RO 304

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Alameda County

FEB 06 2006

Environmental Health

January 25, 2006

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ENVIRONMENTAL HEALTH SERVICES

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: **Groundwater Monitoring Report - Fourth Quarter 2005**
Dublin Auto Wash
7240 Dublin Boulevard
Dublin, California
ACHCSA Case No. 304

Dear Mr.Chan:

On behalf of Mr. Hooshang Hadjian, Pangea Environmental Services, Inc. has prepared this *Groundwater Monitoring Report – Fourth Quarter 2005*. The report describes groundwater monitoring, sampling, and other site activities.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Groundwater Monitoring Report –Fourth Quarter 2005*

cc: Mr. Hooshang Hadjian, 2108 San Ramon Valley Blvd, San Ramon, CA 94583

GROUNDWATER MONITORING REPORT – FOURTH QUARTER 2005

Dublin Auto Wash
7240 Dublin Boulevard
Dublin, California

January 25, 2006

Prepared for:

Mr. Hooshang Hadjian
2108 San Ramon Valley Blvd
San Ramon, CA 94583

Prepared by:

Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:

Morgan Gillies
Project Manager

Bob Clark-Riddell, P.E.
Principal Engineer

INTRODUCTION

On behalf of Mr. Hooshang Hadjian, Pangea Environmental Services, Inc. (Pangea) conducted groundwater monitoring and sampling activities during this quarter at the subject site (Figure 1). The purpose of the monitoring and sampling is to evaluate groundwater flow direction and dissolved contaminant concentrations, and to inspect site wells for separate-phase hydrocarbons (SPH). Current groundwater analytical results and elevation data are shown on Figure 2. Current and historical data are summarized on Table 1.

SITE BACKGROUND

The Chevron-branded service station is located at the southwest corner of Dublin Boulevard and Village Parkway in Dublin, California (Figure 1). Currently there are three 10,000-gallon underground storage tanks (USTs) and a carwash at the site. Land use immediately surrounding the service station is commercial with residential land use further from the site.

From approximately 1988 to 1997, Chevron Products Company performed assessment and remediation of the site. A soil vapor extraction (SVE) system was operated at the site from December 1992 through June 1995. Mr. Hadjian is the responsible party for an unauthorized release from a leaking stainless steel flex hose near the northernmost dispenser island in February 1997. Subsequently, a new product delivery system was installed and about 31 cubic yards of contaminated soil was removed from the release area. Gettler-Ryan, Inc. monitored the eight existing groundwater wells at the site until 2003, when SOMA Environmental Engineering, Inc. took over groundwater monitoring at the site. SOMA conducted further characterization of the site using electrical conductivity sensors and identified potential water bearing zones. In November 2004, Pangea commenced coordination of groundwater monitoring and corrective action for the site.

GROUNDWATER MONITORING AND SAMPLING

On November 27, 2005, groundwater monitoring and sampling was conducted at the site. Site monitoring wells were initially gauged for depth to water and inspected for SPH. Groundwater samples were obtained from three (MW-1, MW-2 and EA-3) of the eight groundwater monitoring wells. Monitoring well EA-1 was inaccessible and was not gauged or sampled and well MW-3 was not sampled due to the presence of SPH. Wells EA-2, MW-4 and MW-5 were not sampled, since these wells are sampled annually during the first quarter.

Before well purging, the dissolved oxygen (DO) concentration was measured in each well. DO was measured by lowering a downwell sensor to the approximate middle of the water column, and allowing the reading to stabilize during gentle height adjustment. Prior to sample collection, approximately three casing volumes of

water were purged using disposable bailers, an electric submersible pump, positive air displacement pump, or a peristaltic pump. During well purging, field technicians measured the pH, temperature and conductivity. Groundwater samples were collected from each well with a disposable bailer, and decanted into the appropriate containers supplied by the analytical laboratory. Groundwater samples were labeled, placed in protective plastic bags, and stored on crushed ice at or below 4° C. All samples were transported under chain-of-custody to the State-certified analytical laboratory. Purge water was stored onsite in DOT-approved 55-gallon drums. Groundwater monitoring field data sheets are presented in Appendix A.

MONITORING RESULTS

Current and historical groundwater elevation data and analytical results are described below and summarized on Table 1. Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015C, and benzene, toluene, ethylene, xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. If MTBE was detected by the laboratory, a confirmation analysis was conducted by EPA Method 8260B. Samples were analyzed by McCampbell Analytical, Inc. of Pacheco, California, a State-certified laboratory. The laboratory analytical report is included in Appendix B. DO concentrations ranged from 0.81 µg/L (well EA-3) to 1.19 µg/L (well MW-5).

Groundwater Flow Direction

The inferred groundwater flow direction based on depth-to-water data collected November 27, 2005 is shown on Figure 2. Groundwater apparently flowed from offsite wells MW-4 and MW-5 toward the site in the approximate southeast direction, while groundwater at the eastern portion of the site flowed toward the southwest. The groundwater elevation was lowest in onsite well MW-2, located in the southwestern corner of the site. The inferred groundwater flow direction is fairly consistent with recent monitoring events. The groundwater flow direction may be affected by the 18" diameter sanitary sewer line running beneath the southern portion of Dublin Boulevard. In a letter dated October 30, 1995 to the County, Gettler Ryan Inc., a former consultant stated that the top of the sanitary sewer line was approximately 16 feet below grade surface (bgs), while the depth to water in nearby wells MW-1 and MW-3 has ranged from approximately 11 to 13 feet bgs. Depth-to-water and groundwater elevation data for the site are presented in Table 1.

Hydrocarbon Distribution in Groundwater

Separate-phase hydrocarbons were measured in well MW-3 at a thickness of 0.19 ft, a historic high thickness for this well and the site. This historic high SPH thickness may be due to the groundwater elevation in well MW-3 during this event, which was the lowest recorded since March 1999. Petroleum hydrocarbons were detected in one of the sampled wells (EA-3), as shown on Table 1 and Figure 2. TPHg and benzene concentrations in well EA-3 were significantly less then those detected during the third quarter 2005 monitoring event (which was the highest detected since September 1996 and September 1995, respectively).

The fluctuation in hydrocarbon concentrations in well EA-3 and the presence/absence of SPH in well MW-3 may be due to the fluctuating groundwater elevation and a changing groundwater flow direction. For example, during the third quarter 2005 monitoring event groundwater apparently flowed *from* well EA-3 toward well MW-3, while during this fourth quarter monitoring event groundwater apparently reversed and flowed *toward* well EA-3.

The hydrocarbon concentration and SPH fluctuations may also be affected by the nearby sanitary sewer line adjacent these wells and submerged in groundwater. Due to the long well screen for EA-3, sampling results are not likely representative of shallow groundwater conditions. The monitoring well abandonment and installation (proposed in the workplan) will allow better evaluation of site conditions.

Fuel Oxygenate Distribution in Groundwater

MTBE was detected by EPA Method 8021 above reporting limits in all three of the sampled wells. As confirmed by EPA Method 8260B, the concentrations of MTBE in wells MW-1, MW-2 and EA-3 were 4,400 µg/L, 210 µg/L, 85µg/L, respectively (Table 1 and Figure 2).

OTHER SITE ACTIVITIES

Soil and Water Investigation Workplan

As required by the November 2, 2004 letter from the Alameda County Environmental Health (ACEH), Pangea prepared a *Soil and Water Investigation Workplan* (Workplan) dated February 20, 2005. As requested by ACEH case worker Barney Chan, Pangea prepared a Workplan Addendum dated January 20, 2006 recommending additional monitoring wells for the middle- and deeper-water bearing zones. Upon approval by the ACEH, Pangea will implement the Workplan and Addendum.

Upcoming Monitoring and Proposed Frequency

Pangea will continue quarterly groundwater monitoring and sampling at the site. In accordance with the sampling frequency proposed in prior monitoring reports, Pangea will sample five key site wells quarterly (EA-1, EA-3, MW-1, MW-2 and MW-3) and three wells annually (EA-2, MW-4 and MW-5). This sampling frequency is based on the prior approved sampling frequency, with a slight modification of quarterly sampling for wells EA-3 and MW-1 rather than semi-annual sampling. All wells will be gauged for depth to water, and well MW-3 will be inspected for SPH. All groundwater samples will be analyzed for TPHg/BTEX/MTBE by EPA Method 8015Cm/8021B. If detected by EPA Method 8021B, MTBE will be confirmed by EPA Method 8260B. Pangea will summarize groundwater monitoring activities and results in a groundwater monitoring report.

Pangea recommends analyzing groundwater samples for fuel oxygenates besides MTBE. The additional analysis would primarily evaluate tert-butyl alcohol (TBA) concentrations, but would also analyze for diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), ethanol and methanol. TBA in groundwater could be an indication of MTBE degradation.

Well Access for EA-1

Pangea has been unable to open the well vault lid for well EA-1 with a T-bar or other tools. If requested, Pangea will coordinate replacement of the well vault to obtain access to this well.

ATTACHMENTS

Figure 1 – Vicinity Map
Figure 2 - Groundwater Elevation Contour and Hydrocarbon Concentration Map

Table 1 – Groundwater Elevation and Analytical Data

Appendix A – Groundwater Monitoring Field Data Sheets
Appendix B – Laboratory Analytical Report

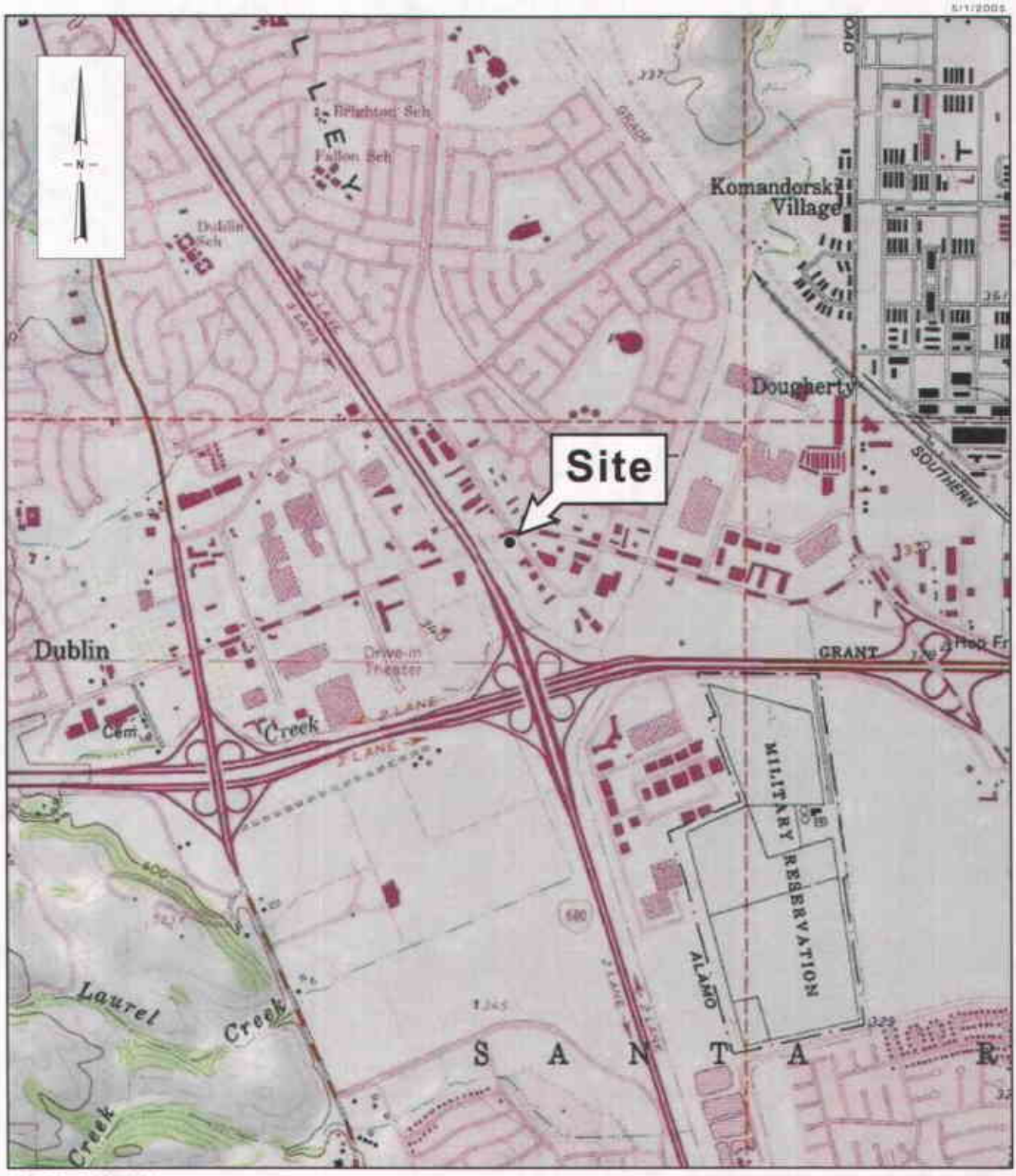

Figure
1

Dublin Auto Wash
7240 Dublin Boulevard
Dublin, California

PANGEA

Site Location Map

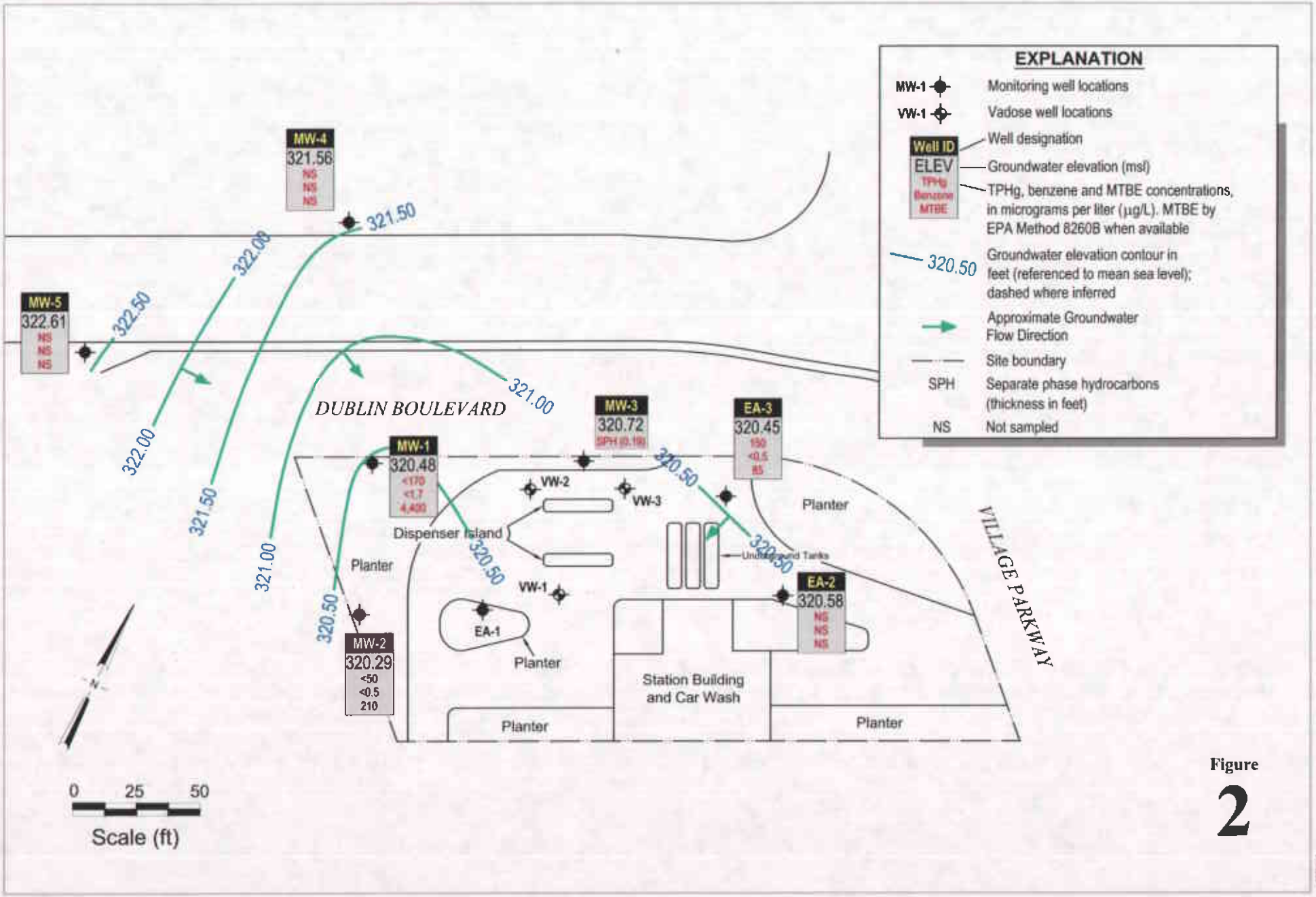

Figure 2

Dublin Auto Wash
7240 Dublin Boulevard
Dublin, California

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Groundwater Elevation and Hydrocarbon Concentration Map
November 27, 2005

Pangea

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
EA-1	10/17/88	--	--	<50	<0.5	<0.5	<0.5	<0.5	--		
331.21	10/24/88	10.64	322.77	--	--	--	--	--	--		
	11/02/88	10.69	322.72	--	--	--	--	--	--		
	12/20/88	10.51	322.9	<50	<0.5	<0.5	<0.5	<0.5	--		
	03/28/89	9.87	323.54	<250	<0.5	<0.5	<0.5	<0.5	--		
	08/02/89	10.34	323.07	<50	<0.1	<0.1	<0.1	<0.1	--		
	11/06/89	10.65	322.76	<500	<3.0	<5.0	<5.0	<5.0	--		
	01/25/90	10.6	322.81	<50	<0.5	<0.5	<0.5	<0.5	--		
	04/23/90	10.58	322.83	71	2	5	3	8	--		
	08/01/90	10.88	322.53	300	86	21	10	33	--		
	10/24/91	11.12	322.29	280	69	13	11	16	--		
	01/31/91	11.16	322.25	460	160	11	17	17	--		
	08/21/91	10.8	322.61	2,400	400	220	44	120	--		
	08/21/91	10.8	322.61	2,300	390	210	42	120	--		Duplicate
	10/07/91	10.79	322.62	--	--	--	--	--	--		
	01/28/92	10.79	322.62	3,600	320	360	110	310	--		
	01/28/92	10.79	322.62	3,000	290	320	99	270	--		Duplicate
	06/05/92	10.84	322.57	1,700	290	89	61	130	--		
	09/30/92	11.06	322.35	2,100	160	260	80	350	--		
	12/30/92	10.15	323.26	3,200	240	180	110	310	--		
	03/29/93	9.42	323.99	23,000	700	3,000	610	3,000	--		
	06/25/93	10.42	322.99	2.7	130	590	130	590	--		
	09/16/93	10.66	322.75	3.9	410	830	220	890	--		
	12/20/93	10.6	322.81	27	1,200	2,600	1,100	4,200	--		
	03/29/94	10.41	323	6.3	250	700	200	830	--		
	06/22/94	10.4	323.01	4.1	71	240	110	460	<30		
	09/20/94	10.37	323.04	8,500	1,200	1,300	370	1,400	--		
	10/04/94	10.34	323.07	7,600	97	360	150	620	--		
	11/30/94	9.46	323.95	8,800	180	490	240	900	--		
	03/02/95	9.96	321.07	6.9	82	570	210	970	--		
	06/15/95	9.8	321.23	4.8	44	210	160	620	<25		
	09/26/95	10.48	320.55	13,000	150	620	370	1,400	<125		
	12/28/95	10.14	320.89	11,000	74	250	200	750	79		
	02/29/96	8.74	322.29	17,000	59	480	350	1,600	<125		
	06/27/96	10.21	320.82	3,600	22	130	130	49	46		
	09/12/96	10.49	320.72	2,000	20	<10	18	44	<50		
	03/31/97	10.19	321.02	17,000	87	230	330	1,200	310		
	12/23/98	9.83	321.38	290	20	0.88	1.1	16	<2.5		
	03/25/99	9.13	322.08	500	21	<0.5	21	<0.5	18		
	02/03/00	9.05	322.16	2,310	35.7	90	21.8	147	1,280 (365)		
	01/23/01	--	--	--	--	--	--	--	--		Inaccessible
	05/01/01	9.82	321.39	7,710	19.9	12.6	22.3	64	31.8		
	08/28/01	10.04	321.17	4,800	69	<25	50	140	160		
	11/27/01	10.05	321.16	5,300	25	<5.0	30	120	<20		
	02/28/02	--	--	--	--	--	--	--	--		Inaccessible
	05/22/02	9.05	322.16	110	<1.0	<0.50	1	<1.5	<2.5		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
EA-1 (Cont'd)	08/20/02	9.21	322	410	2.6	<0.50	8.5	29	<5.0		
	11/11/02	9.01	322.2	3,800	<0.50	1.3	17	47	<5.0		
	05/08/03	8.23	322.98	1,700	11	0.97	63	161	<2.0		
	12/15/04	--	--	--	--	--	--	--	--		Inaccessible
	02/21/05	--	--	--	--	--	--	--	--		Inaccessible
	05/17/05	--	--	--	--	--	--	--	--		Inaccessible
	08/17/05	--	--	--	--	--	--	--	--		Inaccessible
	11/27/05	--	--	--	--	--	--	--	--		**Inaccessible**
EA-2	10/17/88	--	--	<50	<0.5	<0.5	<0.5	1.2	--		
330.41	10/24/88	9.7	322.89	--	--	--	--	--	--		
	11/02/88	10.03	322.56	--	--	--	--	--	--		
	12/20/88	9.98	322.61	<50	<0.5	<0.5	<0.5	<0.5	--		
	03/28/89	8.8	323.79	<250	<2	<0.5	<0.5	<0.5	--		
	08/02/89	9.44	323.15	<50	<0.1	<0.1	<0.1	<0.1	--		
	11/06/89	9.53	323.06	<500	<3.0	<5.0	<5.0	<5.0	--		
	01/25/90	9.27	323.32	<50	<0.5	<0.5	<0.5	<0.5	--		
	04/23/90	9.35	323.24	<50	0.6	0.8	<0.5	2	--		
	08/01/90	9.71	322.88	<50	<0.5	<0.5	<0.5	<0.5	--		
	10/24/90	10.08	322.51	<50	<0.5	<0.5	<0.5	<0.5	--		
	01/31/91	10.21	322.38	<50	<0.5	<0.5	<0.5	<0.5	--		
	01/31/91	10.21	322.38	<50	<0.5	<0.5	<0.5	<0.5	--		Duplicate
	08/21/91	9.8	322.79	<50	<0.5	<0.5	<0.5	<0.5	--		
	10/07/91	9.98	322.61	--	--	--	--	--	--		
	01/28/92	9.81	322.78	<50	0.8	<0.5	<0.5	<0.5	--		
	06/05/92	9.86	322.73	<50	<0.5	<0.5	<0.5	<0.5	--		
	09/30/92	10.6	321.99	66	1	3.2	1.3	7.4	--		
	12/30/92	9.11	323.48	<50	<0.5	<0.5	<0.5	<0.5	--		
	03/29/93	7.73	324.86	<50	<0.5	<0.5	<0.5	<1.5	--		
	06/25/93	9.22	323.37	<50	<0.5	<0.5	<0.5	<1.5	--		
	09/16/93	10	322.59	<50	<0.5	<0.5	<0.5	<1.5	--		
	12/20/93	9.38	323.21	<50	<0.5	<0.5	<0.5	<0.5	--		
	03/29/94	9.3	323.29	<50	<0.5	0.6	<0.5	<0.5	--		
	06/22/94	9.49	323.1	<50	<0.5	<0.5	<0.5	<0.5	--		
	09/26/94	9.72	322.87	<50	<0.5	<0.5	<0.5	<0.5	--		
	10/04/94	9.58	323.01	<50	<0.5	<0.5	<0.5	<0.5	--		
	11/30/94	8.7	323.89	<50	<0.5	<0.5	<0.5	<0.5	--		
	03/02/95	8.54	321.67	<50	<0.5	<0.5	<0.5	<0.5	--		
	06/07/95	8.42	321.79	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	09/26/95	9.34	320.87	540	6.8	<0.5	47	29	13		
	12/28/95	8.84	321.37	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	02/29/96	7.44	322.77	<50	<0.5	<0.5	<0.5	1.5	<2.5		
	06/27/96	8.83	321.38	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	09/12/96	9.4	321.01	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	03/31/97	9.11	321.3	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	12/23/98	8.91	321.5	<50	<0.5	<0.5	<0.5	<0.5	<2.5		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
EA-2 (Cont'd)	03/25/99	8.1	322.31	<50	<0.5	<0.5	<0.5	<0.5	2.7		
	02/03/00	8.36	322.05	<50	<0.5	<0.5	<0.5	<0.5	<2.5 (<2.0)		
	01/23/01	9.08	321.33	441 (1)	1.27	0.542	40.3	31	72.9		
	05/01/01	8.87	321.54			SAMPLED ANNUALLY					
	08/28/01	9.45	320.96			SAMPLED ANNUALLY					
	11/27/01	9.5	320.91			SAMPLED ANNUALLY					
	02/28/02	9.05	321.36	<50	<0.50	<0.50	<0.5	<1.5	74		
	05/22/02	9.04	321.37			SAMPLED ANNUALLY					
	08/20/02	9	321.41			SAMPLED ANNUALLY			-		
	11/11/02	9.03	321.38			SAMPLED ANNUALLY					
	05/08/03	7.26	323.15	<50	<0.5	<0.5	<0.5	<0.5	2.2/0.9		
	12/15/04	8.96	321.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	02/21/05	7.20	323.21	<50	<0.5	<0.5	<0.5	<0.5	13 (11)	0.64	
	05/17/05	8.21	322.20			SAMPLED ANNUALLY				0.77	
	08/17/05	7.97	322.44			SAMPLED ANNUALLY				0.85	
	11/27/05	**9.83**	**320.58**			**SAMPLED ANNUALLY**				**0.84**	
EA-3	10/17/88	--	--	<50	1.8	<0.5	<0.5	3	--		
331.5	10/24/88	11.03	322.61	--	--	--	--	--	--		
	11/02/88	11.03	322.61	--	--	--	--	--	--		
	12/20/88	10.96	322.68	240	90	1.2	13	3.3	--		
	03/28/89	9.77	323.87	2,300	380	130	240	910	--		
	08/02/89	10.65	322.99	<50	<0.1	<0.1	<0.1	<0.1	--		
	11/06/89	10.78	322.86	<500	<3.0	<5.0	<5.0	<5.0	--		
	01/25/90	10.66	322.98	<50	<0.5	<0.5	<0.5	<0.5	--		
	04/23/90	10.68	322.96	<50	0.8	<0.5	0.9	<0.5	--		
	08/01/90	11.03	322.61	<50	<0.5	<0.5	<0.5	<0.5	--		
	10/24/90	11.35	322.29	<50	<0.5	<0.5	<0.5	<0.5	--		
	01/31/91	11.52	322.12	<50	<0.5	<0.5	<0.5	<0.5	--		
	08/21/91	--	--	--	--	--	--	--	--		
	10/07/91	11.15	322.49	180	40	20	4.7	8.4	--		
	10/7/1991	--	--	200	43	17	4.1	6.7	--		Duplicate
	01/28/92	11.08	322.56	640	69	85	13	46	--		
	06/05/92	10.98	322.66	250	63	8.3	3	9.5	--		
	09/30/92	11.38	322.26	330	120	33	6.3	22	--		
	12/30/92	10.48	323.16	58	7.6	1.3	2.5	5.4	--		
	03/29/93	9.3	324.34	120	11	4.5	6.2	13	--		
	06/25/93	10.46	323.18	<50	<0.5	<0.5	<0.5	<1.5	--		
	09/16/93	10.9	322.74	85	3.9	8.8	4.5	22	--		
	12/20/93	10.66	322.98	190	12	12	13	50	--		
	03/29/94	10.5	323.14	<50	<0.5	1.2	<0.5	0.9	--		
	06/22/94	10.64	323	<50	<0.5	<0.5	<0.5	<0.5	<3.0		
	09/26/94	10.72	322.92	<50	<0.5	<0.5	<0.5	<0.5	--		
	10/04/94	10.68	322.96	<50	<0.5	<0.5	<0.5	0.7	--		
	11/30/94	9.66	323.98	170	6.1	3	6.5	28	--		
	03/02/95	9.92	321.38	<50	<0.5	<0.5	<0.5	<0.5	--		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
EA-3 (Cont'd)	06/07/95	9.72	321.58	<50	<0.5	<0.5	<0.5	<0.5	3.2		
	09/26/95	10.6	320.7	2,000	140	<5.0	<5.0	190	280		
	12/28/95	9.82	321.48	<50	<0.5	<0.5	<0.5	<0.5	26		
	02/29/96	8.28	323.02	<50	2.1	<0.5	2.5	6	31		
	06/27/96	9.91	321.39	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	09/12/96	10.59	320.91	13,000	<20	<20	<20	<20	48		
	03/31/97	--	--	--	--	--	--	--	--		Inaccessible
	04/15/97	10.25	321.25	<125	2	<1.2	<1.2	<1.2	680		
	12/23/98	--	--	--	--	--	--	--	--		Inaccessible
	03/25/99	--	--	--	--	--	--	--	--		Inaccessible
	02/03/00	--	--	--	--	--	--	--	--		Inaccessible
	01/23/01	10.31	321.19	862 (1)	3.97	1.15	18.9	48.6	289		
	05/01/01	10.15	321.35	SAMPLED SEMI-ANNUALLY							
	08/28/01	10.56	320.94	<50	<0.5	<0.5	<0.5	<0.5	37		
	11/27/01	10.65	320.85	SAMPLED SEMI-ANNUALLY							
	02/28/02	10.37	321.13	<50	1.3	<0.50	2	1.8	90		
	05/22/02	10.27	321.23	SAMPLED SEMI-ANNUALLY							
	08/20/02	10.3	321.2	<50	<0.50	<0.50	<0.50	<1.5	40		
	11/11/02	9.05	322.45	SAMPLED SEMI-ANNUALLY							
	05/08/03	8.83	322.67	<50	<0.5	<0.5	<0.5	<0.5	39/37		
	12/15/04	10.39	321.11	<50	<0.5	<0.5	<0.5	<0.5	18 (17)		
	02/21/05	8.80	322.70	<50	<0.5	<0.5	2.3	1.4	180 (290)	0.69	
	05/17/05	9.57	321.93	140	0.68	<0.5	6.6	0.94	250 (340)	0.86	
	08/17/05	9.23	322.27	3,800	11	3.7	110	24	200 (200)	0.99	
	11/27/05	**11.05**	**320.45**	**150**	**<0.5**	**1.8**	**2.4**	**0.56**	**88 (85)**	**0.81**	
MW-1	10/04/94	12.8	320.76	2,100	150	170	61	320	--		
333.66	11/30/94	12.38	321.18	1,500	210	17	73	130	--		
	03/02/95	12.88	320.68	2,600	510	<10	160	<10	--		
	06/07/95	12.58	320.98	710	160	<2.0	45	<2.0	<10		
	09/26/95	13.15	320.41	1,100	140	1.4	92	1.8	<5.0		
	12/28/95	13.09	320.47	750	96	2.5	61	7.4	37		
	02/29/96	12.17	321.39	250	17	<0.5	18	0.81	9		
	06/27/96	12.95	320.61	710	72	<2.0	92	2.2	<10		
	09/12/96	13.11	320.55	300	53	<0.5	32	0.65	21		
	03/31/97	12.99	320.67	<200	4.1	<2.0	4.8	<2.0	640		
	12/23/98	13.87	319.79	<50	<50	<0.5	<0.5	<0.5	3200		
	03/25/99	12.01	321.65	<50	<0.5	<0.5	<0.5	<0.5	5,200 (5,200)		
	02/03/00	11.91	321.75	<500	<5.0	<5.0	<5.0	<5.0	3,180 (3,350)		
	01/23/01	12.57	321.09	<50.0	<0.5	<0.5	<0.5	<0.5	4,420		
	05/01/01	12.6	321.06	SAMPLED SEMI-ANNUALLY							
	08/28/01	12.74	320.92	<50	<0.5	<0.5	<0.5	<0.5	4,800		
	11/27/01	12.7	320.96	SAMPLED SEMI-ANNUALLY							
	02/28/02	12.7	320.96	<50	<0.5	<0.5	<0.5	<1.5	1,400		
	05/22/02	12.38	321.28	SAMPLED SEMI-ANNUALLY							
	08/20/02	12.57	321.09	<50	<0.5	<0.5	<0.5	<1.5	1,400		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
MW-1 (Cont'd)	11/11/02	11.31	322.35				SAMPLED SEMI-ANNUALLY				
	05/08/03	11.85	321.81	<50	<0.5	<0.5	<0.5	<0.5	1,300 (1,200)		
	12/15/04	12.80	320.86	<50	<0.5	<0.5	<0.5	<0.5	1,700 (1,900)		
	02/21/05	11.81	321.85	<100	<1.0	<1.0	<1.0	<1.0	3,000 (3,800)	0.82	
	05/17/05	12.51	321.15	<120	<1.2	<1.2	<1.2	<1.2	3,400 (4,400)	0.75	
	08/17/05	12.35	321.31	<170	<1.7	<1.7	<1.7	<1.7	4,500 (4,900)	0.77	
	11/27/05	**13.18**	**320.48**	**<170**	**<1.7**	**<1.7**	**<1.7**	**<1.7**	**5,400 (4,400)**	**0.90**	
MW-2	10/04/94	8.56	320.62	2300	160	280	96	480	--		
329.29	11/30/94	8.33	320.85	1,600	170	16	110	120	--		
	03/02/95	8.35	320.83	1,200	220	5.6	140	36	--		
	06/07/95	8.62	320.56	160	25	<0.5	16	<0.5	240		
	09/26/95	8.71	320.47	150	15	<0.5	7.2	<0.5	120		
	12/28/95	8.78	320.4	400	34	1.3	26	5.1	170		
	02/29/96	7.82	321.36	120	29	<0.5	<0.5	<0.5	790		
	06/27/96	8.72	320.46	150	13	<0.5	7	<0,5	850		
	09/12/96	8.81	320.48	<1,000	18	<10	<10	<10	3,100		
	03/31/97	8.65	320.64	<500	<5.0	<5.0	<5.0	<5.0	1,400		
	12/23/98	8.32	320.97	<50	<0.5	<0.5	<0.5	<1.5	900		
	03/25/99	7.89	321.4	<50	2.6	<0.5	<0.5	<0.5	1,100 (670)		
	02/03/00	7.53	321.76	<125	<1.25	<1.25	<1.25	<1.25	1,020 (1,100)		
	01/23/01	8.18	321.11	<50.0	<0.5	<0.5	<0.5	<0.5	642		
	05/01/01	8.43	320.86	70.8	<0.5	<0.5	<0.5	<0.5	342		
	08/28/01	8.39	320.9	<50	<0.5	<0.5	<0.5	<0.5	530		
	11/27/01	8.46	320.83	210	<0.5	<0.5	<0.5	<1.5	260		
	02/28/02	8.48	320.81	<50	<0.5	<0.5	<0.5	<1.5	180		
	05/22/02	8.14	321.15	<50	<0.5	<0.5	<0.5	<1.5	180		
	08/20/02	8.24	321.05	<50	<0.5	<0.5	<0.5	<1.5	160		
	11/11/02	8.06	321.23	<50	<0.5	<0.5	<0.5	<1.5	130		
	05/08/03	7.86	321.43	<50	<0.5	<0.5	<0.5	<0.5	180 (160)		
	12/15/04	8.60	320.69	<50	<0.5	<0.5	<0.5	<0.5	1,400 (1,600)		
	02/21/05	7.55	321.74	<50	<0.5	<0.5	<0.5	<0.5	800 (1,100)	1.35	
	05/17/05	8.52	320.77	<50	<0.5	<0.5	<0.5	<0.5	160 (210)	1.06	
	08/17/05	8.16	321.13	<50	<0.5	<0.5	<0.5	<0.5	190 (210)	0.90	
	11/27/05	**9.00**	**320.29**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**200 (210)**	**0.92**	
MW-3	10/04/94	12.06	320.67	6,300	610	750	68	670	--		
332.86	11/30/94	11.38	321.35	17	3,600	490	430	610	--		
	03/02/95	11.97	320.76	8,500	2,200	<50	240	<50	64,000		
	06/07/95	11.54	321.19	3,000	710	18	220	44	3,100		
	09/26/95	12.36	320.37	<10,000	230	<100	130	<100	64,000		
	12/28/95	12.07	320.66	<12,500	760	<125	<125	<125	100,000		
	02/29/96	11.01	321.72	1,600	380	<10	84	17	33,000		
	06/27/96	11.93	320.8	1,400	<2.5	4.3	130	4	96,000		
	09/12/96	12.26	320.6	<10,000	560	<100	110	<100	100,000		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				←			µg/L		→		
MW-3 (Cont'd)	03/31/97	12.04	320.82	<25,000	1,200	370	<250	380	130,000		
	12/23/98	12.92	319.94	--	--	--	--	--	--		0.1' SPH; 0.079 gal SPH removed
	03/25/99	12.56	320.3	--	--	--	--	--	--		0.05' SPH; 0.05 gal SPH removed
	02/03/00	11.12	321.74	92,100	4,780	11,400	2,270	15,800	137,000 (162,000)		
	1/23/2001	11.78	321.08	60,600	4,810	7,500	1,870	11,000	148,000		Absorbent sock in well
	5/1/2001	10.66	322.2	56,000	3,760	5,640	<2,500	8,740	136,000		Absorbent sock in well
	8/28/2001	11.79	321.07	32,000	3,800	2,600	1,200	7,500	160,000		Absorbent sock in well
	11/27/2001	11.98	320.88	110,000	1,300	2,400	1,500	9,400	90,000		Absorbent sock removed
	02/28/02	11.81	321.05	24,000	1,900	820	520	3,100	90,000		
	05/22/02	11.6	321.26	110,000	4,000	3,200	2,800	18,000	140,000		
	08/20/02	11.81	321.05	37,000	2,600	1,500	890	4,800	110,000		
	11/11/02	11.63	321.23	81,000	2,900	2,100	2,100	14,000	110,000		
	05/08/03	10.91	321.95	5,700	770	69	130	365	76,000 (70,000)		
	12/15/04	11.97	320.89	33,000	1,700	430	1,300	7,000	70,000 (89,000)		
	02/21/05	10.81	322.06	--	--	--	--	--	--	1.29	0.01 SPH
	05/17/05	11.63	321.29	--	--	--	--	--	--	1.06	0.08 SPH
	08/17/05	10.83	322.03	39,000	1,500	260	780	2,700	42,000 (47,000)	0.93	
	11/27/05	**12.29**	**320.72**	--	--	--	--	--	--	--	**0.19 SPH**
MW-4	03/01/96	9.9	322.74	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
332.63	04/02/96	9.77	322.87	--	--	--	--	--	--		
	06/27/96	10	322.64	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	09/12/96	11.67	320.96	<50	<0.5	<0.5	<0.5	<0.5	3.5		
	03/31/97	10.59	322.04	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	12/23/98	10.37	322.26	<50	<0.5	<0.5	<0.5	<1.5	<2.5		
	03/25/99	9.91	322.72	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	02/03/00	10.32	322.31	<50	<0.5	<0.5	<0.5	<0.5	<2.5/<2.0 (3)		
	01/23/01	10.54	322.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	05/01/01	10.32	322.31				SAMPLED ANNUALLY				
	08/28/01	10.57	322.06				SAMPLED ANNUALLY				
	11/27/01	10.29	322.34				SAMPLED ANNUALLY				
	02/28/02	10.3	322.33	<50	<0.5	<0.5	<0.5	<1.5	<2.5		
	05/22/02	10.12	322.51				SAMPLED ANNUALLY				
	08/20/02	10.43	322.2				SAMPLED ANNUALLY				
	11/11/02	9.89	322.74				SAMPLED ANNUALLY				
	05/08/03	9.79	322.84	<50	<0.5	<0.5	<0.5	<0.5	<2		
	12/15/04	10.56	322.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	02/21/05	9.50	323.13	<50	<0.5	<0.5	<0.5	<0.5	<5.0 (<0.5)	1.60	
	05/17/05	10.20	322.43				SAMPLED ANNUALLY			1.29	
	08/17/05	10.50	322.13				SAMPLED ANNUALLY			1.10	
	11/27/05	**11.07**	**321.56**				**SAMPLED ANNUALLY**			**1.01**	
MW-5	03/01/96	10.62	322.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
333.47	04/02/96	10.14	323.06	--	--	--	--	--	--		
	06/27/96	10.22	322.98	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	09/12/96	10.85	322.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5		

Table 1. Groundwater Elevation and Analytical Data - Dublin Auto Wash, 7240 Dublin Boulevard, Dublin, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	Depth to Water (ft)	Groundwater Elevation (ft, msl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Dissolved Oxygen mg/L	Notes
				← µg/L →							
MW-5 (Cont'd)	03/31/97	10.44	322.6	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	12/23/98	10.21	322.83	<50	<0.5	<0.5	<0.5	<1.5	<2.5		
	03/25/99	9.92	323.12	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	02/03/00	9.63	323.41	<50	<0.5	<0.5	<0.5	<0.5	<2.5/<2.03		
	01/23/01	10.35	322.69	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	05/01/01	10.34	322.7			SAMPLED ANNUALLY					
	08/28/01	10.44	322.6			SAMPLED ANNUALLY					
	11/27/01	10.17	322.87			SAMPLED ANNUALLY					
	02/28/02	10.2	322.84	<50	<0.5	<0.5	<0.5	<1.5	<2.5		
	05/22/02	10.38	322.66			SAMPLED ANNUALLY					
	08/20/02	10.36	322.68			SAMPLED ANNUALLY					
	11/11/02	10.03	323.01			SAMPLED ANNUALLY					
	05/08/03	9.56	323.48	<50	<0.5	<0.5	<0.5	<0.5	3.4/<0.5		
	12/15/04	10.08	322.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0		
	02/21/05	9.90	323.14	<50	<0.5	<0.5	<0.5	<0.5	<5.0 (0.54)	1.62	
	05/17/05	10.33	322.71			SAMPLED ANNUALLY				1.47	
	08/17/05	10.40	322.64			SAMPLED ANNUALLY				1.18	
	11/27/05	**10.43**	**322.61**			**SAMPLED ANNUALLY**				**1.19**	

ABBREVIATIONS AND NOTES:

SPH = Separate-phase hydrocarbons; calculated groundwater elevation corrected for SPH by the relation: Groundwater Elevation = Well Elevation - Depth to Water +(0.8xSPH Thickness)

Groundwater monitoring data and laboratory analytical results prior to December 14, 2004, were scanned from a report by SOMA.

(ft) = Feet

(msl) = Mean sea level

TOC Elev. (ft) = Top of casing elevation

µg/L = micrograms per liter - approximately equal to parts per billion = ppb

mg/L = milligrams per liter - approximately equal to parts per million = ppm

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015C

BTEX by EPA Method 8020/8021.

MTBE = Methyl tertiary butyl ether by EPA Method 8020/8021. (Concentrations in parentheses are by EPA Method 8260B).

1,2-DCA = 1,2-Dichloroethane

-- = Not Measured/Not Analyzed

1 Laboratory report indicates weathered gasoline C6-C12.

APPENDIX A

Groundwater Monitoring Field Data Sheets

Pangea
ENVIRONMENTAL SERVICES, INC.

Well Gauging Data Sheet

Project.Task #:				Project Name: Dulin Auto Wash			
Address: 7240 Dublin Boulevard Dublin, CA						Date: 11/27/05	
Name: Sanjiv Gill				Signature:			
Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)	Measuring Point
EA1				unable to open lid			TOC
EA-2	4"	7:10			9.83		
EA-3	4"	7:15			11.05	34.85	
MW-1	2"	7:20			13.18	25.30	
MW-2		7:05			9.00	20.00	
MW-3		7:25	12.10	0.19	12.29		
MW-4		7:00			11.07		
MW-5	*	6:55			10.43		*

Comments: DO pre purge in mg/L for wells EA-2 = 0.84mg/L MW-4 = 0.01 mg/L, MW-5 = 1.19mg/L

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID:MW-1

Project.Task #:	Project Name: Dublin Auto Wash			
Address: 7240 Dublin Boulvard Dublin, CA				
Date: 11/27/05	Weather: Sunny			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): ~~13.18~~ 25.30	Depth to Product:			
Depth to Water (DTW): ~~25.30~~ 13.18	Product Thickness:			
Water Column Height: 12.12	1 Casing Volume: 1.93 gallons			
Reference Point: TOC	3 Casing Volumes: 5.81 gallons			
Purging Device: Disposable Bailer ~~3" PVC Bailer~~				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
8:20	19.8	7.14	690				2	
8:25	20.0	7.11	651				4	
8:30	19.6	7.10	684				6	

Comments: Pre purge DO meter Oakton, DO =0.9mg/L

Sample ID: MW-1	Sample Time: 8:35
Laboratory: Mc Campbell	Sample Date: 11/27/05
Containers/Preservative: Voa/HCL	
Analyzed for: 8015, 8021, 8260 if detected	
Sampler Name: Sanjiv Gill	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID:MW- 2

Project.Task #:	Project Name: Dublin Auto Wash
Address: 7240 Dublin Boulvard Dublin, CA	
Date: 11/27/05	Weather: sunny
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 3" = 0.37 | 6" = 1.47 | 2" = 0.16 | 4" = 0.65 | radius^2 * 0.163
Total Depth (TD): 20.00	Depth to Product:
Depth to Water (DTW): 9.00	Product Thickness:
Water Column Height: 11.00	1 Casing Volume: 1.76 gallons
Reference Point: TOC	3 Casing Volumes: 5.28 gallons
Purging Device: (Disposable Bailer) 3" PVC Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
7:45	19.2	6.94	742				2	
7:50	19.5	7.01	790				4	
7:55	19.5	6.99	795				5	

Comments: Pre purge DO meter Oakton, DO = 0.22 mg/L

Sample ID: MW- 2	Sample Time: 8:00
Laboratory: Mc Campbell	Sample Date: 11/27/05
Containers/Preservative: Voa/HCL	
Analyzed for: 8015, 8021, 8260 if detected	
Sampler Name: Sanjiv Gill	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID:MW-3

Project.Task #:	Project Name: Dublin Auto Wash			
Address: 7240 Dublin Boulvard Dublin, CA				
Date: 11/27/05	Weather: Sunny			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD):	Depth to Product: 12.10			
Depth to Water (DTW): 12.29	Product Thickness: 0.19			
Water Column Height:	1 Casing Volume: gallons			
Reference Point: TOC	___ Casing Volumes: gallons			
Purging Device: Disposable Bailer 3" PVC Bailer				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW

Comments: Pre purge DO meter Oakton, DO = mg/L

SPH no sample taken

Sample ID: MW-	Sample Time:
Laboratory: Mc Campbell	Sample Date: 11/27/05
Containers/Preservative: Voa/HCL	
Analyzed for: 8015, 8021, 8260 if detected	
Sampler Name: Sanjiv Gill	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: [redacted]-EA1

Project.Task #:	Project Name: Dublin Auto Wash			
Address: 7240 Dublin Boulvard Dublin, CA				
Date: 11/27/05	Weather: clear morning			
Well Diameter: "	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD):	Depth to Product:			
Depth to Water (DTW):	Product Thickness:			
Water Column Height:	1 Casing Volume: gallons			
Reference Point: TOC	____ Casing Volumes: gallons			
Purging Device: Disposable Bailer 3" PVC Bailer				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW

Comments: Pre purge DO meter Oakton, DO = mg/L

unable to open lid

Sample ID: MW-	Sample Time:
Laboratory: Mc Campbell	Sample Date: 11/27/05
Containers/Preservative: Voa/HCL	
Analyzed for: 8015, 8021, 8260 if detected	
Sampler Name: Sanjiv Gill	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: ~~MW~~-EA 3

Project.Task #:	Project Name: Dublin Auto Wash			
Address: 7240 Dublin Boulvard Dublin, CA				
Date: 11/27/05	Weather:			
Well Diameter: 4 "	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): 34.85	Depth to Product:			
Depth to Water (DTW): 11.05	Product Thickness: ~~---~~			
Water Column Height: 23.80	1 Casing Volume: 15.47 gallons			
Reference Point: TOC	3 Casing Volumes: 46.41 gallons			

Purging Device: Disposable Bailer 3" PVC Bailer ~~Whal~~ pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9:15	19.5	7.02	490				15	
9:35	19.8	6.91	513				30	
9:50	19.9	6.95	529				46	

Comments: Pre purge DO meter Oakton, DO = ~~0.0~~ mg/L

Sample ID: ~~MW~~ EA-3	Sample Time: 9:55
Laboratory: Mc Campbell	Sample Date: 11/27/05
Containers/Preservative: Voa/HCL	
Analyzed for: 8015, 8021, 8260 if detected	
Sampler Name: Sanjiv Gill	Signature:

APPENDIX B

Laboratory Analytical Report

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: Dublin Auto Wash	Date Sampled: 11/27/05
1710 Franklin Street, Ste. 200		Date Received: 11/29/05
Oakland, CA 94612	Client Contact: Bob Clark-Riddell	Date Reported: 12/05/05
	Client P.O.:	Date Completed: 12/05/05

WorkOrder: 0511504

December 05, 2005

Dear Bob:

Enclosed are:

1). the results of **3** analyzed samples from your **Dublin Auto Wash project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: Dublin Auto Wash	Date Sampled: 11/27/05
1710 Franklin Street, Ste. 200		Date Received: 11/29/05
Oakland, CA 94612	Client Contact: Bob Clark-Riddell	Date Extracted: 11/30/05-12/01/05
	Client P.O.:	Date Analyzed: 11/30/05-12/01/05

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0511504

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND<170,j	5400	ND<1.7	ND<1.7	ND<1.7	ND<1.7	3.3	103
002A	MW-2	W	ND	200	ND	ND	ND	ND	1	109
003A	EA-3	W	150,b	88	ND	1.8	2.4	0.56	1	120

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: Dublin Auto Wash	Date Sampled: 11/27/05
1710 Franklin Street, Ste. 200		Date Received: 11/29/05
Oakland, CA 94612	Client Contact: Bob Clark-Riddell	Date Extracted: 12/02/05
	Client P.O.:	Date Analyzed: 12/02/05

Methyl tert-Butyl Ether*

Extraction method: SW5030B Analytical methods: SW8260B Work Order: 0511504

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
001A	MW-1	W	4400	200	101
002A	MW-2	W	210	10	104
003A	EA-3	W	85	3.3	105

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.5	µg/L
	S	NA	NA

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511504

EPA Method: SW8021B/8015Cm **Extraction: SW5030B** **BatchID: 19192** **Spiked Sample ID: 0511503-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex)£	ND	60	97.6	98.7	1.13	95.8	97.8	2.13	70 - 130	70 - 130
MTBE	ND	10	86.9	89.4	2.90	90.2	95.1	5.27	70 - 130	70 - 130
Benzene	ND	10	93.7	95	1.38	87.4	88.1	0.837	70 - 130	70 - 130
Toluene	ND	10	100	101	0.889	93.3	94.4	1.08	70 - 130	70 - 130
Ethylbenzene	ND	10	106	106	0	98.8	101	2.14	70 - 130	70 - 130
Xylenes	ND	30	110	107	3.08	100	107	6.45	70 - 130	70 - 130
%SS:	110	10	101	100	0.686	98	96	1.79	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 19192 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511504-001A	11/27/05 8:35 AM	11/30/05	11/30/05 11:41 AM	0511504-001A	11/27/05 8:35 AM	12/01/05	12/01/05 6:21 PM
0511504-002A	11/27/05 8:00 AM	11/30/05	11/30/05 1:54 AM	0511504-003A	11/27/05 9:55 AM	11/30/05	11/30/05 2:26 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0511504

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 19257	Spiked Sample ID: 0512072-001B

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Methyl-t-butyl ether (MTBE)	100	10	NR	NR	NR	98.8	105	6.24	70 - 130	70 - 130
%SS1:	100	10	97	99	1.68	99	98	1.87	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 19257 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0511504-001A	11/27/05 8:35 AM	12/02/05	12/02/05 2:39 PM	0511504-002A	11/27/05 8:00 AM	12/02/05	12/02/05 3:25 PM
0511504-003A	11/27/05 9:55 AM	12/02/05	12/02/05 4:14 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

05150 4

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Website: [illegible] Email: main@mccampbell.com
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ■ 5 DAY

EDF Required? (Yes) No

Report To: Bob Clark-Riddel	Bill To: Pangea Environmental
Company: Pangea Environmental Services Inc.	
1710 Franklin Street Sutie 200	
Oakland, CA 94612	E-Mail: bcr@pangeaenv.com
Tele: 510-836-3702	Fax: 510-836-3709
Project #:	Project Name: Dublin Auto Wash
Project Location: 7240 Dublin Blvd Dublin, CA	
Sampler Signature: Muskan Environmental Sampling	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	Fuel Additives (MTBE, ETBE, TAME, DIPE, TBA, 1,2 – DCA, 1,2 – EDB, ethanol) by 8260B	If MBte is detected by 8021 confirm by 8260B	Other	Comments
MW1		11-27-05	8:35	3	VOA	X					X	X			X												X		
MW-2		"	8:00	"	"	"					"	"			"												"		
EA-3		"	9:55	"	"	"					"	"			"												"		

Relinquished By:	Date:	Time:	Received By:
	11/29/05	240	
Relinquished By:	Date:	Time:	Received By:

ICE/T
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB
APPROPRIATE ✓
CONTAINERS
PRESERVED IN LAB
PRESERVATION VOAS | O&G | METALS | OTHER

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0511504 **ClientID: PEO** **EDF: YES**

Requested TAT: 5 days

Report to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

TEL: (510) 836-3700
FAX: (510) 836-3709
ProjectNo: Dublin Auto Wash
PO:

Bill to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Date Received: 11/29/2005
Date Printed: 12/02/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0511504-001	MW-1	Water	11/27/05 8:35:00	☐	A	A	A									
0511504-002	MW-2	Water	11/27/05 8:00:00	☐	A	A										
0511504-003	EA-3	Water	11/27/05 9:55:00	☐	A	A										

Test Legend:

1 G-MBTEX_W	2 MTBE_W	3 PREDF REPORT	4	5
6	7	8	9	10
11	12			

Prepared by: Maria Venegas

Comments: all samples setup for MTBE by 8260 Conformation per Note 12/02/05

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.