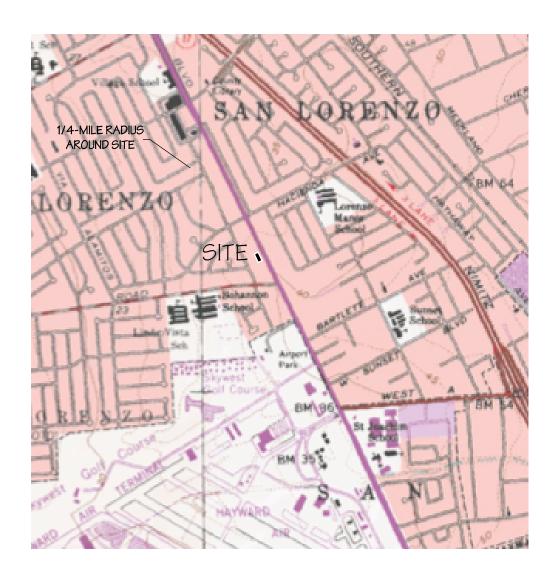
cc: Mr. Mark Detterman, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

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



FIGURES



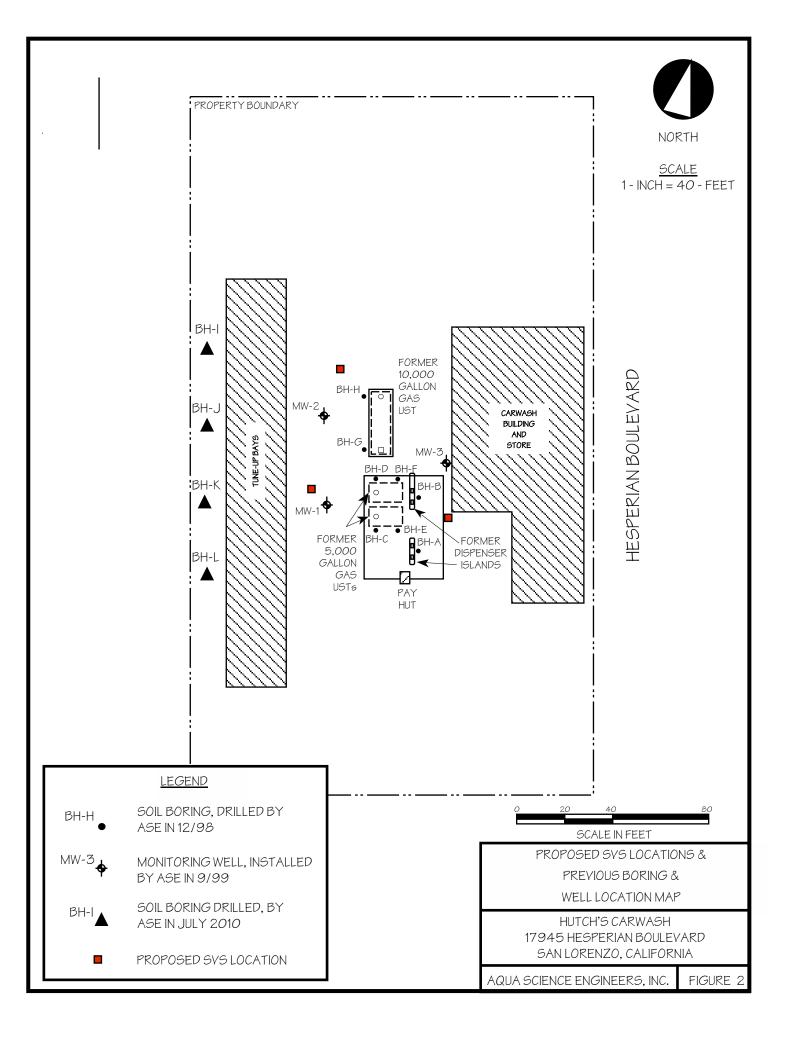


SITE LOCATION MAP

HUTCH'S CARWASH 17945 HESPERIAN BOULEVARD SAN LORENZO, CA

AQUA SCIENCE ENGINEERS, INC.

Figure 1





TABLES

TABLE ONE Groundwater Elevation Data Hutch's Carwash 17945 Hesperian Blvd., San Lorenzo, CA

Well	Date of	Top of Casing	Depth to	Groundwater Elevation	
ID	Measurement	Elevation	Water		
		(Relative to Mean Sea Level)	(feet)	(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 7/22/05		14.90 15.46	20.31	
	1/25/06		14.16	19.75 21. <i>0</i> 5	
	6/10/06		15.40	21.05 19.81	
	1/26/07		15.40	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	19.54	
	5/21/10		15.29	19.92	
	12/27/10		15.3 <i>0</i>	19.91	

TABLE ONE Groundwater Elevation Data Hutch's Carwash 17945 Hesperian Blvd., San Lorenzo, CA

Well	Date of	Top of Casing	Depth to	Groundwater
ID	Measurement	Elevation	Water	Elevation
		(Relative to Mean Sea Level)	(feet)	(project data)
MW-3	10/6/99	34.47	14.98	19.49
ט־אואו	1/13/00	34.47	14.98	19.49
	4/12/00		14.09	20.38
	7/19/00		14.70	20.3 <i>6</i> 19.77
			14.70	19.49
	10/25/00			
	1/16/01 4/4/01		14.58 14.43	19.89 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				Ethyl-	Total				Other
Sampled	TPH-G	Benzene	Toluene	benzene	Xylenes	MTBE	TAME	TBA	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	25 <i>0</i>	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				Ethyl-	Total				Other
Sampled	TPH-G	Benzene	Toluene	benzene	Xylenes	MTBE	TAME	TBA	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:

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

^{*} EPA Method 8020/EPA Method 8260 (MTBE confirmation)

 $[\]ensuremath{^{**}}$ Hydrocarbon reported in the gasoline range does not match the laboratory gasoline standard

^{***} Sample contains a discrete peak in addition to gasoline