

ARROW RENTALS LIVERMORE, CALIFORNIA

SEMIANNUAL GROUNDWATER MONITORING EVENT SEPTEMBER 2003

> Prepared for: Don Sul, Inc. 187 North L Street Livermore, California 94550

Date Prepared: November 12, 2003

12-29-03

Clear Eva.

Hope you had a great holding season. We have moved back to Livermore to be closer to the children + grand - children + "doctors"! We are very happy about it.

Here's another report. any chince of doing this on an annual basis! Plance advise.

Hew Year.

Sinciply, Ceta Sullins

October 31, 2003 971275

Rita Sullins Don-Sul, Inc. 187 North L Street Livermore, CA 94550

Subject: Semiannual Groundwater Monitoring, September 2003

187 North L Street, Livermore, California

Dear Ms. Sullins:

This report presents the results of semiannual groundwater monitoring conducted in September 2003 at the Arrow Rentals site, located at 187 North L Street in Livermore, California. Included are discussions of measurement and sampling procedures, hydrogeologic data, and analytical data.

MEASUREMENT AND SAMPLING PROCEDURES

On September 16, 2003, groundwater monitoring was performed at the site by Environmental Sampling Services of Martinez, California. The locations of the groundwater monitoring wells are illustrated on Figure 1. Sampling procedures and measurements are described in the field activity report, included in Appendix A.

Prior to sampling, the depth to groundwater was measured in all four wells (W-1s, W-3s, W-Bs, and W-Es) to the nearest 0.01 foot using an oil-water interface probe. The interface probe was washed with a Liqui-Nox® detergent solution, rinsed with tap water, and rinsed with distilled water. No floating product was present in any of the wells. The depth measurements, groundwater elevation data, and product thicknesses are listed in Table 1. A summary of groundwater elevation and product thickness data is presented in Table 2.

On September 16, 2003, groundwater samples were collected from three of the four wells (W-1s, W-3s, and W-Bs). Prior to sampling, each well was purged using a submersible pump equipped with dedicated tubing to ensure that fresh formation water entered the casing. Each well was purged until dry and allowed to recover for approximately one to two hours prior to sampling. The purge water from the monitoring wells was stored in 55-gallon drums.

Water quality parameters (temperature, pH, specific conductance, turbidity, color, and odor) were recorded at regular intervals during well purging. Water quality parameters for the four wells were recorded in the sampling logs. Copies of the sampling logs are included in the Field Activity Report in Appendix A.

Groundwater samples were collected from the wells using a new disposable bailer. Groundwater samples were collected in clean bottles supplied by the analytical laboratory. The bottles were sealed, labeled, stored on ice in a cooler, and transported under chain-of-custody protocol within 24 hours of collection to McCampbell Analytical, a California-certified laboratory in Pacheco, California. A travel blank was transported with the samples to the laboratory.

The groundwater samples were analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-gasoline) by EPA Method 8015 Modified; total petroleum hydrocarbons quantified as diesel (TPH-diesel) by EPA Method 8015 Modified with a silica gel cleanup; benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA Method 8021B; and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. For quality assurance purposes, the travel blank was analyzed for TPH-gasoline by EPA Method 8015 Modified, BTEX by EPA Method 8021B, and MTBE by EPA Method 8021B.

HYDROGEOLOGIC DATA EVALUATION

On September 16, 2003, groundwater elevations in the four monitoring wells ranged from 436.14 feet in well W-Es to 441.40 feet in well W-Bs. The elevations were used to construct a potentiometric surface map, as shown on Figure 2. The potentiometric surface shows that groundwater flows to the southwest. The hydraulic gradient is approximately 0.050 ft/ft.

ANALYTICAL DATA EVALUATION

Analytical data for groundwater samples collected in September 2003 are summarized in Table 3. The laboratory report and chain-of-custody documentation are included in Appendix B.

TPH-gasoline, TPH-diesel, and BTEX were detected in the groundwater samples. TPH-gasoline was detected at concentrations ranging from 1,600 μ g/L in well W-3s to 53,000 μ g/L in well W-1s. TPH-diesel was detected at concentrations ranging from 1,400 μ g/L in well W-3s to 24,000 μ g/L in well W-1s. However, the laboratory indicated that a significant amount of the reported diesel in the samples was due to gasoline.

Benzene was detected at concentrations ranging from 270 μ g/L in well W-3s to 4,100 μ g/L in well W-1s. The Maximum Contaminant Level (MCL) for benzene is 1 μ g/L. Toluene (up to 1,200 μ g/L), ethylbenzene (up to 1,400 μ g/L), and xylenes (up to 6,600 μ g/L) were also detected in the samples. The concentrations of toluene, ethylbenzene, and xylenes in the sample collected from well W-1s exceeded their corresponding MCLs. MTBE was not detected in the samples. TPH-gasoline, BTEX, and MTBE were not detected in the travel blank.

SUMMARY AND CONCLUSIONS

A summary of analytical data for the four groundwater monitoring wells is presented in Table 4. Elevated levels of TPH-gasoline, TPH-diesel, BTEX, and MTBE have been consistently detected in groundwater samples collected from wells W-1s and W-Bs. Lower levels of TPH-gasoline, TPH-diesel, BTEX, and MTBE have also been detected in samples collected from well W-3s and W-Es.

At the beginning of each semiannual monitoring event, the wells are checked for the presence of floating product. No floating product was present in any of the wells in September 2003. Previously, a small amount (0.14 foot) of floating product was measured on the water column in well W-1s in November 2001. None of the other wells (W-Bs, W-3s, and W-Es) have ever contained measurable floating product.

In September 2003, the direction of groundwater flow beneath the site was southwest. Fluctuations in the concentrations of petroleum hydrocarbons may be related to seasonal variations in groundwater elevations and the groundwater flow direction.

Based upon analytical data collected to date, the contaminant plume beneath the site appears to be stable and/or degrading. The concentrations of petroleum hydrocarbons in samples collected from well W-Bs have steadily decreased over time, indicating that the contamination is attenuating naturally. This trend would be expected, since the sources of contamination (e.g., the underground fuel tanks) have been removed.

Please call us if you have any questions concerning this report.

Respectfully yours,

Thomas E. Neely, REA Senior Hydrogeologist

Attachments

Rebecca A. Sterbentz, RG, CHG

REBECCA A. STERBENTZ No. 4119

President

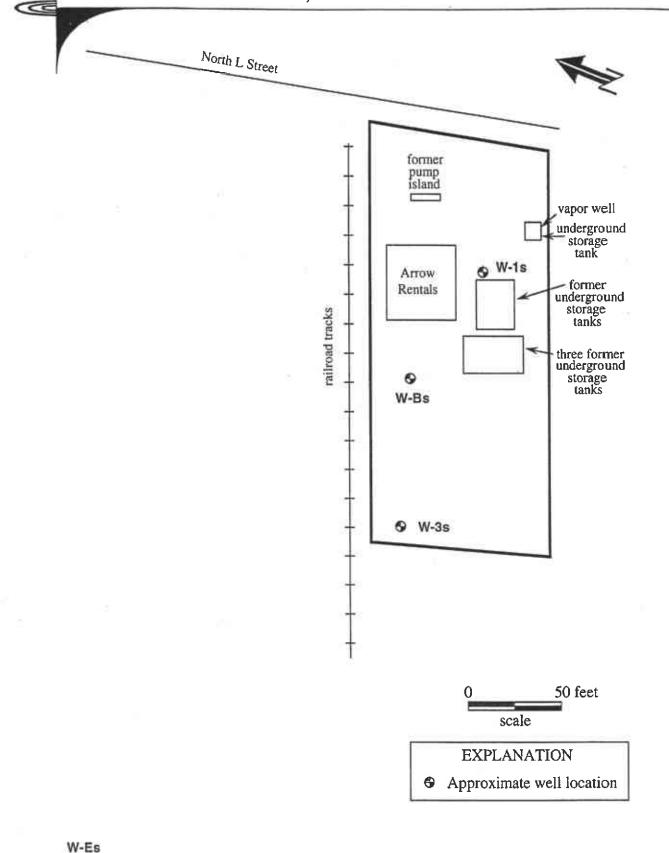


Figure 1. SITE MAP
187 North L Street, Livermore, California

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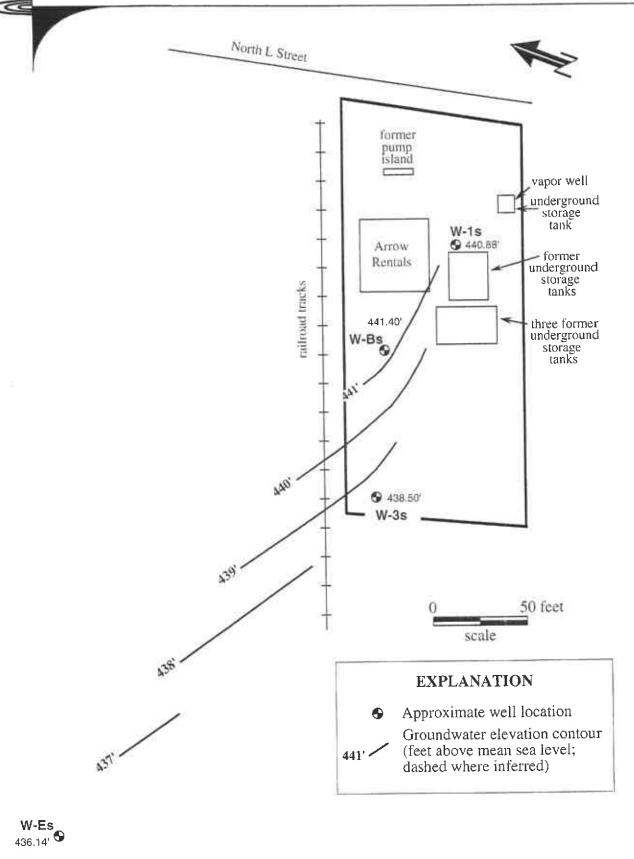
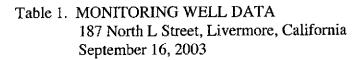


Figure 2. POTENTIOMETRIC SURFACE MAP (9/16/03) 187 North L Street, Livermore, California



Well Identification	Top-of-Casing Elevation (feet above MSL)	Depth to Water (feet below TOC)	Groundwater Elevation (feet above MSL)	Product Thickness (feet)
W-1s	479.09	38.21	440.88	0.00
W-3s	476.98	38.48	438.50	0.00
W-Bs	478.82	37.42	441.40	0.00
W-Es	474.66	38.52	436.14	0.00

MSL = mean sea level (elevations based on City of Livermore datum)

TOC = top of well casing

Table 2. CUMULATIVE GROUNDWATER ELEVATION AND PRODUCT THICKNESS DATA 187 North L Street, Livermore, California

	Gro	undwater E	levation D	ata*	P	roduct Thi	ckness Dat	<u>a</u>
Date	Well W-1s (feet)	Well W-3s (feet)	Well W-Bs (feet)	Well W-Es (feet)	Well W-1s (feet)	Well W-3s (feet)	Well W-Bs (feet)	Well W-Es (feet)
7/15/97	448.68	447.81	449.20	443.20	0.00	0.00	0.00	0.00
10/29/97	442.64	441.53	442.19	437.98	0.00	0.00	0.00	0.00
4/27/98	460.48	457.25	459.96	455.39	0.00	0.00	0.00	0.00
10/23/98	445.11	444.01	445.60	440.16	0.00	0.00	0.00	0.00
4/9/99	453.14	451.02	452.78	447.25	0.00	0.00	0.00	0.00
10/5/99	446.66	445.20	446.72	441.47	0.00	0.00	0.00	0.00
4/5/00	453.12	451.96	453.77	448.04	0.00	0.00	0.00	0.00
10/26/00	447.91	446.50	448.14	442.43	0.00	0.00	0.00	0.00
4/18/01	447.80	446.51	446.89	442.63	0.00	0.00	0.00	0.00
11/13/01	435.69	433.32	443.59	431.05	0.14	0.00	0.00	0.00
2/15/02	442.46	NM	NM	NM	0.00	NM	NM	NM
3/15/02	441.32	NM	NM	NM	0.00	NM	NM	NM
4/16/02	441.79	NM	NM	NM	0.00	NM	NM	NM
4/30/02	441.80	439.19	441.50	437.09	0.00	0.00	0.00	0.00
9/30/02	439.17	437.01	439.39	434.50	0.00	0.00	0.00	0.00
3/19/03	446.83	445.03	446.74	441.80	0.00	0.00	0.00	0.00
9/16/03	440.88	438.50	441.40	436.14	0.00	0.00	0.00	0.00
3/15/02 4/16/02 4/30/02 9/30/02 3/19/03	441.32 441.79 441.80 439.17 446.83	NM NM 439.19 437.01 445.03	NM NM 441.50 439.39 446.74	NM NM 437.09 434.50 441.80	0.00 0.00 0.00 0.00 0.00	NM NM 0.00 0.00 0.00	NM NM 0.00 0.00 0.00	NM NM 0.00 0.00 0.00

NM = not measured

^{*} All groundwater elevations were surveyed relative to a City of Livermore mean sea level datum.

Table 3. ANALYTICAL DATA FOR GROUNDWATER 187 North L Street, Livermore, California September 16, 2003

Well Identification	TPH- gasoline (µg/L)	TPH- diesel (µg/L)	TPH- motor oil (µg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	Naphthalene (µg/L)	2-Methyl- naphthalene (µg/L)
W-1s	53,000 a,b	24,000 h.c	NA	4,100	1,200	1,400	6,600	< 1,000	NA	NA
W-3s	1,600 a	1,400 e.d.s	NA	270	1.7	5.2	< 0.5	< 5.0	NA	NA
W-Bs	9,400 a	، 1,900	NA	1,300	36	580	160	< 150	NA	NA
W-Es	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Travel Blank	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA
MCL	NE	NE	NE	1	150	700	1,750	5	NE	NE

 μ g/L = micrograms per liter [parts per billion (ppb)]

NA = not analyzed

NE = none established

NS = not sampled

TPH-gasoline = total petroleum hydrocarbons quantified as gasoline

TPH-diesel = total petroleum hydrocarbons quantified as diesel

TPH-motor oil = total petroleum hydrocarbons quantified as motor oil

MTBE = methyl tertiary butyl ether

MCL = Maximum Contaminant Level, July 2002

a: Unmodified or weakly modified gasoline is significant.

b: Lighter than water immiscible sheen/product is present.

c: Gasoline range compounds are significant.

d: Diesel range compounds are significant; no recognizable pattern.

e: Oil range compounds are significant.

Table 4. SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER 187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH- gasoline (µg/L)	TPH- diesel (µg/L)	TPH- motor oil (µg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl- naphthalenc (µg/L)
		6,400	NA	NA	580	470	85	1,100	< 500	NA	NA	NA
W-1s	3/22/96	170,000	NA NA	NA	13,000	18,000	3,500	18,000	< 10,000	NA	NA	NA
W-1s	11/22/96	140,000	38,000 a	3,000	12,000	12,000	2,600	16,000	< 800	NA	NA	NA
W-1s	7/15/97	650,000	180,000	1,600	14,000	19,000	7,800	35,000	< 3,000	NA	NA	NA
W-1s	10/29/97	6,700	2,200 s	1,000 NA	410	250	77	870	< 30	< 5	NA	NA
W-1s	4/27/98	99,000	18,000 ь	NA	9,800	9,400	1,800	11,000	< 600	NA	NA	NA
W-1s	10/23/98	70,000	24,000	NA	6,500	7,000	1,800	8,900	360	NA	330	< 50
W-1s	4/9/99	82,000	60,000 c	NA	5,500	4,500	2,500	14,000	< 300	NA	510	280
W-1s	10/5/99	47,000	15000 շ	NA	4,300	2,300	1,500	6,100	170	NA	330	110
W-1s	4/5/00	50,000	1,200	< 500	3,800	1,800	1,700	7,600	< 50	NA	350	180
W-1s	10/26/00	54,000 a	6,800 c	NA	5,200	1,800	1,500	7,000	< 330	NA	NA	NA
W-1s	4/18/01	750,000 a	NA	NA	9,500	7,800	7,200	33,000	< 2,000	NA	NA	NA
W-1s	11/13/01	66,000 a	8,200 a	NA	6,000	2,700	2,300	11,000	< 1,200	NA	NA	NA
W-1s	4/30/02	51,000 a	1,200 €	< 2500	5,600	1,500	•	9,400	< 1,000	NA	NA	NA
W-ls	9/30/02	49,000 a	9,800 e,h	NA	3,400	880	,	7,300	< 500	NA	NA	NA
W-1s	3/19/03 9/16/03	53,000 dj	24,000 cj	NA	4,100		· ·	6,600	< 1,000	NA	NA	NA
W-1s	9/10/03	55,000 4	,	2112	.,	,						
W-3s	3/22/96	100	NA	NA	13	6.9	5.3	14	< 5	NA	NA	NA
w-3s W-3s	11/22/96	3,200	NA	NA	270		63.0	100	< 100	NA	NA	NA
	7/15/97	2,100	340 a	740	230		33	51	< 20	NA	NA	NA
W-3s	10/29/97	2,800	750	88	630		71	69	< 30	NA	NA	NA
W-3s		< 50	< 50	NA	< 0.5			< 0.5	< 3	NA	NA	NA
W-3s	4/27/98	3,800	1,000 ъ	NA	500			37	35	NA	NA	NA
W-3s	10/23/98	3,800 980	430	NA NA	240			3	< 12	NA	NA	NA
W-3s	4/9/99	900	430	Y4U	240	,						Page 1 of 4

Table 4 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER 187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH- gasoline (µg/L)	TPH- diesel (μg/L)	TPH- motor oil (µg/L)	Benzene (μg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl- naphthalene (µg/L)
W-3s	10/5/99	1,500	1,000 c,f	NA	290	9.5	53	9.8	< 6	NA	NA	NA
W-3s	4/5/00	810	320 c	NA	150	3.0	9.0	5.7	< 5	NA	< 5	< 5
W-3s	10/26/00	310	120	140	83	3.5	6.4	1.2	< 5	NA	NA	NA
W-3s	4/18/01	2,300 d	1,600 e,g	NA	320	8.0	16	7.0	< 20	NA	NA	NA
W-3s	11/13/01	NS	NS .	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-3s	4/30/02	1,400 d	490 e,g	NA	320	5.5	24	5.0	< 25	NA	NA	NA
W-3s	9/30/02	420 d	390 g	1,400	68	1.4	3.1	1.1	< 5.0	NA	NA	NA
W-3s	3/19/03	5,300 d	ه 1,500	NA	920	24	140	27	< 25	NA	NA	NA
W-3s	9/16/03	1,600 d	1,400 g,e,h	NA	270	1.7	5.2	< 0.5	< 5.0	NA	NA	NA
W-Bs	3/22/96	61,000	NA	NA	9,800	8,000	2,200	11,000	< 5,000	NA	NA	NA
W-Bs	11/22/96	47,000	NA	NA	5,100	3,100	1,400	7,800	< 2,500	NA	NA	NA
W-Bs	7/15/97	66,000	17,000 a	490	7,800	4,900	1,900	10,000	< 600	NA	NA	NA
W-Bs	10/29/97	44,000	27,000	4,000	6,000	500	1,500	6,400	380	NA	NA	NA
W-Bs	4/27/98	63,000	17,000 ь	NA	6,100	5,400	1,900	9,100	< 600	NA	NA	NA
W-Bs	10/23/98	48,000	9,600 s	NA	6,700	1,200	1,500	6,200	< 300	NA	NA	NA
W-Bs	4/9/99	39,000	12,000	NA	4,100	1,900	1,400	5,600	< 300	NA	NA	NA
W-Bs	10/5/99	38,000	7,300 ه	NA	3,800	390	1,600	5,900	< 60	NA	ŇA	NA
W-Bs	4/5/00	34,000	، 9,600	NA	3,500	1,200	1,400	4,700	< 150	NA	280	68
W-Bs	10/26/00	23,000	650	< 50	2,500	210	1,100	2,600	150	NA	260	88
W-Bs	4/18/01	20,000 a	ه 2,500 ه	NA	2,400	180	880	1,800	< 20	NA	NA	NA
W-Bs	11/13/01	ە 17,000 م	3,600 e	NA	2,000	130	1,100	1,700	< 150	NA	NA	NA
W-Bs	4/30/02	13,000 a	2,300 e	NA	1,000	38	660	360	< 170	NA	NA	NA
W-Bs	9/30/02	7,100 d	1,500 e	< 250	940	28	260	93	< 250	NA	NA	NA
W-D2	7130102	- ,	,	1250	<i>y</i> .00							Page 2 of 4

Table 4 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER 187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH- gasoline (µg/L)	TPH- diesel (µg/L)	TPH- motor oil (µg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	Lead (µg/L)	Naphthalene (μg/L)	2-Methyl- naphthalene (µg/L)
	3/19/03	14,000 a	3,900 e	NA.	1,200	77	820	900	< 120	NA	NA	NA
W-Bs		9,400 d	1,900 e	NA	1,300	36	580	160	< 150	NA	NA	NA
W-Bs	9/16/03),100 u	1,5000	1417	1,500							
W-Es	3/22/96	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5	NA	NA	NA
W-Es	11/22/96	280	NA	NA	24	0.6	1.8	2.2	< 5	NA	NA	NA
W-Es	7/15/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/29/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/27/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es W-Es	10/23/98	82	69 b	NA	< 0.5	0.8	< 0.5	0.8	4	NA	NA	NA
	4/9/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es		68	88 e	NA	< 0.5	< 0.5	< 0.5	< 1.0	4	NA	NA	NA
W-Es	10/5/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/5/00		< 50	< 50	0.7	< 0.5	< 0.5	< 1.0	< 5	NA	NA	NA
W-Es	10/26/00	110	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/18/01	NS		NS NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	11/13/01	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/30/02	NS	NS		NS NS	NS	NS	NS	NS	NS	NS	NS
W-Es	9/30/02	NS	NS 61 e	NS		< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA
W-Es	3/19/03	861		NA	< 0.5	NS	NS	NS	NS	NS	NS	NS
W-Es	9/16/03	NS	NS	NS	NS	NO	NO	140	110	110	2,12	
	2120105	50	NT 4	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5	NA	NA	NA
Travel Blank	3/20/96	< 50	NA			< 0.5	< 0.5	< 0.5	< 5	NA	NA	NA
Travel Blank	11/22/96	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	<3	NA	NA	NA
Travel Blank	7/15/97	< 50	NA	NA	< 0.5		< 0.5	< 0.5	< 3	NA	NA	NA
Travel Blank	10/29/97	< 50	NA	NA	< 0.5	< 0.5	₹ 0.5	× 0.5	~ 3	142 %	A 1A A	Page 3 of 4

Table 4 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER 187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH- gasoline (µg/L)	TPH- diesel (µg/L)	TPH- motor oil (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl- naphthalene (µg/L)
Travel Blank	4/27/98	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 3	NA	NA	NA
Travel Blank	10/23/98	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 3	NA	NA	NA
Travel Blank	4/9/99	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 3	NA	NA	NA
Travel Blank	10/5/99	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 1.0	< 3	NA	NA	NA
Travel Blank	4/5/00	< 50	NA	NA	1.8	< 0.5	< 0.5	< 1.0	< 5	NA	NA	NA
Travel Blank	10/26/00	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 1.0	< 5	NA	NA	NA
Travel Blank	4/18/01	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA
Travel Blank	11/13/01	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA
Travel Blank	4/29/02	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5	NA	NA	NA
Travel Blank	3/19/03	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA
Travel Blank	9/16/03	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA
MCL		NE	NE	NE	1	150	700	1,750	5	50	NE	NE
AL		NE	NE	NE	NE	NE	NE	NE	35	15	NE	NE

 μ g/L = micrograms per liter [parts per billion (ppb)]

NA = not analyzed

NE = none established

NS = not sampled

TPH-gasoline = total petroleum hydrocarbons quantified as gasoline

TPH-diesel = total petroleum hydrocarbons quantified as diesel

MTBE = methyl tertiary butyl ether

MCL = Maximum Contaminant Level, July 2002

AL = Action Level, July 2002

a: The method blank contained heavy oil at 120 μ g/L.

b: The chromatogram does not match the typical diesel pattern.

- c: The sample contained a lower boiling point mixture of hydrocarbons quantitated as diesel.
- d: Unmodified or weakly modified gasoline is significant.
- e: Gasoline range compounds are significant.
- f: The sample contained a higher boiling point hydrocarbon mixture quantitated as diesel.
- g: Oil range compounds are significant.
- h: Diesel range compounds are significant; no recognizable pattern.
- i: Heavier gasoline range compounds are significant (aged gasoline?).
- i: Lighter than water immiscible sheen/product is present.

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APPENDIX A

FIELD ACTIVITY REPORT

ablication (Christian) (Christian)

ARROW RENTALS LIVERMORE, CALIFORNIA

SEMIANNUAL GROUNDWATER MONITORING EVENT SEPTEMBER 2003

Palagra dialogo Digi Silia ligo i

juwa manang pengalahangan



FIELD ACTIVITY REPORT

SEMI-ANNUAL GROUNDWATER MONITORING EVENT ARROW RENTALS LIVERMORE, CALIFORNIA

ESS Personnel: Jacqueline Lee and Steve Penman

Date of Activities: September 16, 2003

Decontamination Procedures

Prior to use, all downhole equipment was cleaned with a solution of Liqui-Nox® laboratory-grade detergent and potable water, rinsed with potable water, followed by a final rinse with distilled water.

Depth to Groundwater Level Measurements

Depth to groundwater level measurements for all four monitoring wells were measured and recorded prior to any purging activities. All readings were performed with an Oil/Water Interface meter. Each depth to groundwater level measurement was referenced to the north rim at the top of PVC well casing (Table 1). Three successive readings that agreed to within one-hundredth of a foot determined depth to groundwater.

The presence of floating product was not detected in the four monitoring wells.

Field Equipment Calibration

All field instrumentation was calibrated in accordance with the instruments' calibration procedures prior to use. The pH meter was calibrated using two pH buffer standard solutions: 4 and 7. The Specific Conductivity/Temperature meter is factory calibrated and runs through a self-test when the meter is activated. The turbidity meter was calibrated against a 0.02 NTUs standard.

Field measurements included: pH, Specific Conductance (uS), Turbidity (NTUs), and Temperature (°C). Physical characteristic such as color and odor were also noted.

Well Purging and Sampling Methods

Three monitoring wells are designated for sampling (W-1s, W-3s, and W-Bs). As part of standard purging protocol, a minimum removal of three casing volumes and stabilization of water quality parameters is required prior to sampling unless a well is purged dry. If the well goes dry, it is allowed to recover prior to sampling.

A Grundfos® Redi-Flow submersible pump and dedicated tubing were used for well purging at monitoring wells: W-1s, W-3s, and W-Bs. Each monitoring well was purged



dry and allowed to recover for approximately one to two hours. Each monitoring well was sampled with a new disposable PVC bailer.

All dedicated tubing was discarded after use.

Laboratory, Analysis, Sample Containers & Preservation

McCampbell Analytical Inc. of Pacheco, California supplied a trip blank, sample containers and performed all required analyses. All monitoring wells were sampled for the following analyses: EPA Method 8015M/8020 (TPH-Gasoline/BTEX, and MTBE) and TPH as Diesel with Silica Gel Cleanup. The laboratory supplied pre-preserved and non-preserved sample containers according to analysis.

Each TPH-Gasoline, BTEX, and MTBE sample set was contained in three 40-ml clear glass containers preserved with hydrochloric acid.

Each Diesel sample was contained in a non-preserved, 1-liter amber glass container.

Sample Handling

Sample labels were completed with waterproof ink and affixed to sample containers prior to sample collection.

During decanting, all 40-ml sample containers were slightly tilted to avoid aeration or degassing. Each container was filled until there was a meniscus at the top. After capping, the container was inverted and tapped lightly to check for air bubbles. The absence of air bubbles indicated a successful seal. Non-preserved sample containers were filled to the neck of the sample container.

Sample handling was conducted under strict chain of custody procedures. All sample containers were wiped dry, sealed in Ziploc® bags, and placed in a chilled cooler for storage and shipment to the laboratory. ESS relinquished all samples to McCampbell Analytical Inc. on September 16, 2003.

QA/QC

One trip blank container was submitted for TPH-Gasoline, BTEX and MTBE analysis. The trip blank was re-labeled and remained in the sample cooler throughout the sampling event.

No other QA/QC samples were required nor requested.



Storage of Wastewater

Approximately 110 gallons of wastewater was generated during this sampling event and are stored in two labeled 55-gallon drums. ESS will arrange for proper disposal following confirmation of chemical analysis.

Jacqueline Lee President

Enclosure

Table 1: Summary of Groundwater Monitoring and Sampling

Water Sample Log Sheets Copy of Chain of Custody



Table 1: Summary of September 2003 Semi-Annual Groundwater Monitoring Event Site Location: Arrow Rentals, Livermore, Calfornia

Well I.D.	Groundwater Level Measurement (ft.)	Time of Measurement	Sample Date	Sample Time	QA/QC
W-1s	38.21	13:30	9/16/2003	16:17	None
W-3s	38.48	13:18	9/16/2003	15:47	None
W-Bs	37.42	13:22	9/16/2003	15:59	None
W-Es	38.52	13:00	NS	NA	NA

NS=Not Sampled per DTSC Scope of Work NA=Not Applicable



	A				MAZEL IDENI		ON 14/ 4-	DATE	214 /22					
		Y SAMPLE L			WELL IDEN									
Project Na	ame. <u>Arr</u>	<u>row Rentals - L</u>	ivermore	<u>, CA</u>	Project Task:	Semi-Anr	nual Ground	<u>water Moni</u>	itoring					
Laborator	y: <u>McCa</u>	<u>mpbell Analyti</u>	cal, Inc.	_	Weather Cong	litions: <u>S</u>	onny, beco	zy						
Well Desc	cription:	2" 3" 4" 5"	6" Oth	er:	Well Type: (e	VC) Stai	nless Steel	Other:						
ls Well Se	ecured? Y	res / No Bolt	Size: <u>15</u>	<u>/16"</u>	Type of Lock	/ Lock nui	mber: <u>Mast</u> e	er/Unknown	Number					
Observati	ons / Cor	nments:												
Purge Me	thod: Te	flon/PVC Disp	osable B	ailer_Cen	rifugal Pump	Grundfos	Pump Other	er:						
Pump Lin	es: NA I	New / Cleaned	Dedica	ated	Bailer Line: N	A (New)	Cleaned / D	edicated						
					Tap Water D	Rinse	ther:							
Method of	f Cleaning	g Bailer: (NA)	Alconox	Liqui-nox	Tap Water D	I Rinse O	ther:							
					Bailer GrundF				Pump					
			-	_	Spec. Cond. N									
		\ <u>-</u>			Spec.Cond. M			-	₹					
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1									:450 4L220					
1				•	9,38 (Gals./C				17717					
1					02(5" well) ("K									
							••	·	<u> </u>					
FIELD WATER QUALITY PARAMETERS Specific														
Date	Date Time Discharge pH Temp. Conductance Turbidity Color Comments													
	(Gallons) (°C) mS (US) (NTU's)													
9/16/03	14:28	4894	6.51	21.1	1179	36	ut grey	Act. Odo	<u> </u>					
1	14:30	8	6.42	20.8	/154	19	11	ud						
	14:33	12	6.55	20.9	1164	15	Litanivel	. " D	nie 14 gals.					
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Total Disc	charge: _	<u> </u>	allons		_Casing Volum	ies Remov	ved:	9						
					Drum(s) Pol									
Date/Tim	e Sample	ed: <u> </u>	3:4	∆ nalysi	s: <u>, TPH-Gas/</u> E	TEX, MT	BE (EPA 80	15M/8020);						
TPH-Dies	sel w/Silio	a Gel Cleanur	(EPA 8	015M)										
Number o	of Sample	e Containers:	4		Preservative:	None+H	CD		:					
QA/QC: <u>I</u>	None @ _		as an Eq	uipment B	lank Duplicat	e MS/MS	SD Lab Sp	lit Field Bl	lank					
Commen	ts: 🔻 DI	scarded to	Daide	ften use	·									
		<u> </u>												
Sampled	By Jack	i Lee / Stephe	n Penma	n/Casey	<u>Wheable</u> Rec	orded by:	Tarry	W_						



WATER QUALITY SAMPLE LOG	SHEET	WELL IDEN	TIFICATION	ON W-3s	DATE 9/16/03									
Project Name: <u>Arrow Rentals - Liverr</u>	more, CA	Project Task:	Semi-Anr	iual Ground	lwater Monitoring									
Laboratory: McCampbell Analytical, I	lnc.	Weather Cond	itions: <u>8</u>	unny, wa	rm; slight breeze									
Well Description: 2" 3" 4" 5" 6"	Other:	Well Type: (P	VC) Stai	nless Steel	Other:									
Is Well Secured? Yes / No Bolt Size	: <u>15/16"</u>	Type of Lock	Lock nur	mber: <u>No Io</u>	<u>ck</u>									
Observations / Comments:														
Purge Method: Teflon/PVC Disposab				•										
Pump Lines: NA New / Cleaned / Oe														
Method of Cleaning Pump: NA Alcor	nox Ciqui-nox	Tap Water D	I Rinse O	ther:										
Method of Cleaning Bailer: NA Alcor	nox Liqui-nox	Tap Water D	Rinse O	ther:										
Sampling Method: Disp. Teflon Baile	r (Disp. PVC I	Baileo GrundF	os Redi-fl	ow Pump	Peristaltic Pump									
pH Meter Serial No.: 217254 / 330	0089	Spec. Cond. N	/leter Seria	al No.: 96H	10203AB (AE)									
Date/Time Calibrated: 1166 S: 15 4	7 10 @ 25°C	Spec,Cond. M	leter Calib	ration: <u>Sel</u>	f Test Other:									
Method to Measure Water Level: Sol	linst Serial No.	: 9W Ind.	_ P.I.D. R	eading: <u>N</u>	IA ppm @ Well Head									
Water Level at Start (DTW): 39.48 e 13:18 Water Level Prior To Sampling: 39.71 @ 15:45														
TD = $\frac{44.76}{2}$ - $\frac{38.48}{2}$ (DTW) = $\frac{6.28}{2}$ (ft. of water) x "K" = $\frac{4.1}{2}$ (Gals./CV) x 3 (No. of CV) = $\frac{12.3}{2}$ (Gals.)														
"K"= $0.163(2" \text{ well})$ "K" = $0.653(4" \text{ well})$ "K" = $1.02(5" \text{ well})$ "K" = $1.46(6" \text{ well})$ "K" = $2.61(8" \text{ well})$														
FIELD WATER QUALITY PARAMETERS														
Specific														
	te Time Discharge pH Temp. Conductance Turbidity Color Comments (Gallons) (°C) mS (S) (NTU's)													
	ate Time Discharge pH Temp. Conductance Turbidity Color Comments (Gallons) (°C) mS uS (NTU's)													
9/16/03 1340 2 6.4	16 20.9	1050	_Z8	gray	Slight Pet. Oder									
13:41 5 6.4	12 203	1056	20		7									
13:43 7 6.4	46 20.2	1078	15	•	Dry e 7.0 gallons									
														
			-											
					,									
Total Discharge: 7.0 Gallons		Casing Volum	es Remov	red 15	1									
Method of disposal of discharged wat														
Date/Time Sampled: 9/16/03 @ 15														
TPH-Diesel w/Silica Gel Cleanup (EP		3. <u>, 11 (1-0a3iD</u>	1 L.X., 1VI E	<u>, </u>	1510// 0020),									
Number of Sample Containers: 4		Preservative:	(None & H	~										
QA/QC: None @ as an					lit Field Blank									
Comments: W-Es X = 38.5		· · · · · · · · · · · · · · · · · · ·	0 1110/1110	,	ne i tota Biatin									
Purge tube discarded														
Sampled By: dacki Lee / Stephen Per	 -		orded by	22/10										



WATER	QUALIT	Y SAMPLE L	OG SH	EET	WELL IDEN	TIFICATI	ON W-E	Is DATE 9/16/03				
Project N	ame: Arr	ow Rentals - L	.ivermore	e, CA	Project Task:	Semi-Anr	nual Grou	ndwater Monitoring				
		mpbell Analyti			Weather Cond	ditions: <u>S</u>	nony,	olight breeze				
Well Des	cription:	2" 3" 4" 5"	6" Oth	er:	Well Type:							
ls Well S	ecured? Y	es / No Bolt	Size: <u>15</u>	<u>/16"</u>	Type of Lock	/ Lock nur	mber: <u>Ma</u>	ster/Unknown Number				
(nments:					 -					
Purge Me	ethod: Te	flon/PVC Disp	osable E	ailer Centr	rifugalPump 🄇	rundfos F	oth	ner:				
					Bailer Line: N							
1					Tap Water Di							
1					Tap Water DI			 				
								Peristaltic Pump				
								6H0203AB / AE				
								elf Test Other:				
								NA ppm @ Well Head				
								12.55@ (5:55				
TD = <u>44.47</u> - 37.42 (DTW) = <u>7.05</u> (ft.of water) x "K" = <u>10.2</u> (Gais./CV) x <u>3</u> (No. of CV) = <u>30.8 (Gais.) "K" = 0.163(2" well) "K" = 0.653(4" well) "K" = 1.02(5" well) ("K" = 1.46(6" well) "k" = 2.61(8" well)</u>												
"K" = 0.163(2" well) "K" = 0.653(4" well) "K" = 1.02(5" well) ("K" = 1.46(6" well) "k" = 2.61(8" well)												
FIELD WATER QUALITY PARAMETERS Specific												
Date	Time	Discharge		T	Specific	0						
Date	line	Discharge (Gallons)	pН	Temp. (°C)	Conductance mS (uS)	(NTU's)	Color	Comments				
9/16/03	14:03	5	6.59	21.0	४५३	20.0	ut tan	Pet Odas				
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-	14:05	10	6.64				e,	ч				
	14:06	15	6.55	20.1	853	15.2						
	14:09	18	6.47	20.5	855	51.8	6.0	" Drye 18 gallons				
		 										
			<u> </u>				<u> </u>					
<u> </u>			l									
§ .		<u>18</u> Ga			Casing Volum							
I .								System Other:				
4					TPH-Gas/B1	IEX, MIB	<u> </u>	<u>015M/8020);</u>				
-		a Gel Cleanup		U I DIVI)	Preservative(Mono & U						
ł	·-	Containers:	4 s an Foi	iinment Ol-				plit Field Blank				
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SAMPLE ID	LOCATION			Containers	Type Containers		1							BTEX & TPH as Gas (602/8020+	TPH as Diesel (8015) - Perform Si Gel Clem-	ojen	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)			-	Specific Conductivity				
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APPENDIX B

LABORATORY REPORT

AND

CHAIN-OF-CUSTODY DOCUMENTATION

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

Environmental Sampling Services	Client Project ID: Arrow Rentals	Date Sampled:	09/16/03
6680 Alhambra Ave. #102		Date Received:	09/16/03
G. 04573	Client Contact: Jacki Lee	Date Extracted:	09/19/03-09/20/03
Matinez, CA 94553	Client P.O.:	Date Analyzed:	09/19/03-09/20/03

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

Extraction	method: SW5030B	·		Analytical r	ethods: SW8021E	/8015Cm		Work Or	der: 03	09298
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	Trip Blank	w	ND	ND	ND	ND	ND	ND	l	105
002A	W-3s	w	1600,a	ND	270	1.7	5.2	ND	1	#
003A	W-Bs	w	9400,a	ND<150	1300	36	580	160	10	129
004A	W-ls	w	53,000,a,h	ND<1000	4100	1200	1400	6600	200	100
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				grown Agric Language Agric			e 11.			190kg 1988

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	ing Limit for DF =1;	w	50	5.0	0.5	0.5	0.5	0.5	1	μg/
	ns not detected at or the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/l

^{*} 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 coclutes 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 ~2 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.

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McCampbell Analytical Inc.

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

Environmental Sampling Services	Client Project ID: Arrow Rentals	Date Sampled: 09/16/03
6680 Alhambra Ave. #102		Date Received: 09/16/03
Matinez, CA 94553	Client Contact: Jacki Lee	Date Extracted: 09/16/03
	Client P.O.:	Date Analyzed: 09/19/03-09/23/03

Diesel Range (C10-C23) Extractable Hydrocarbons with Silica Gel Clean-Up*

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0309298-002B	W -3s	w	1400,g,d,b	1	116
0309298-003B	W-Bs	w	1900,d	ı	114
0309298-004B	W-1s	w	24,000,d,h	10	98.0
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	imit for DF =1;	w	50	μ	g/L
	ot detected at or reporting limit	S	NA		 VA

^{*} water samples are reported in $\mu g/L$, wipe samples in $\mu g/w$ ipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / SPLP / TCLP extracts are reported in $\mu g/L$.

+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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

1

[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

OC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0309298

496°

EPA Method: SW8021B/801	5Cm I	Extraction:	SW5030B		BatchID:	8556	S	piked Sampl	e ID: 03093	05-001A
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
-	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High 🗼
TPH(btex) [£]	ND	60	111	107	4.27	107	100	6.87	70	130
MTBE	ND	10	98.5	94.7	3.86	90.7	95.6	5.27	70	130
Benzene	ND	10	103	102	1.19	107	108	1.58	70	130
Toluene	ND	10	102	101	1.01	98.7	99.2	0.507	70	130
Ethylbenzene	1.768	10	103	102	0.607	107	105	1.69	70	130
Xylenes	2.8	30	107	101	5.88	99.3	95.3	4.11	70	130 "
%SS:	105	100	104	104	0	106	109	2.53	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

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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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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

[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

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.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622

http://www.mccampbell.com E-mail: main@mccampbell.com

OC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0309298

EPA Method: SW8015C	· E	xtraction:	SW35100		BatchiD:	8548	s	piked Sampl	le ID: N/A	
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
•	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High 🦠
TPH(d)	N/A	7500	N/A	N/A	N/A	111	109	1.28	70	130
%SS:	N/A	100	N/A	N/A	N/A	118	115	2.04	70	130

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

NONE

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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.

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		Date	Time	Contain	U •	ā		33	ᆲ		0 1	2	ia j) C	8	3	3	3	Ts.	Ę	T.5	E				cific	.		
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McCampbell Analytical Inc.



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

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 0309298

Client:

Environmental Sampling Services 6680 Alhambra Ave. #102 Matinez, CA 94553 TEL:

FAX:

() 372-6705

ProjectNo: PO: Arrow Rentals

Date Received:

9/16/03

Date Printed:

9/16/03

					s de la seco	3. S. W	Re	quested Tests		
Sample ID	ClientSampID	Matrix	Collection Date	Hold	SW8015C	V8021B/8015C				
				194 67		,				
0309298-001	Trip Blank	Water	9/16/03 1:00:00 PM			Α				
0309298-002	W-3s	Water	9/16/03 3:47:00 PM		В	Α				
0309298-003	W-Bs	Water	9/16/03 3:59:00 PM		В	Α				
0309298-004	W-1s	Water	9/16/03 4:17:00 PM		В	Α				

Prepared	by:	Melissa	Valles
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Comments:

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.