

ENVIRONMENTAL  
PROTECTION  
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January 23, 1996  
Project No. RC0027.011

# 583

Ms. Caroline Ehrlich  
United Parcel Service, Inc  
8400 Pardee Drive  
Oakland, California 94621

SUBJECT: Results of Groundwater Monitoring, December 28, 1995, United Parcel Service, Inc. Facility, 8400 Pardee Drive, Oakland, California.

Dear Ms. Ehrlich

This letter report presents the results of the groundwater monitoring and sampling performed on December 28, 1995, at the United Parcel Service, Inc. (UPS) facility referenced above (Figure 1). The scope of work for this project was contained in a previous Geraghty & Miller, Inc. (Geraghty & Miller) document to UPS dated November 9, 1994, and modified at the request of UPS in a Geraghty & Miller letter dated November 21, 1994.

### GROUNDWATER SAMPLING PROCEDURES

Groundwater samples were collected from Monitoring Wells MW-1, MW-2, MW-3, and MW-7 on December 28, 1995 (Figure 2). Prior to sampling, depth to water was measured, and each well was checked for the presence of liquid-phase hydrocarbons (LPH). LPH were not observed in any of the monitor wells.

Prior to sampling, each well was purged using a 1-inch diaphragm pump with a new length of polyethylene tubing for each well. Approximately four casing volumes of groundwater were purged from each well or the well was purged dry due to slow recovery. A summary of the field sampling parameters is presented in Table 1. The purged water was placed in 55-gallon drums and stored onsite for proper handling and disposal by UPS.



Following purging, groundwater samples were collected from the wells using a new disposable polyethylene bailer for each well. The groundwater samples were placed into the appropriate U.S. Environmental Protection Agency (USEPA) approved containers, placed on ice, and transported to Sequoia Analytical, Walnut Creek, California, along with appropriate chain-of-custody documentation. All groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by USEPA Method 8015, modified, total petroleum hydrocarbons as diesel (TPH-D) by USEPA Method 8015, modified, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8020. In addition, the sample collected from Monitor Well MW-7 was also analyzed for total oil and grease (USEPA Method 5520F). Copies of the chain-of-custody document and laboratory reports are attached. A trip blank was also submitted to the laboratory for analysis for quality control purposes. The trip blank was analyzed for TPH-G (USEPA Method 8015, modified ) and BTEX (USEPA Method 8020).

## RESULTS

Depth-to-water measurements and groundwater elevations for Monitor Wells MW-1 through MW-7 are presented in Table 2. Based on the groundwater elevations, the direction of shallow groundwater flow in the vicinity of the southern fueling facilities remains generally toward the south-southwest (Figure 2).

The results of groundwater analyses for the December 28, 1995 sampling event are summarized in Table 3. In the southeastern portion of the site, TPH-D was detected at concentrations ranging from 15,000 micrograms per liter ( $\mu\text{g/L}$ ) in Monitor Well MW-1 to 2,800  $\mu\text{g/L}$  in Monitor Well MW-2. TPH-D was detected at 730  $\mu\text{g/L}$  in Monitor Well MW-7 located in the northeastern portion of the site. TPH-G was detected only in the southeastern portion of the site and was not detected in the samples collected from the northeastern portion of the site. Concentrations of TPH-G ranged from a high of 690  $\mu\text{g/L}$  in Monitor Well MW-3 to a low of 210  $\mu\text{g/L}$  in Monitor Well MW-2. Benzene was detected at 2.1  $\mu\text{g/L}$  in Monitor Well MW-1. Toluene, ethylbenzene, xylenes, and total oil and grease were not detected in any of the samples collected.



Geraghty & Miller appreciates the opportunity to be of service to UPS. If you have any questions regarding this letter report, please do not hesitate to call.

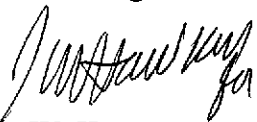
Sincerely,  
GERAGHTY & MILLER, INC.



Edward H. Crump  
Engineer/Project Manager



Jeffrey W. Hawkins, R.G.  
Senior Geologist



Gary W. Keyes  
Principal Engineer/Associate  
Richmond, California Officer Manager

Attachments:	Table 1	Summary of Field Sampling Data
	Table 2	Depth-to-Water and Groundwater Elevations
	Table 3	Groundwater Analytical Results
	Figure 1	Site Location Map
	Figure 2	Groundwater Elevation Map (December 1995)
	Attachment 1	Copies of Certified Laboratory Analytical Results and Chain-of-Custody Documentation

cc: Mr. Barney Chan  
Alameda County Health Department, Hazardous Materials Division  
1131 Harbor Bay Parkway  
Alameda, California 94501

Project No. RC0027.011



**Table 1: Summary of Field Sampling Data**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	Calculated Purge Volume (a) (Gallons)	Actual Purge Volume (Gallons)	FIELD PARAMETERS			Depth to Water (b) (Feet)	Well Depth (b) (Feet)	Casing Diameter (inches)
				pH	SC ( $\mu\text{S}/\text{cm}$ )	Temperature ( $^{\circ}\text{F}$ )			
MW-1	28-Dec-95	27.66	30.0	7.0	4,450	60	3.56	14.20	4
MW-2	28-Dec-95	23.71	18 (c)	8.0	8,890	60.7	4.56	14.31	4
MW-3	28-Dec-95	28.54	22 (c)	7.0	(not potable) 4,050	61.6	3.55	14.53	4
MW-4	28-Dec-95	NM	NM	NM	NM	NM	3.56	NM	4
MW-5	28-Dec-95	NM	NM	NM	NM	NM	3.68	NM	4
MW-6	28-Dec-95	NM	NM	NM	NM	NM	6.44	19.35	6
MW-7	28-Dec-95	6.32	5 (c)	7.0	9,270	61.2	6.52	16.40	2

- (a) Based on four casing volumes.
- (b) Measured from top of PVC casing.
- (c) Well went dry prior to purging four casing volumes.

NM Not Measured  
 SC Specific Conductance  
 OR Out of Range  
 $\mu\text{S}/\text{cm}$  microSiemens per centimeter



**Table 2: Depth-to-Water and Groundwater Elevations**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	Depth to Water (a) (feet)	Top of Casing Elevation (feet MSL)	Top of Water Elevation (feet MSL)	Measured Depth of Well (a) (feet)
MW-1	28-Aug-90	3.80	7.43	3.63	14.05
	20-Sep-90	3.99		NM	
	19-Jun-91	3.47		NM	
	23-Jul-91	3.70		NM	
	26-Aug-91	3.92		NM	
	18-Nov-91	4.21		NM	
	3-Feb-92	3.99		NM	
	29-Jun-92	3.38		NM	
	23-Jun-93	2.72		14.20	
	11-Oct-93	3.87		14.27	
	4-Jan-94	3.34		14.10	
	10-May-94	2.14		NM	
	1-Feb-95	1.84		14.33	
	2-Aug-95	3.10		14.33	
	16-Oct-95	3.75		14.20	
	28-Dec-95	3.56		14.20	
MW-2	28-Aug-90	4.98	7.15	2.17	15.35
	20-Sep-90	4.94		NM	
	19-Jun-91	4.66		NM	
	23-Jul-91	4.81		NM	
	26-Aug-91	4.89		NM	
	18-Nov-91	4.93		NM	
	3-Feb-92	4.44		NM	
	29-Jun-92	4.80		NM	
	23-Jun-93	4.38		14.35	
	11-Oct-93	5.20		14.35	
	4-Jan-94	4.56		14.15	
	10-May-94	4.22		NM	
	1-Feb-95	4.00		14.40	
	2-Aug-95	4.71		14.40	
	16-Oct-95	5.02		14.31	
	28-Dec-95	4.56		14.31	
MW-3	28-Aug-90	3.88	7.42	3.54	14.60
	20-Sep-90	3.99		NM	
	19-Jun-91	3.49		NM	
	23-Jul-91	3.71		NM	
	26-Aug-91	3.94		NM	
	18-Nov-91	4.23		NM	
	3-Feb-92	4.01		NM	
	29-Jun-92	3.40		NM	
	23-Jun-93	2.75		14.50	
	11-Oct-93	3.84		14.45	



**Table 2: Depth-to-Water and Groundwater Elevations**

United Parcel Service, Inc.  
8400 Pardee Drive, Oakland, California.

Well	Date	Depth to Water (a) (feet)	Top of Casing Elevation (feet MSL)	Top of Water Elevation (feet MSL)	Measured Depth of Well (a) (feet)
	4-Jan-94	3.40		4.02	14.33
	10-May-94	2.25		5.17	NM
	1-Feb-95	2.43		4.99	14.61
	2-Aug-95	3.20		4.22	14.61
	16-Oct-95	3.72		3.70	14.53
	28-Dec-95	3.56		3.86	14.53
MW-4	28-Aug-90	3.15	5.71	2.56	14.66
	20-Sep-90	3.19		2.52	NM
	19-Jun-91	2.73		2.98	NM
	23-Jul-91	3.07		2.64	NM
	26-Aug-91	4.32		1.39	NM
	18-Nov-91	4.03		1.68	NM
	3-Feb-92	3.86		1.85	NM
	29-Jun-92	2.94		2.77	NM
	23-Jun-93	2.49		3.22	14.54
	11-Oct-93	4.08		1.63	14.45
	4-Jan-94	3.49		2.22	14.37
	10-May-94	2.73		2.98	NM
	1-Feb-95	2.58		3.13	14.65
	2-Aug-95	4.24		1.47	NM
	16-Oct-95	4.42		1.29	NM
	28-Dec-95	3.56		2.15	NM
MW-5	28-Aug-90	7.46	4.93	-2.53	14.77
	20-Sep-90	3.99		0.94	NM
	19-Jun-91	3.63		1.30	NM
	23-Jul-91	4.37		0.56	NM
	26-Aug-91	4.19		0.74	NM
	18-Nov-91	4.25		0.68	NM
	3-Feb-92	3.53		1.40	NM
	29-Jun-92	3.48		1.45	NM
	23-Jun-93	3.40		1.53	14.29
	11-Oct-93	3.66		1.27	14.40
	4-Jan-94	3.72		1.21	14.19
	10-May-94	4.44		0.49	NM
	1-Feb-95	3.87		1.06	14.42
	2-Aug-95	2.92		2.01	NM
	16-Oct-95	4.13		0.80	NM
	28-Dec-95	3.68		1.25	NM
MW-6	28-Aug-90	7.76	6.27	-1.49	18.10
	20-Sep-90	7.18		-0.91	NM
	19-Jun-91	7.71		-1.44	NM
	23-Jul-91	7.90		-1.63	NM



**Table 2: Depth-to-Water and Groundwater Elevations**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	Depth to Water (a) (feet)	Top of Casing Elevation (feet MSL)	Top of Water Elevation (feet MSL)	Measured Depth of Well (a) (feet)
	26-Aug-91	7.71		-1.44	NM
	18-Nov-91	6.99		-0.72	NM
	3-Feb-92	7.19		-0.92	NM
	29-Jun-92	7.92		-1.65	NM
	23-Jun-93	7.53		-1.26	19.11
	11-Oct-93	7.60		-1.33	19.20
	4-Jan-94	7.27		-1.00	19.10
	10-May-94	7.43		-1.16	NM
	1-Feb-95	NM		NM	NM
	2-Aug-95	NM		NM	NM
	16-Oct-95	NM		NM	NM
	28-Dec-95	6.44		-0.17	NM
MW-7	4-Jan-94	7.75	(b)	(b)	16.16
	10-May-94	7.44			NM
	1-Feb-95	6.35			16.56
	2-Aug-95	6.70			16.60
	16-Oct-95	7.53			16.40
	28-Dec-95	6.52		-0.25	16.40
OW-1	23-Jun-93	4.14	(b)	(b)	18.60
	11-Oct-93	NM			NM
	4-Jan-94	NM			NM
	10-May-94	NM			NM
	1-Feb-95	NM			NM
	2-Aug-95	NM		NM	NM
	16-Oct-95	NM		NM	NM
	28-Dec-95	NM		NM	NM

(a) Measured from top of PVC casing.

(b) Well casing elevation unknown.

MSL Mean Sea Level

NM Not Measured



**Table 3: Groundwater Analytical Results**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	TPH		Benzene (c) ( $\mu\text{g/L}$ )	Toluene (c) ( $\mu\text{g/L}$ )	Ethyl- benzene (c) ( $\mu\text{g/L}$ )	Total Xylenes (c) ( $\mu\text{g/L}$ )	Total Oil & Grease (mg/L)
		Gasoline (a) ( $\mu\text{g/L}$ )	Diesel (b) ( $\mu\text{g/L}$ )					
MW-1	28-Aug-90	NA	21,000	3.0	1.4	4.0	2.4	NA
	19-Jun-91	NA	7,100	1.7	0.7	0.5	0.9	NA
	23-Jul-91	220	8,700	1.6	1.1	0.5	1.5	NA
	26-Aug-91	NA	2,800	180	120	31	160	NA
	18-Nov-91	NA	6,600	1.1	0.4	0.5	ND(<0.3)	NA
	3-Feb-92	NA	2,200	0.9	ND(<0.3)	0.8	0.7	NA
	29-Jun-92	NA	2,100	0.8	0.4	0.4	0.9	NA
	23-Jun-93	NA	3,200	0.66	ND(<0.5)	0.5	ND(<0.5)	NA
	11-Oct-93	NA	9,600	1.3	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	4-Jan-94	NA	12,000	2.1	0.65	1.3	2.1	NA
	10-May-94	NA	6,400	(e) 0.54	0.53	ND(<0.5)	1.1	NA
	1-Feb-95	510	10,000	(f) ND(<1.0)	ND(<1.0)	1.0	ND(<1.0)	NA
	2-Aug-95	510	8,700	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	16-Oct-95	830	15,000	2.8	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	28-Dec-95	560	15,000	2.1	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	MW-2	28-Aug-90	NA	3,500	0.6	0.4	0.6	0.7
19-Jun-91		NA	ND(<50)	0.5	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
23-Jul-91		ND(<50)	660	0.7	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
26-Aug-91		NA	ND(<50)	0.7	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
18-Nov-91		NA	3,200	0.8	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
3-Feb-92		NA	400	0.7	ND(<0.3)	ND(<0.3)	0.5	NA
29-Jun-92		NA	250	0.6	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
23-Jun-93		NA	11,000	0.55	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
11-Oct-93		NA	1,400	1.2	ND(<0.5)	ND(<0.5)	1.3	NA
4-Jan-94		NA	3,700	0.72	ND(<0.5)	ND(<0.5)	1.1	NA
10-May-94		NA	2,300	(e) 0.74	ND(<0.5)	ND(<0.5)	0.7	NA
1-Feb-95		ND(<100)	2,100	(d) 2.1	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA
2-Aug-95		210	3,600	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
16-Oct-95		130	1,400	0.73	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
28-Dec-95		210	2,800	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA





**Table 3: Groundwater Analytical Results**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	TPH Gasoline (a) ( $\mu\text{g/L}$ )	TPH Diesel (b) ( $\mu\text{g/L}$ )	Benzene (c) ( $\mu\text{g/L}$ )	Toluene (c) ( $\mu\text{g/L}$ )	Ethyl- benzene (c) ( $\mu\text{g/L}$ )	Total Xylenes (c) ( $\mu\text{g/L}$ )	Total Oil & Grease (mg/L)	
MW-3	28-Aug-90	NA	18,000	0.5	0.8	4.3	2.3	NA	
	19-Jun-91	NA	1,300	0.4	0.4	1.7	1.4	NA	
	23-Jul-91	330	6,800	0.3	ND(<0.3)	1.5	0.5	NA	
	26-Aug-91	NA	ND(<50)	13	13	5.8	26	NA	
	18-Nov-91	NA	2,500	0.6	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
	3-Feb-92	NA	1,100	0.4	ND(<0.3)	1.3	0.6	NA	
	29-Jun-92	NA	3,200	ND(<0.3)	ND(<0.3)	1.3	0.3	NA	
	23-Jun-93	NA	8,100	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	
	11-Oct-93	NA	7,100	1.0	ND(<0.5)	1.5	2.4	NA	
	4-Jan-94	NA	7,400	ND(<0.5)	ND(<0.5)	1.6	ND(<0.5)	NA	
	10-May-94	NA	5,700	(e)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	1-Feb-95	810	10,000	(f)	ND(<1.0)	ND(<1.0)	2.7	4.1	NA
	2-Aug-95	1,200	6,500		ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	16-Oct-95	930	9,800		ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	28-Dec-95	690	11,000		ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA
	MW-4	28-Aug-90	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
19-Jun-91		ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
23-Jul-91		ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
26-Aug-91		ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
18-Nov-91		ND(<50)	60	0.3	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
3-Feb-92		ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
29-Jun-92		ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA	
23-Jun-93		ND(<50)	59	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	
11-Oct-93		ND(<50)	90	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	
4-Jan-94		ND(<50)	110	(d)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
10-May-94		ND(<50)	100		ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
1-Feb-95		NS	NS	NS	NS	NS	NS	NS	NA
2-Aug-95		NS	NS	NS	NS	NS	NS	NS	NA
16-Oct-95		NS	NS	NS	NS	NS	NS	NS	NA
28-Dec-95		NS	NS	NS	NS	NS	NS	NS	NA



**Table 3: Groundwater Analytical Results**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	TPH Gasoline (a) ( $\mu\text{g/L}$ )	TPH Diesel (b) ( $\mu\text{g/L}$ )	Benzene (c) ( $\mu\text{g/L}$ )	Toluene (c) ( $\mu\text{g/L}$ )	Ethyl- benzene (c) ( $\mu\text{g/L}$ )	Total Xylenes (c) ( $\mu\text{g/L}$ )	Total Oil & Grease (mg/L)
MW-5	28-Aug-90	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	19-Jun-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	23-Jul-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	26-Aug-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	18-Nov-91	ND(<50)	100	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	3-Feb-92	53	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	0.5	NA
	29-Jun-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	23-Jun-93	ND(<50)	61	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	11-Oct-93	ND(<50)	96	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	4-Jan-94	ND(<50)	100 (d)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	10-May-94	ND(<50)	190	ND(<0.5)	0.74	1.2	1.7	NA
	1-Feb-95	NS	NS	NS	NS	NS	NS	NA
	2-Aug-95	NS	NS	NS	NS	NS	NS	NA
	16-Oct-95	NS	NS	NS	NS	NS	NS	NA
	28-Dec-95	NS	NS	NS	NS	NS	NS	NA
MW-6	7-Sep-90	ND(<50)	ND(<100)	ND(<0.3)	0.5	ND(<0.3)	1.0	NA
	19-Jun-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	23-Jul-91	ND(<50)	110	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	26-Aug-91	NA	NA	NA	NA	NA	NA	NA
	18-Nov-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	3-Feb-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	29-Jun-92	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	23-Jun-93	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	11-Oct-93	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	4-Jan-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	10-May-94	ND(<50)	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	1-Feb-95	NS	NS	NS	NS	NS	NS	NA
	2-Aug-95	NS	NS	NS	NS	NS	NS	NA
	16-Oct-95	NS	NS	NS	NS	NS	NS	NA
	28-Dec-95	NS	NS	NS	NS	NS	NS	NA



**Table 3: Groundwater Analytical Results**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	TPH Gasoline (a) ( $\mu\text{g/L}$ )	TPH Diesel (b) ( $\mu\text{g/L}$ )	Benzene (c) ( $\mu\text{g/L}$ )	Toluene (c) ( $\mu\text{g/L}$ )	Ethyl- benzene (c) ( $\mu\text{g/L}$ )	Total Xylenes (c) ( $\mu\text{g/L}$ )	Total Oil & Grease (mg/L)
MW-7	4-Jan-94	ND(<50)	250 (d)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	10-May-94	ND(<50)	250 (e)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	1-Feb-95	ND(<50)	420	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<5.0)
	2-Aug-95	ND(<50)	360	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
	16-Oct-95	ND(<50)	700	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.0)
	28-Dec-95	ND(<50)	730	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<5.0)
	OW-1	23-Jun-93	NA	3,400,000	ND(<0.5)	ND(<0.5)	ND(<0.5)	31.0
4-Jan-94		NS	NS	NS	NS	NS	NS	NS
10-May-94		NS	NS	NS	NS	NS	NS	NS
Trip Blank	26-Aug-91	ND(<50)	NA	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	18-Nov-91	ND(<50)	NA	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	3-Feb-92	ND(<50)	NA	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	29-Jun-92	ND(<50)	NA	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)	NA
	23-Jun-93	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	11-Oct-93	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	4-Jan-94	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	10-May-94	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	1-Feb-95	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	2-Aug-95	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	16-Oct-95	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA
	28-Dec-95	ND(<50)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA

Notes appear on the following page



**Table 3: Groundwater Analytical Results**  
 United Parcel Service, Inc.  
 8400 Pardee Drive, Oakland, California.

Well	Date	TPH Gasoline (a) ( $\mu\text{g/L}$ )	TPH Diesel (b) ( $\mu\text{g/L}$ )	Benzene (c) ( $\mu\text{g/L}$ )	Toluene (c) ( $\mu\text{g/L}$ )	Ethyl- benzene (c) ( $\mu\text{g/L}$ )	Total Xylenes (c) ( $\mu\text{g/L}$ )	Total Oil & Grease (mg/L)
------	------	--	--	------------------------------------	------------------------------------	--	---	---------------------------------

(a) Total Petroleum Hydrocarbons as Gasoline analyzed by USEPA Method 5030/8015 modified.

(b) Total Petroleum Hydrocarbons as Diesel analyzed by USEPA Method 3510/8015 modified.

(c) BTEX analyzed by USEPA Method 5030/8020.

(d) Reported by the laboratory as a diesel and nondiesel mixture.

(e) Reported by the laboratory as a diesel and unidentified hydrocarbons > C20.

(f) Reported by the laboratory as a nondiesel mixture.

ND Not Detected

NA Not Analyzed

NS Not Sampled

$\mu\text{g/L}$  micrograms per liter

mg/L Milligrams per liter

August 26, 1991 through June 29, 1992 analyses by Superior Precision Analytical Laboratories, Inc., Martinez, California.

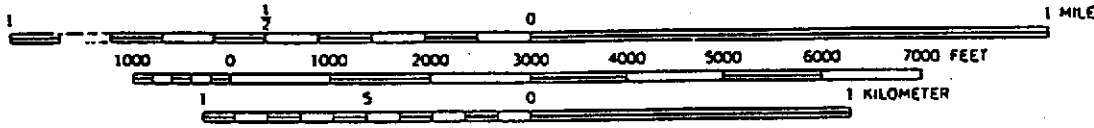
June 23, 1993 through May 10, 1994 analyses by Sequoia Analytical, Inc., Concord, California.

February 1, 1995 analysis by Sequoia Analytical, Inc., Redwood City, California.

August 2, 1995 analysis by Sequoia Analytical, Inc., Walnut Creek, California.

October 16, 1995 analysis by Sequoia Analytical, Inc., Walnut Creek, California.





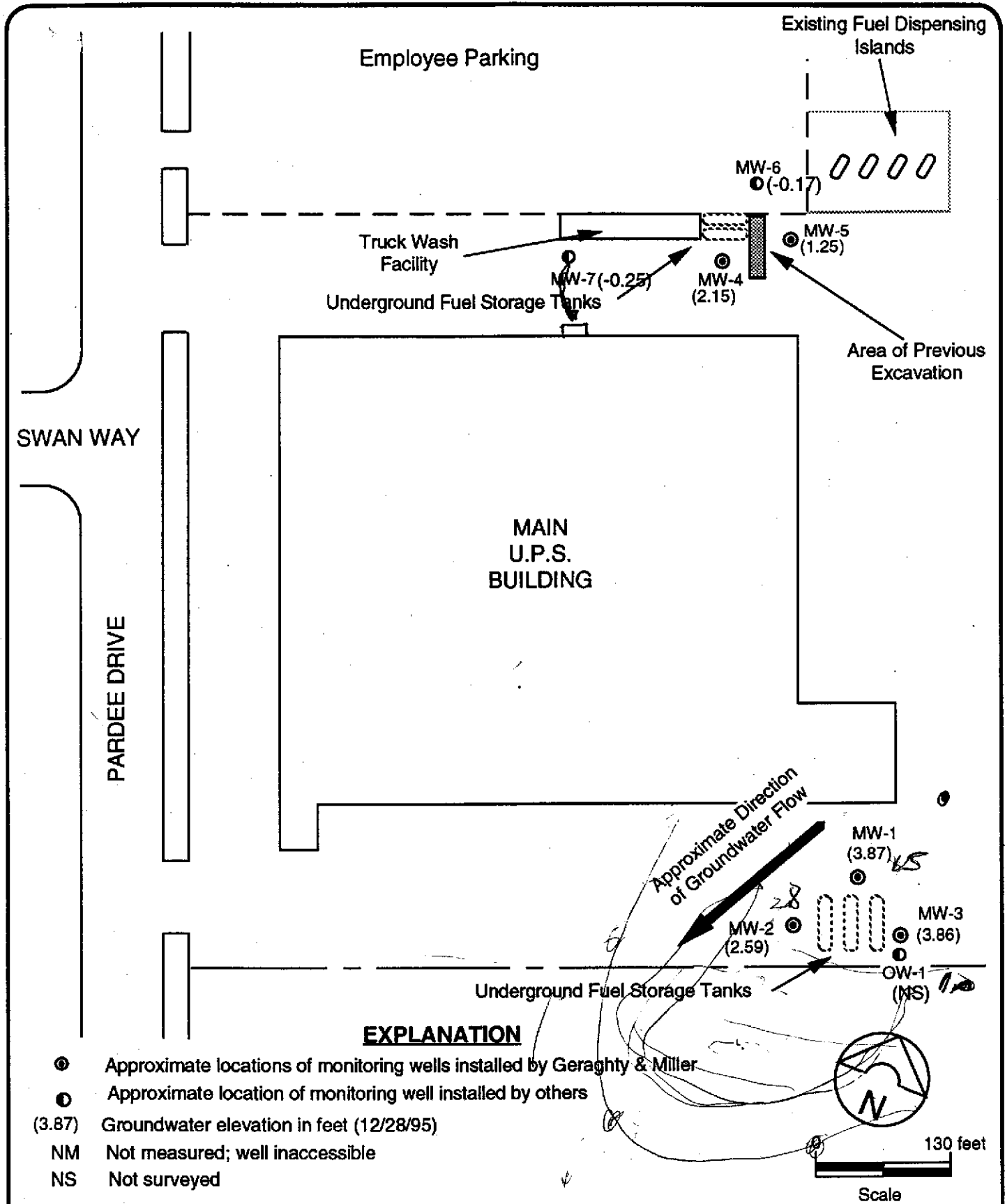
CONTOUR INTERVAL 20 FEET  
 DOTTED LINES REPRESENT 5-FOOT CONTOURS



**GERAGHTY & MILLER, INC.**  
*Environmental Services*

**SITE LOCATION MAP**  
 United Parcel Service  
 Package Distribution Facility  
 Oakland, California

**FIGURE**  
 1





Sequoia  
Analytical

680 Chesapeake Drive  
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I N V O I C E F O R A N A L Y T I C A L S E R V I C E S

ACCOUNTS PAYABLE  
GERAGHTY & MILLER  
1050 MARINA WAY SOUTH  
RICHMOND CA 94804

Invoice Number: 38701C  
Invoice Date: Jan 22, 1996  
P.O. Number: ---  
Client Code: GEM  
Report Number: 5122589  
Project Manager: KV

Qty	Description of Service	Unit Price	Amount
PROJECT ID: RC0027.011			
SAMPLES RECEIVED 12/28/95			
5	TPPH w/ BTEX (Purgeable), 10 day	45.00	225.00
4	TEPH (Extractable), 10 day	45.00	180.00
1	Recov Petr Hydro (Grav. SM5520BF), 10 day	33.75	33.75

Invoice Total: \$ 438.75

Please remit to: Sequoia Analytical, 680 Chesapeake Drive, Redwood City CA 94063. Payment is due 30 days from invoice date; overdue balances are subject to 1.5% interest per month. Questions regarding this invoice should be directed to Evelyn DeBlock in Accounts Receivable, (415) 364-9600. Federal Tax ID #93-074-7241.



# Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600 FAX (415) 364-9233  
 404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673  
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Geraghty & Miller, Inc. 1050 Marina Way South Richmond, CA 94804 Attention: Teresa Payne	Client Project ID: RC0027.011 Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 512-2589	Sampled: Dec 28, 1995 Received: Dec 28, 1995 Reported: Jan 17, 1996
---	---	---

QC Batch Number: GC010996 GC010996 GC010996 GC010896 GC011696

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 512-2589 MW-1	Sample I.D. 512-2590 MW-2	Sample I.D. 512-2591 MW-3	Sample I.D. 512-2592 MW-7	Sample I.D. 512-2593 TB-LB
Purgeable Hydrocarbons	50	560	210	690	N.D.	N.D.
Benzene	0.50	2.1	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.

Chromatogram Pattern: Gasoline and Unidentified Hydrocarbons > C8    Unidentified Hydrocarbons > C8    Unidentified Hydrocarbons > C8    ..    ..

### Quality Control Data

Report Limit Multiplication Factor:	4.0	2.0	4.0	1.0	1.0
Date Analyzed:	1/9/96	1/9/96	1/9/96	1/8/96	1/16/96
Instrument Identification:	HP-04	HP-04	HP-04	HP-05	HP-02
Surrogate Recovery, %: (QC Limits = 70-130%)	93	98	96	92	103

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
 Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

*Kevin Van Slambrook*  
 Kevin Van Slambrook  
 Project Manager





# Sequoia Analytical

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Geraghty & Miller, Inc. 1050 Marina Way South Richmond, CA 94804 Attention: Teresa Payne	Client Project ID: RC0027.011 Sample Matrix: Water Analysis Method: EPA 3510/8015 Mod. First Sample #: 512-2589	Sampled: Dec 28, 1995 Received: Dec 28, 1995 Reported: Jan 17, 1996
---	--	---

QC Batch Number:	SP122995	SP122995	SP122995	SP122995
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	8015EXA	8015EXA	8015EXA	8015EXA
<b>TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS</b>				

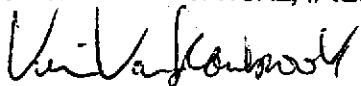
Analyte	Reporting Limit µg/L	Sample I.D. 512-2589	Sample I.D. 512-2590	Sample I.D. 512-2591	Sample I.D. 512-2592
Extractable Hydrocarbons	50	15,000	2,800	11,000	730
Chromatogram Pattern:		Diesel	Diesel	Diesel	Diesel and Unidentified Hydrocarbons >C16

### Quality Control Data

Report Limit Multiplication Factor:	10	5.0	5.0	1.0
Date Extracted:	12/29/95	12/29/95	12/29/95	12/29/95
Date Analyzed:	12/29/95	12/29/95	12/29/95	12/29/95
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

  
Kevin Van Slambrook  
Project Manager



# Sequoia Analytical

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Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond, CA 94804  
Attention: Teresa Payne

Client Project ID: RC0027.011  
Matrix Descript: Water  
Analysis Method: SM 5520 B&F (Gravimetric)  
First Sample #: 512-2592

Sampled: Dec 28, 1995  
Received: Dec 28, 1995  
Extracted: Dec 31, 1995  
Analyzed: Jan 2, 1996  
Reported: Jan 17, 1996

## TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)	Detection Limit mg/L (ppm)	QC Batch Number
512-2592	MW-7	N.D.	5.0	SP1229955520MDA

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook  
Project Manager



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Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond, CA 94804  
Attention: Teresa Payne

Client Project ID: RC0027.011  
Matrix: Water

QC Sample Group: 5122589-2591

Reported: Jan 17, 1996

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	GC010996 802004A	GC010996 802004A	GC010996 802004A	GC010996 802004A	SP122995 8015EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3510
Analyst:	N. Beaman	N. Beaman	N. Beaman	N. Beaman	J. Dinsay
MS/MSD #:	5122629	5122629	5122629	5122629	BLK122995
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/9/96	1/9/96	1/9/96	1/9/96	12/29/95
Analyzed Date:	1/9/96	1/9/96	1/9/96	1/9/96	12/29/95
Instrument I.D.#:	HP-04	HP-04	HP-04	HP-04	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Result:	22	22	22	66	390
MS % Recovery:	110	110	110	110	130
Dup. Result:	20	21	21	62	330
MSD % Recov.:	100	105	105	103	110
RPD:	9.5	4.7	4.7	6.2	17
RPD Limit:	0-20	0-20	0-20	0-20	20

LCS #:	2LCS010996	2LCS010996	2LCS010996	2LCS010996	LCS122995
Prepared Date:	1/9/96	1/9/96	1/9/96	1/9/96	12/29/95
Analyzed Date:	1/9/96	1/9/96	1/9/96	1/9/96	12/29/95
Instrument I.D.#:	HP-04	HP-04	HP-04	HP-04	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
LCS Result:	19	20	20	60	350
LCS % Recov.:	95	100	100	100	117

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120	38-122
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**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook  
Project Manager



# Sequoia Analytical

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FAX (916) 921-0100

Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond, CA 94804  
Attention: Teresa Payne

Client Project ID: RC0027.011  
Matrix: Water

QC Sample Group: 5122589-2591

Reported: Jan 17, 1996

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Oil & Grease
QC Batch#:	GC010896 802005A	GC010896 802005A	GC010896 802005A	GC010896 802005A	SP122995 5520MDA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	SM 5520
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	SM 5520
Analyst:	D. Sharma	D. Sharma	D. Sharma	D. Sharma	D. Newcomb
MS/MSD #:	BLK010896	BLK010896	BLK010896	BLK010896	BLK122995
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/8/96	1/8/96	1/8/96	1/8/96	12/29/95
Analyzed Date:	1/8/96	1/8/96	1/8/96	1/8/96	12/29/95
Instrument I.D.#:	HP-05	HP-05	HP-05	HP-05	Manual
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	100 mg/L
Result:	18	17	17	53	87
MS % Recovery:	90	85	85	88	87
Dup. Result:	20	19	19	58	80
MSD % Recov.:	100	95	95	97	80
RPD:	11	11	11	9.0	8.3
RPD Limit:	0-20	0-20	0-20	0-20	0-30

LCS #:	3LCS010896	3LCS010896	3LCS010896	3LCS010896	BLK122995
Prepared Date:	1/8/96	1/8/96	1/8/96	1/8/96	12/29/95
Analyzed Date:	1/8/96	1/8/96	1/8/96	1/8/96	12/29/95
Instrument I.D.#:	HP-05	HP-05	HP-05	HP-05	Manual
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	100 mg/L
LCS Result:	21	21	21	63	87
LCS % Recov.:	104	103	104	106	87

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120	60-140
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**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL, #1271

*Kevin Van Slambrook*  
Kevin Van Slambrook  
Project Manager



# Sequoia Analytical

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FAX (916) 921-0100

Geraghty & Miller, Inc.  
1050 Marina Way South  
Richmond, CA 94804  
Attention: Teresa Payne

Client Project ID: RC0027.011  
Matrix: Water

QC Sample Group: 5122589-2591

Reported: Jan 17, 1996

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC011696 802001A	GC011696 802001A	GC011696 802001A	GC011696 802001A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	S. Chullakorn	S. Chullakorn	S. Chullakorn	S. Chullakorn
MS/MSD #:	6010873	6010873	6010873	6010873
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/16/96	1/16/96	1/16/96	1/16/96
Analyzed Date:	1/16/96	1/16/96	1/16/96	1/16/96
Instrument I.D.#:	HP-02	HP-02	HP-02	HP-02
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Result:	21	20	21	63
MS % Recovery:	105	100	105	105
Dup. Result:	23	21	22	67
MSD % Recov.:	115	105	110	112
RPD:	9.1	4.9	4.7	6.2
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	1LCS011696	1LCS011696	1LCS011696	1LCS011696
Prepared Date:	1/16/96	1/16/96	1/16/96	1/16/96
Analyzed Date:	1/16/96	1/16/96	1/16/96	1/16/96
Instrument I.D.#:	HP-02	HP-02	HP-02	HP-02
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
LCS Result:	23	23	24	72
LCS % Recov.:	115	115	120	120

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
---------------------------	--------	--------	--------	--------

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

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SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook  
Project Manager



