JUN 05 2002

COPY

SEMI-ANNUAL GROUNDWATER MONITORING EVENT APRIL 2002

ARROW RENTALS LIVERMORE, CALIFORNIA

Hi Eva,
Hope all is well with you.
They dropped this report by yesterday (Friday) so wanted to get this out to you right away.
Talk to you soon,
Pete

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

Date Prepared: May 31, 2002

AQUIFER SCIENCES, INC.

3680-A Mt. Diablo Blvd.
Lafayette, CA 94549
(925) 283-9098

May 29, 2002
971275

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

Subject: Semiannual Groundwater Monitoring, April 2002
187 North L Street, Livermore, California

Dear Ms. Sullins:

This report presents the results of semiannual groundwater monitoring conducted in April 2002 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 April 30, 2002, 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. 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.

In November 2001, 0.14 foot of floating product was measured in well W-1s. Floating product had not been detected previously in well W-1s, and has not been detected in the other three monitoring wells. On January 25, 2002, Eva Chu of Alameda County Health Care Services Agency (Alameda County) requested that well W-1s be checked for the presence of floating product on a monthly basis. The well was checked in February, March, and April 2002. No floating product has been detected in well W-1s since November 2001.

On April 30, 2002, 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 dedicated submersible pump to ensure that fresh formation water entered the casing. Each well was purged dry twice, and less than three casing volumes of water were removed. 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 three 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 disposable bailer or submersible pump set to the minimum possible pumping rate. 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 prepared by the laboratory and accompanied the groundwater samples for quality assurance purposes.

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 8020; and methyl tertiary butyl ether (MTBE) by EPA Method 8020 Modified. The travel blank was analyzed for TPH-gasoline by EPA Method 8015 Modified, BTEX by EPA Method 8020, and MTBE by EPA Method 8020 Modified.

HYDROGEOLOGIC DATA EVALUATION

On April 30, 2002, groundwater elevations in the four monitoring wells ranged from 437.09 feet in well W-Es to 441.80 feet in well W-1s. The elevations were used to construct a potentiometric surface map, as shown on Figure 2. The potentiometric surface shows that groundwater generally flows to the southwest. The hydraulic gradient is approximately 0.038 ft/ft.

ANALYTICAL DATA EVALUATION

Analytical data for groundwater samples collected in April 2002 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 collected from all three wells. TPH-gasoline was detected at concentrations ranging from 1,400 µg/L in well

W-3s to 66,000 µg/L in well W-1s. TPH-diesel was detected at concentrations ranging from 490 µg/L in well W-3s to 8,200 µg/L in well W-1s. However, the laboratory indicated that a significant amount of the reported diesel was due to gasoline in the sample. Benzene was detected at concentrations ranging from 320 µg/L in well W-3s to 6,000 µg/L in well W-1s. The Maximum Contaminant Level (MCL) for benzene is 1 µg/L. Toluene (up to 2,700 µg/L), ethylbenzene (up to 2,300 µg/L), and xylenes (up to 11,000 µg/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 groundwater 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. High 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.

In November 2001, a small amount (0.14 foot) of floating product was measured on the water column in well W-1s. Floating product was not been detected in well W-1s during any prior monitoring event. Well W-1s was checked monthly from February to April 2002, and no floating product was present. None of the other wells (W-Bs, W-3s, and W-Es) have ever contained measurable floating product.

In April 2002, 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.

HUMAN HEALTH RISK ASSESSMENT

On April 30, 2001, we submitted our "Revised Human Health Risk Assessment" for the site. In the assessment, we calculated the health risk associated with current residual contamination under various scenarios. We used representative concentrations of contaminants present in the source area of the plume. Based upon the results of the assessment, we concluded the following:

- Contamination at the site is not impacting any known water supply wells.
- The baseline health risk to offsite receptors is within acceptable limits (less than $1x10^{-5}$ for carcinogenic risk and less than 1.0 for non-carcinogenic risk).
- The baseline health risk to onsite receptors due to outdoor air inhalation is within acceptable limits.
- The baseline health risks to onsite receptors due to indoor air inhalation and groundwater ingestion potentially exceed acceptable limits. (However, groundwater at the site is not used.)

The risk assessment demonstrated that various remediation scenarios, combined with institutional controls, can yield acceptable limits of potential human health risk.

RECOMMENDATIONS

On January 25, 2002, Eva Chu of Alameda County requested that we submit our recommendations concerning remediation at the site. Our recommendations are based upon current analytical data and the results of the Human Health Risk Assessment.

Analytical data obtained since April 2001 show that the contaminant plume is stable and/or degrading. Therefore, we believe that the recommendations presented in the risk assessment are still appropriate. One alternative included the implementation of institutional controls and annual groundwater monitoring to track natural attenuation. These recommendations from the Revised Human Health Risk Assessment are restated below.

- Place a restriction on the deed that prohibits the use of groundwater beneath the site for agricultural, domestic, commercial, industrial, or municipal purposes.
- Place a notification on the deed and on file with the Livermore Building Department. The purpose of the notification is to alert City and County personnel if redevelopment of the site is planned and to illustrate the location of residual contamination. This will enable Alameda County Environmental Health to evaluate a proposed project with respect to potential exposure to residual contamination.
- Collect groundwater samples from monitoring wells W-1s, W-3s, W-Bs, and W-Es annually for laboratory analysis to ensure that contaminant concentrations continue to decrease. Annual monitoring of the four wells should continue until remediation goals have been reached or until the concentrations stabilize. When concentrations reach remediation goals, the case should be closed.

A summary of the remediation goals for various scenarios is presented in Table 5. Only the concentrations of contaminants in groundwater samples collected from well W-1s exceed remediation goals. With the exception of benzene, the representative (or average) concentrations of contaminants in the source area meet the remediation goals for a residential or commercial/industrial site with a restriction on groundwater usage. We recommend that the concentrations of contaminants be monitored on an annual basis to track the attenuation of the plume. When the representative concentrations reach the appropriate remediation goal (residential or commercial/industrial), the case should be closed.

We look forward to your approval of the reduction in frequency of groundwater monitoring. Please call us if you have any questions concerning this report.

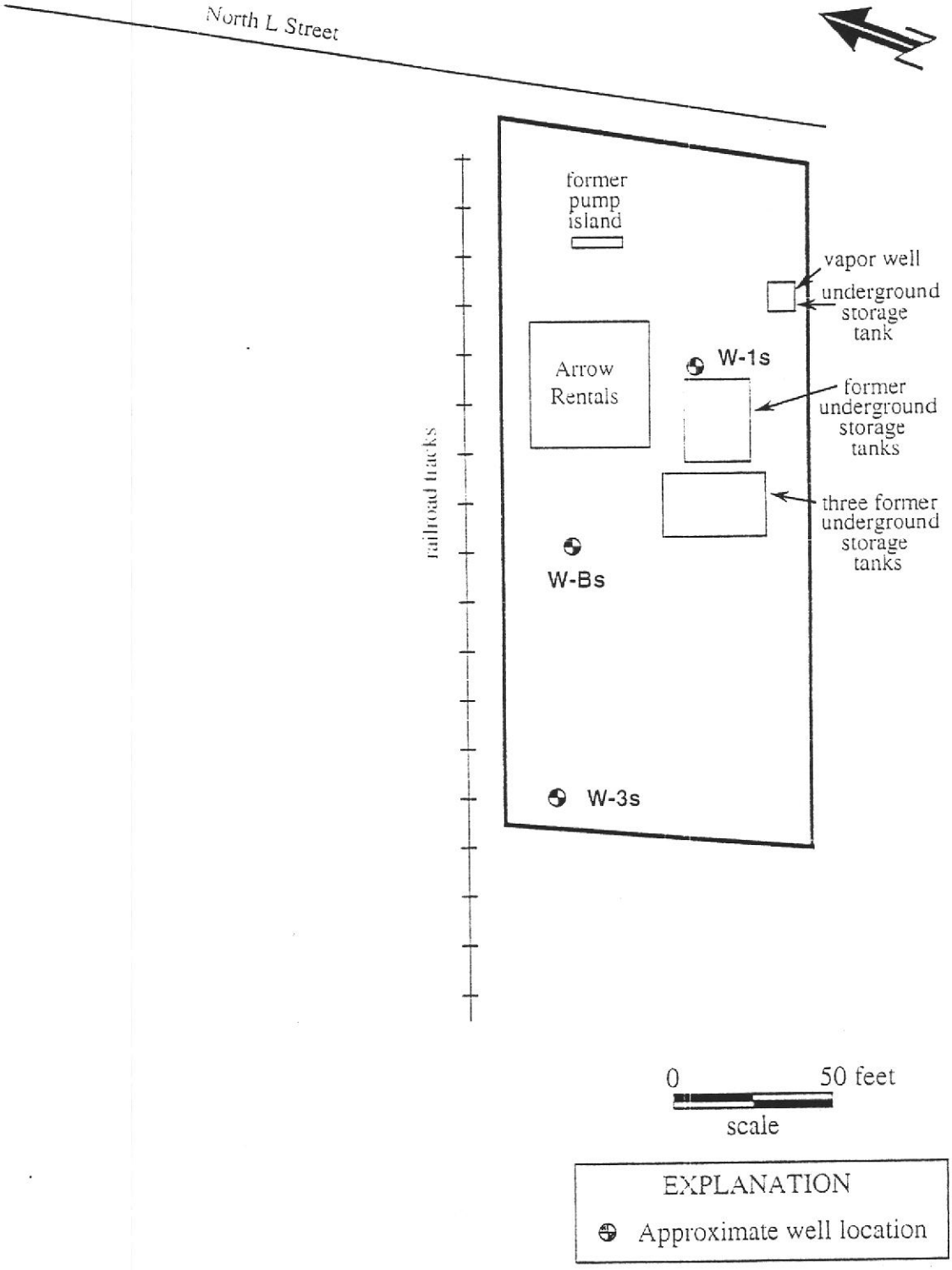
Respectfully yours,

Thomas E. Neely, REA
Hydrogeologist

Rebecca A. Sterbentz, RG, CHG, REA
President

Attachments

REGISTERED GEOLOGIST
REBECCA A. STERBENTZ
No. 4119
STATE OF CALIFORNIA



W-Es

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

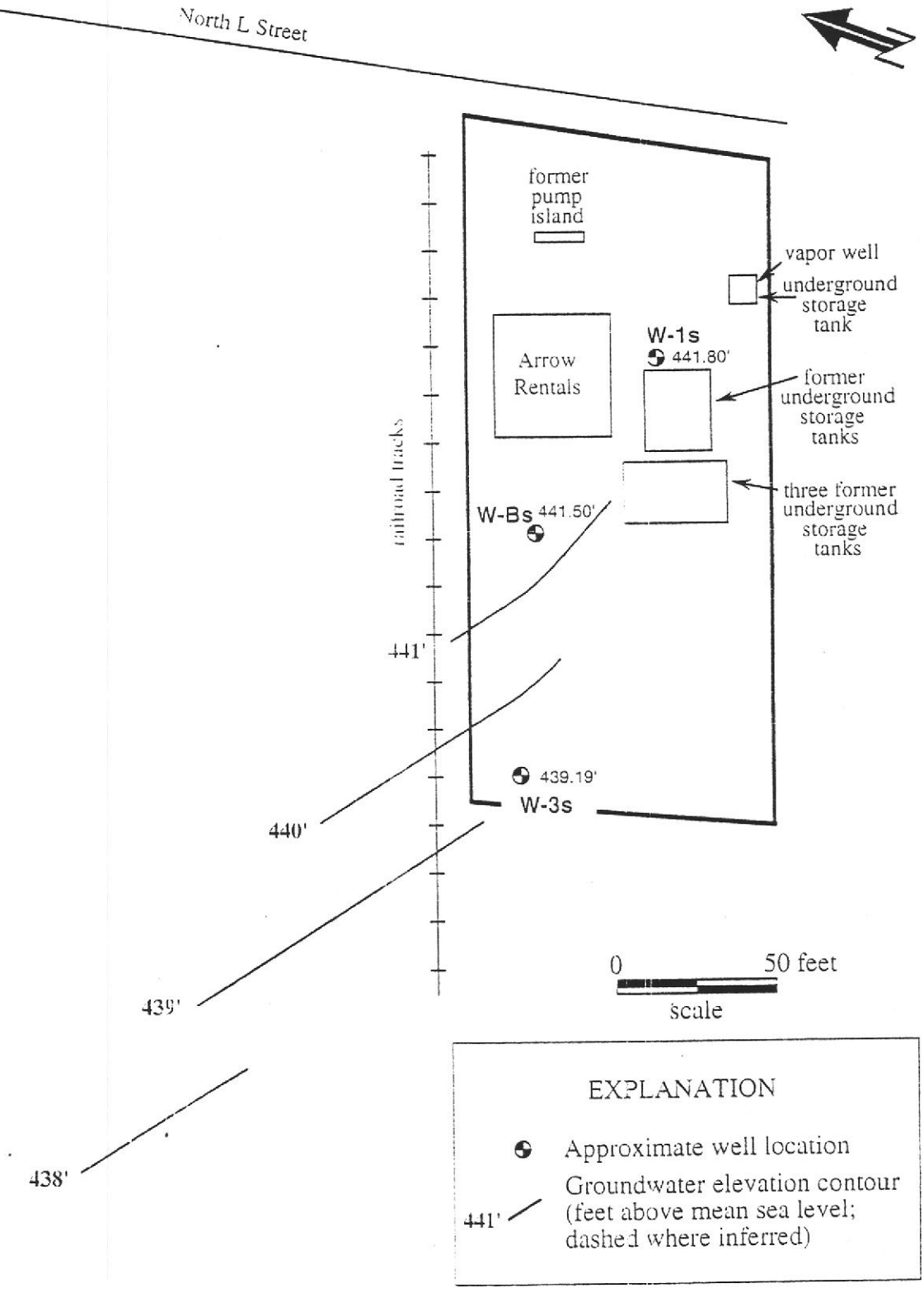


Figure 2. POTENTIOMETRIC SURFACE MAP (4/30/02)
187 North L Street, Livermore, California

Table 1. MONITORING WELL DATA
187 North L Street, Livermore, California
April 30, 2002

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	37.29	441.80	0.00
W-3s	476.98	37.79	439.19	0.00
W-Bs	478.82	37.32	441.50	0.00
W-Es	474.66	37.57	437.09	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

	Groundwater Elevation Data*				Product Thickness Data			
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

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
April 30, 2002

Well Identifcation	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	66,000*	8,200†	NA	6,000	2,700	2,300	11,000	< 1,200	NA	NA
W-3s	1,400*	490†‡	NA	320	5.5	24	5.0	< 25	NA	NA
W-Bs	13,000*	2,300†	NA	1,000	38	660	360	< 170	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	NA	NA
RL	50	50	--	0.5	0.5	0.5	0.5	5 - 1,200	--	--
MCL	NE	NE	NE	1	150	700	1,750	5	NE	NE

µg/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
RL = reporting limit
MCL = Maximum Contaminant Level, February 2000
* Unmodified or weakly modified gasoline is significant.
† Gasoline range compounds are significant.
‡ 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-naphthalene (µg/L)
W-1s	3/22/96	6,400	NA	NA	580	470	85	1,100	< 500	NA	NA	NA
W-1s	11/22/96	170,000	NA	NA	13,000	18,000	3,500	18,000	< 10,000	NA	NA	NA
W-1s	7/15/97	140,000	38,000*	3,000	12,000	12,000	2,600	16,000	< 800	NA	NA	NA
W-1s	10/29/97	650,000	180,000	1,600	14,000	19,000	7,800	35,000	< 3,000	NA	NA	NA
W-1s	4/27/98	6,700	2,200†	NA	410	250	77	870	< 30	< 5	NA	NA
W-1s	10/23/98	99,000	18,000†	NA	9,800	9,400	1,800	11,000	< 600	NA	NA	NA
W-1s	4/9/99	70,000	24,000	NA	6,500	7,000	1,800	8,900	360	NA	330	< 50
W-1s	10/5/99	82,000	60,000‡	NA	5,500	4,500	2,500	14,000	< 300	NA	510	280
W-1s	4/5/00	47,000	15,000‡	NA	4,300	2,300	1,500	6,100	170	NA	330	110
W-1s	10/26/00	50,000	1,200	< 500	3,800	1,800	1,700	7,600	< 50	NA	350	180
W-1s	4/18/01	54,000§	6,800**	NA	5,200	1,800	1,500	7,000	< 330	NA	NA	NA
W-1s	11/13/01	750,000§	NA	NA	9,500	7,800	7,200	33,000	< 2,000	NA	NA	NA
W-1s	4/30/02	66,000§	8,200**	NA	6,000	2,700	2,300	11,000	< 1,200	NA	NA	NA
W-3s	3/22/96	100	NA	NA	13	6.9	5.3	14	< 5	NA	NA	NA
W-3s	11/22/96	3,200	NA	NA	270	29.0	63.0	100	< 100	NA	NA	NA
W-3s	7/15/97	2,100	340*	740	230	7	33	51	< 20	NA	NA	NA
W-3s	10/29/97	2,800	750	88	630	31	71	69	< 30	NA	NA	NA
W-3s	4/27/98	< 50	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 3	NA	NA	NA
W-3s	10/23/98	3,800	1,000†	NA	500	28	90	37	35	NA	NA	NA
W-3s	4/9/99	980	430	NA	240	4	37	3	< 12	NA	NA	NA
W-3s	10/5/99	1,500	1,000‡,††	NA	290	9.5	53	9.8	< 6	NA	NA	NA
W-3s	4/5/00	810	320‡	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§	1,600**,‡‡	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§	490**,‡‡	NA	320	5.5	24	5.0	< 25	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*	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

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-Bs	4/27/98	63,000	17,000†	NA	6,100	5,400	1,900	9,100	< 600	NA	NA	NA
W-Bs	10/23/98	48,000	9,600†	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‡	NA	3,800	390	1,600	5,900	< 60	NA	NA	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§	2,500**	NA	2,400	180	880	1,800	< 20	NA	NA	NA
W-Bs	11/13/01	17,000§	3,600**	NA	2,000	130	1,100	1,700	< 150	NA	NA	NA
W-Bs	4/30/02	13,000§	2,300**	NA	1,000	38	660	360	< 170	NA	NA	NA
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	10/23/98	82	69†	NA	< 0.5	0.8	< 0.5	0.8	4	NA	NA	NA
W-Es	4/9/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/5/99	68	88‡	NA	< 0.5	< 0.5	< 0.5	< 1.0	4	NA	NA	NA
W-Es	4/5/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/26/00	110	< 50	< 50	0.7	< 0.5	< 0.5	< 1.0	< 5	NA	NA	NA
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
W-Es	4/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Travel Blank	3/20/96	< 50	NA	NA	< 0.5	< 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	< 5	NA	NA	NA
Travel Blank	7/15/97	< 50	NA	NA	< 0.5	< 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	NA	NA	NA
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

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	4/5/00	< 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
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

µg/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, February 2000
AL = Action Level, February 2000

* The method blank contained heavy oil at 120 µg/L.
† The chromatogram does not match the typical diesel pattern.
‡ The sample contained a lower boiling point mixture of hydrocarbons quantitated as diesel.
§ Unmodified or weakly modified gasoline is significant.
** Gasoline range compounds are significant.
†† The sample contained a higher boiling point hydrocarbon mixture quantitated as diesel.
‡‡ Oil range compounds are significant.

Table 5. SUMMARY OF REMEDIATION GOALS
187 North L Street, Livermore, California

Chemical	Representative Concentrations		Remediation Goals for Commercial Scenario		Remediation Goals for Residential Scenario		Remediation Goals for Commercial Scenario w/GW deed restriction		Remediation Goals for Residential Scenario w/GW deed restriction	
	Soil (mg/kg)	GW (µg/L)	Soil (mg/kg)	GW (µg/L)	Soil (mg/kg)	GW (µg/L)	Soil (mg/kg)	GW (µg/L)	Soil (mg/kg)	GW (µg/L)
Benzene	1.4	5,000	0.32	75	0.32	15	0.5	2,000	0.5	500
Toluene	11	4,200	11*	2,500	11*	1,000	11*	4,200*	11*	4,200*
Ethylbenzene	12	1,900	12*	1,500	12*	500	12*	1,900*	12*	1,900*
Total Xylenes	72	9,000	72*	9,000*	72*	5,500	72*	9,000*	72*	9,000*
MTBE	NA	260	NA	260*	NA	75	NA	260*	NA	260*
Naphthalene	NA	350	NA	350*	NA	350*	NA	350*	NA	350*

NA = not applicable

MTBE = methyl tertiary butyl ether

GW = groundwater

* These values represent current representative concentrations.

APPENDIX A

FIELD ACTIVITY REPORT

FIELD ACTIVITY REPORT FOR
ARROW RENTALS
LIVERMORE, CALIFORNIA

SEMI-ANNUAL GROUNDWATER SAMPLING MONITORING
APRIL 2002

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

Date Prepared: May 10, 2002

Environmental
Sampling Services

FIELD ACTIVITY REPORT

SEMI-ANNUAL GROUNDWATER MONITORING EVENT
ARROW RENTALS
LIVERMORE, CALIFORNIA

ESS Personnel: Jacqueline Lee and Stephen Penman
Date of Activities: April 30, 2002

Decontamination Procedures

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.

Groundwater Level Measurements

A total of four monitoring wells were measured for static water level. All readings were performed with an Oil/Water Interface meter (Table 1). Groundwater level measurements were referenced to the surveyor's mark (a black mark on the top of well casing).

Prior to measuring, monitoring wells were allowed to equilibrate with the atmosphere. Depth to groundwater was determined by lowering the interface probe into the well and obtaining three successive readings that agree to within one-hundredth of a foot. The presence of oil was not detected in the four monitoring wells.

Field Equipment Calibration

All field measurements were performed in accordance with the instruments' calibration and operating procedures. Field measurements included: pH, Specific Conductance, Turbidity, and Temperature. Physical characteristic such as color and odor were also noted.

Well Purging and Sampling Methods

A Grundfos® Redi-Flow submersible pump and dedicated tubing were used for well purging at monitoring wells: W-1s, W-3s, and W-Bs. All wells were purged to dryness twice prior to sample collection. A minimum of 1.5 hours was allowed for well recovery. The wells were sampled for the following analyses: EPA Method 8015M (TPH (Gasoline)/BTEX, and MTBE), and TPH as Diesel. Monitoring well, W-1s was sampled with a new disposable bailer. Monitoring wells, W-3s and W-Bs, were sampled with the submersible pump set at the slowest pump speed.

Environmental
Sampling Services

Laboratory, Sample Containers & Preservation

McCampbell Analytical Laboratories of Pacheco, California supplied all sample containers and performed all required analyses. All samples were properly preserved according to analysis.

Gasoline, BTEX, and MTBE samples were contained in two, 40-ml glass containers preserved with hydrochloric acid.

Diesel samples were contained in a non-preserved, 1-liter amber glass container.

QA/QC

Trip blanks for EPA Method 8015M were supplied and remained in the cooler containing all sample containers. No other QA/QC samples were required nor requested.

Comments

All work was performed under satisfactory workmanship and according to the Alameda County Health and Care Services' directive, dated October 8, 1997, March 15, 1999, January 10, 2000, April 18, 2001, and January 25, 2002.

Jacqueline Lee
President

Attachment
Table 1: Summary of Groundwater Level Measurements and Sample Time
Water Sample Log Sheets
Chain of Custody

Environmental
Sampling Service

Table 1: Summary of Groundwater Level Measurements and Sample Time
Project Name: Arrow Rentals, Livermore, California
Project Task: Semi-Annual Groundwater Level Monitoring Event, April 2002

LOCATION	Date of Measurement	Time of Measurement	Depth to Groundwater (ft.)	Sample Date	Sample Time	QA/QC
W-1s	4/30/2002	10:34	37.29	4/30/2002	14:03	None
W-3s	4/30/2002	10:28	37.79	4/30/2002	13:45	None
W-Bs	4/30/2002	10:31	37.32	4/30/2002	13:55	None
W-Es	4/30/2002	10:10	37.57	NA	NA	NA

NA = Not Applicable

Environmental Sampling Services

WATER QUALITY SAMPLE LOG SHEET | WELL IDENTIFICATION: W-1s DATE: 4/20/02

Project Name: Arrow Rentals - Livermore, CA Project Task: Semi-Annual Groundwater Monitoring

Laboratory: McCampbell Analytical, Inc. Weather Conditions: Overcast, breezy and cool

Well Description: 2" 3" 4" 5" (6") Other: ____ Well Type: (PVC) Stainless Steel Other: ____

Is Well Secured? (Yes) No Bolt Size 15/16" Type of lock / Lock number: Master-unknown

Observations / Comments: ____

Purge Method: Teflon/PVC Disposable Bailer Centrifugal Pump Peristaltic Pump Other: GrundFos Sub-Pump

Pump Lines: NA New / Cleaned / (Dedicated) Bailer Line: NA New / Cleaned / Dedicated

Method of Cleaning Pump: NA (Alconox) (Liqui-nox) Tap Water (DI Rinse) Other: ____

Method of Cleaning Bailer: NA Alconox Liqui-nox Tap Water DI Rinse Other: ____

Sampling Method: Disp. Teflon Bailer (Disp. PVC Bailer) (GrundFos Redi-Flow Pump) Peristaltic Pump

pH Meter Serial No.: 217254 / (330089) Spec. Cond. Meter Serial No.: (96H0203AB) / AE

Date/Time Calibrated: 4/30 @ 10:30 (4) (7) (10) @ 25°C Spec.Cond. Meter Calibration: (Self Test) Other: ____

Method to Measure Water Level: Solinst Serial No.: O/W Ind. P.I.D. Reading: NA ppm @ Well Head

Water Level at Start (DTW): 37.29 @ 10:34 Water Level Prior To Sampling: 40.89 @ 13:58

TD = 44.64 - 37.29 (DTW) = 7.35 (ft. of water) x "K" = 10.7 (Gals./CV) x 3 (No. of CV) = 32.1 (Gals.)

"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

Date	Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance mS (uS)	Turbidity (NTU's)	Color	Comments
4/20/02	11:53	5	6.82	18.8	101.5	27.7	cloudy lt. Brn.	Strong Petroleum Odor
"	11:59	10	6.78	20.0	120.6	24.3	"	Strong Pet. odor Dry @ 10.5 gals.
↓	12:21	14					→	Went dry @ 14 Gallons
	15:58	--	-	-	-	-	-	▽ = 40.89

Total Discharge: 14 gallons Casing Volumes Removed: 1.3

Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: ____

Date/Time Sampled: 4/20/02 @ 14:03 Analysis/No. of Bottles: EPA 8015M/8020 TPHgas/BTEX, MTBE.

(3-40ml VOC's w/HCl); TPH diesel (1, 1 liter glass amber, non-preserved)

QA/QC: None @ ____ as an Equipment Blank Duplicate MS/MSD Lab Split Field Blank

Comments: 80% = 38.7'

Sampled By: Jack Lee and Stephen Penman Signature(s): [signatures]

Environmental Sampling Services
6680 Alhambra Ave., #102, Martinez, CA 94553 Phone/Fax: (510) 372.8108
www.Envsampling.com

Environmental Sampling Services

WATER QUALITY SAMPLE LOG SHEET | WELL IDENTIFICATION: W-3s DATE: 4/30/02

Project Name: Arrow Rentals - Livermore, CA Project Task: Semi-Annual Groundwater Monitoring

Laboratory: McCampbell Analytical, Inc. Weather Conditions: Mostly Cloudy and Cool

Well Description: 2" 3" (4") 5" 6" Other: ____ Well Type: (PVC) Stainless Steel Other: ____

Is Well Secured? Yes / No Bolt Size 15/16" Type of lock / Lock number: No Lock

Observations / Comments: ____

Purge Method: Teflon/PVC Disposable Bailer Centrifugal Pump Peristaltic Pump Other: Grundfos Sub Pump

Pump Lines: NA New / Cleaned / (Dedicated) Bailer Line: NA (New) / Cleaned / Dedicated

Method of Cleaning Pump: NA Alconox (Liqui-nox) Tap Water DI Rinse Other: ____

Method of Cleaning Bailer: NA Alconox Liqui-nox Tap Water DI Rinse Other: ____

Sampling Method: Disp. Teflon Bailer (Disp. PVC Bailer) GrundFos Redi-flow Pump Peristaltic Pump

pH Meter Serial No.: 217254 / (330089) Spec. Cond. Meter Serial No.: (96H0203AB) / AE

Date/Time Calibrated: 4/30 @ 10:30 (4) (7) (10) @ 25°C Spec.Cond. Meter Calibration: (Self Test) Other: ____

Method to Measure Water Level: Solinst Serial No.: 0/w Ind. P.I.D. Reading: NA ppm @ Well Head

Water Level at Start (DTW): 37.79 @ 10:28 Water Level Prior To Sampling: 39.32 @13:40e

TD = 44.76 - 37.79 (DTW) = 6.97 (ft.of water) x "K" = 4.0 (Gals./CV) x 3 (No. of CV) = 13.8 (Gals.)

"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

Date	Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance mS (uS)	Turbidity (NTU's)	Color	Comments
4/30/02	10:43	2.0	7.03	19.2	78.7	38.8	Cloudy Lt. Brn.	Sheen in purge water strong odor (Petroleum?)
	10:46	4.0	6.88	20.4	90.5	31.0	"	
	10:49	6.0	6.82	20.6	101.7	5.11	Clear	
	10:52	8.0	6.80	20.7	100.8	2.29	"	
	10:55	10.0	6.84	20.6	101.6	5.70	"	Dry @ 10 Gallons
↓	11:27	12.0	6.85	19.7	102.7	35.3	Cloudy Lt. Brn	Dry @ 13 Gallons
4/30/02	13:40	—	—	—	—	—	—	∇ = 39.32

Total Discharge: 13.0 gallons Casing Volumes Removed: 2.8

Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: ____

Date/Time Sampled: 4/30/02 @ 13:45 Analysis/No. of Bottles: EPA 8015M/8020 TPHgas/BTEX, MTBE.

(2-40ml VOC's w/HCl); TPH diesel (1, 1 liter glass amber, non-preserved)

QA/QC: None @ — as an Equipment Blank Duplicate MS/MSD Lab Split Field Blank

Comments: 80% = 39.19

Sampled By: Jacki Lee and Stephen Penman Signature(s): [signatures]

Environmental Sampling Services
6680 Alhambra Ave., #102, Martinez, CA 94553 Phone/Fax: (510) 372.8108
www.Envsampling.com

Environmental Sampling Services

WATER QUALITY SAMPLE LOG SHEET	WELL IDENTIFICATION: W-Bs DATE: 4/30/02

Project Name: Arrow Rentals - Livermore, CA Project Task: Semi-Annual Groundwater Monitoring

Laboratory: McCampbell Analytical, Inc. Weather Conditions: Overcast and cool

Well Description: 2" 3" 4" 5" (6") Other: ____ Well Type: (PVC) Stainless Steel Other: ____

Is Well Secured? (Yes) / No Bolt Size 15/16" Type of lock / Lock number: Master - unknown

Observations / Comments ____

Purge Method: Teflon/PVC Disposable Bailer Centrifugal Pump Peristaltic Pump Other: Grundfos Sub-Pump

Pump Lines: NA New / Cleaned (Dedicated) Bailer Line: NA New / Cleaned / Dedicated

Method of Cleaning Pump NA Alconox (Liqui-nox) Tap Water DI Rinse Other: ____

Method of Cleaning Bailer: NA Alconox Liqui-nox Tap Water DI Rinse Other: ____

Sampling Method Disp. Teflon Bailer Disp. PVC Bailer (GrundFos Redi-flow Pump) Peristaltic Pump

pH Meter Serial No.: 217254 / (330089) Spec. Cond. Meter Serial No.: (96H0203AB) / AE

Date/Time Calibrated 4/30 @ 10:30 (4) (7) (10) @ 25°C Spec.Cond. Meter Calibration: (Self Test) Other: ____

Method to Measure Water Level: Solinst Serial No.: O/W Ind. P.I.D. Reading: NA ppm @ Well Head

Water Level at Start (DTW): 37.32 @ 10:38:31 Water Level Prior To Sampling: 42.70 @ 13:50

TD = 44.47 - 37.32 (DTW) = 7.15 (ft.of water) x "K" = 10.4 (Gals./CV) x 3 (No. of CV) = 31.2 (Gals.)

"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

Date	Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance mS (uS)	Turbidity (NTU's)	Color	Comments
4/30/02	11:11	5	6.67	19.2	90.8	6.97	Clear	Slight Petroleum odor No Sheen
	11:14	10	6.65	19.8	98.2	3.16	"	Strong odor
	11:17	15	6.71	19.3	102.0	3.94	"	" " Dry @ 18 Gals.
↓	12:03	20	6.83	19.7	109.0	48.6	Cloudy Lt Brn.	Dry @ 20.5 gallons
	13:50	—	—	—	—	—	—	∇_2 = 42.70

Total Discharge: 20.5 gallons Casing Volumes Removed: 1.97

Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: ____

Date/Time Sampled: 4/30/02 @ 13:55 Analysis/No. of Bottles: EPA 8015M/8020 TPHgas/BTEX, MTBE, (3-40ml VOC's w/HCl); TPH diesel (1, 1 liter glass amber, non-preserved)

QA/QC: None @ — as an Equipment Blank Duplicate MS/MSD Lab Split Field Blank

Comments: W-ES ∇ = 37.57 @ 10:10

80% = 38.75

Sampled By: Jacki Lee and Stephen Penman Signature(s): [signature]

Environmental Sampling Services
6630 Alhambra Ave., #102, Martinez, CA 94553 Phone/Fax: (510) 372.8108
www.Envsampling.com

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DA

Report To: Jacki Lee Bill To: same as "Report To"

Company: Environmental Sampling Services
6680 Alhambra Avenue, #102
Martinez, CA 94553

Tele: ( )925 372-8108 Fax: ( )925 372-6705

Project #: — Project Name: Arroyo Rentals

Project Location: Livermore

Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
TRIP BLANK	—	4/29/02	—	1	VOA	X					X	X		
W-3S	—	4/30/02	13:45	3	VOAs Liter VOAs	X					X	X		
W-BS	—	4/30/02	13:55	3	VOAs Liter VOAs	X					X	X		
W-1S	—	4/30/02	14:03	3	VOAs Liter	X					X	X		

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015) w/Silica Gel Cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	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)	RCI
X														
X	X													
X	X													
X	X													

Other: pH | TSS | Specific Conductivity

Comments

Relinquished By:	Date:	Time:	Received By:
X	4/30/02	15:30	Monte Vinas
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° _____ VOAS | O&G | METALS | OTHER

GOOD CONDITION _____ PRESERVATION _____ | _____ | _____ | _____

HEAD SPACE ABSENT _____ APPROPRIATE CONTAINERS _____

APPENDIX B

LABORATORY REPORT

AND

CHAIN-OF-CUSTODY DOCUMENTATION

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 6680 Alhambra Ave. #102 Martinez, CA 94553	Client Project ID: Arrow Rentals	Date Sampled: 04/29/02
		Date Received: 04/30/02
	Client Contact: Jacki Lee	Date Reported: 05/07/02
	Client P.O.:	Date Completed: 05/07/02

May 07, 2002

Dear Jacki:

Enclosed are:

1). the results of 4 samples from your **Arrow Rentals 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
http://www.mccampbell.com E-mail: main@mccampbell.com

Environmental Sampling Services	Client Project ID: Arrow Rentals	Date Sampled: 04/29/02
6680 Alhambra Ave. #102		Date Received: 04/30/02
Martinez, CA 94553	Client Contact: Jacki Lee	Date Extracted: 05/01/02-05/02/02
	Client P.O.:	Date Analyzed: 05/01/02-05/02/02

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0204480

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	Trip Blank	W	ND	ND	ND	ND	ND	ND	1	102
002A	W-3s	W	1400,a	ND<25	320	5.5	24	5.0	5	116
003A	W-Bs	W	13000,a,i	ND<170	1000	38	660	360	33	107
004A	W-1s	W	66000,a,h	ND<1200	6000	2700	2300	11000	250	104

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	ug/L
	S	1	0.05	0.005	0.005	0.005	0.005	mg/Kg

*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

DF = dilution factor.

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); 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) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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: 04/30/02
6680 Alhambra Ave. #102		Date Received: 04/30/02
Martinez, CA 94553	Client Contact: Jacki Lee	Date Extracted: 04/30/02
	Client P.O.:	Date Analyzed: 05/01/02

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

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0204480

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
002B	W-3s	W	490,d,g	1	103
003B	W-Bs	W	2300,d,i	2	--#
004B	W-1s	W	8200,d,h	1	86.3

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

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

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.

+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; j) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

BatchID: 1588 Matrix: W WorkOrder: 0204480

EPA Method: SW8021B/8015Cm Extraction: SW5030B Ext. Date: 4/30/02 Spiked Sample ID: 0204475-003A

Compound	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(gas)	ND	60	105	114	8.72	112	108	3.6	80	120
MTBE	ND	10	85..	97.4	13.6	105	94.4	10	80	120
Benzene	ND	10	87.3	95.6	8.55	95.1	94.5	0.65	80	120
Toluene	ND	10	93.7	100	6.97	99.5	98.9	0.60	80	120
Ethylbenzene	ND	10	96.1	101	5.41	101	99.9	0.78	80	120
Xylenes	ND	30	94.7	99.7	5.15	99.3	99.3	0	80	120
%SS	101	10	101	104	2.49	104	105	0.58	80	120

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.

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

% 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 their RPDs near 0% if: a) the sample is inhomogeneous AND contains significant concentrations of analyze relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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

QC SUMMARY REPORT FOR SW8015C

BatchID: 1593 Matrix: W WorkOrder: 0204480

EPA Methoc: SW8015C Extraction: SW3510C Ext. Date: 4/30/02 Spiked Sample ID: N/A

Compound	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	120	115	4.2	70	130
%SS1	N/A	2500	N/A	N/A	N/A	109	105	3.5	70	130
%SS2	N/A	2500	N/A	N/A	N/A	110	106	3.8	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

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

N/A = not enough sample to perform matrix spike, or analyte concentration in sample exceeds spike amount.

% 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.

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0204480

Client:
Environmental Sampling Services
6680 Alhambra Ave. #102
Martinez, CA 94553

TEL:
FAX:
ProjectNo: Arrow Rentals
PO:

30 Apr 02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests						
					SW8015C	8021B/8015					
0204480-001	Trip Blank	Water	4/29/02			A					
0204480-002	W-3s	Water	4/30/02 1:45:00 PM		B	A					
0204480-003	W-Bs	Water	4/30/02 1:55:00 PM		B	A					
0204480-004	W-1s	Water	4/30/02 2:03:00 PM		B	A					

Comments:

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	
Relinquished by:		**Received by:**	

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.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

D204480

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

Report To: Zach Lee Bill To: Same as "Report To"
Company: Environmental Sampling Services
6680 Alhambra Avenue, #102
Martinez, CA 94553
Tele: ( ) 925-372-8102 Fax: ( ) (925) 372-6705
Project #: — Project Name: Arnold Rentals
Project Location: Livermore
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO3	Other
TRIP BLANK	—	1/29/02	—	1	VOA	X					X			
W-3s	—	1/29/02	13:45	3	VOA, amber	X					X	X		
W-D3	—	1/29/02	13:55	3	VOA, amber	X					X	X		
W-1s	—	1/29/02	14:03	3	VOA, amber	X					X	X		

Analysis Request: BTEX & TPH as Gas (602/8020 + 8015) MTBE; TPH as Diesel (8015) w/ Silica Gel Cleanup; Total Petroleum Oil & Grease (5520 E&F/B&F); 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); RCI

Other: pH; TSS; Specific Conductivity

Comments:

Relinquished By:	Date:	Time:	Received By:
	1/30/02	15:30	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION ✓ APPROPRIATE
CONTAINERS ✓

VOAS	O&G	METALS	OTHER
✓			