
TRANSMITTAL OF FIRST QUARTER 1993
GROUNDWATER MONITORING DATA
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA



April 1992
Project No. 00173-076-044



DAMES & MOORE

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April 19, 1993

Mr. Val L. Siebal
Region 1, Department of Toxic Substances Control
California Environmental Protection Agency
10151 Croydon Way, Suite 3
Sacramento, CA 95827

Attention: Mr. James L. Tjosvold, Chief
Sacramento Responsible Party Unit
Site Mitigation Branch

Re: Transmittal of First Quarter 1993
Groundwater Monitoring Data
Union Pacific Railroad Yard
Sacramento, California
Project No. 00173-076-044

Dear Mr. Tjosvold:

Union Pacific Railroad Company (UPRR) has requested that Dames & Moore transmit the above-referenced data. Groundwater sampling analytical results are summarized in Tables 1 through 9. A map of water table contours is presented in Figure 1. Laboratory analytical reports are provided in Attachment 1.

If you have any questions or require further information, please contact Tim Parker at (916) 387-7527.

Sincerely,

DAMES & MOORE

Timothy K. Parker, R.G.
Project Manager

James F. Brake, R.G.
Project Geologist

Enclosure

cc: Distribution List

SAC64.31

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UNION PACIFIC RAILROAD YARD
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GROUNDWATER ELEVATION DATA, 1988-1993
(Elevation in feet mean sea level datum)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-11	MW-12	MW-13
02/19/88	0.00	-0.85	-0.61	-3.50	-3.37	-3.64	-5.73	-5.40	---	---	---
03/02/88	-0.02	-0.92	-0.62	-3.49	-3.44	-3.70	-4.83	-4.21	---	---	---
04/14-15-16/88	0.04	-1.22	-1.26	-3.71	-3.70	-3.96	-5.07	-4.47	---	---	---
07/15/88	-0.32	-2.24	-2.39	-4.50	-4.62	-4.85	-5.86	-5.24	---	---	---
08/19/88	-0.53	*	-2.97	-4.94	-5.05	-5.28	-6.25	-5.64	---	---	---
01/06/89	-1.92	*	-2.50	-5.42	-5.44	-5.68	-6.76	-6.16	---	---	---
10/09/89	-1.52	-2.83	-2.68	-5.43	-5.46	-5.72	-6.85	-6.21	-4.99	-5.63	-5.48
02/21/90	-1.29	-1.22	-0.24	-4.12	-4.20	-4.50	-5.83	-5.10	-3.48	-4.47	-4.21
06/15/90	-0.86	-1.99	-2.01	-4.66	-4.61	-4.90	-6.07	-5.44	-4.20	-4.93	-4.73
09/20/90	-1.89	-3.76	-4.05	-6.14	-6.15	-6.40	-7.47	-6.85	-5.74	-6.38	-6.18
02/05/91	-3.18	-3.85	-3.81	-6.60	-6.57	-6.84	-7.94	-7.37	-6.04	-6.82	-6.69
04/22/91	-2.05	-2.37	-2.22	-5.12	-5.07	-5.37	-6.59	-5.93	-4.64	-5.38	-5.18
07/30/91	-2.40	-3.98	-4.14	-6.43	-6.47	-6.73	-7.79	-7.17	-6.01	-6.65	-6.47
12/27/91	-3.82	-5.04	-5.20	-7.47	-7.41	-7.67	-8.72	-8.15	-7.05	-7.66	-7.53
01/22/92	-3.84	-4.72	-4.64	-7.28	-7.18	-7.46	-8.54	-7.98	-6.83	-7.49	-7.33
05/08/92	-2.37	-3.05	-2.97	-5.70	-5.46	-5.85	-7.04	-6.44	-5.41	-5.96	-5.76
09/29/92	-3.18	-4.95	-5.22	-7.21	-7.24	-7.49	-8.54	-7.92	-6.82	-7.42	-7.27
11/02/92	-3.67	-5.22	-5.26	-7.5	-7.49	-7.72	-8.80	-8.18	-7.11	-7.69	-7.58
01/12 - 01/13/93	-3.30	-3.29	-1.74	-7.11	-6.26	-6.54	-7.92	-7.12	-5.51	-6.45	-6.22

DATE	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24
10/09/89	-5.55	-5.56	-5.56	-6.03	-6.09	-6.77	-6.85	-6.43	-6.41	-6.10	-6.10
02/21/90	-4.31	-4.29	-4.29	-4.82	-4.95	-5.82	-5.91	-5.35	-5.33	-4.96	-4.94
06/15/90	-4.80	-4.79	-4.79	-5.28	-5.36	-6.05	-6.12	-5.64	-5.62	-5.30	-5.27
09/20/90	-6.26	-6.26	-6.25	-6.69	-6.76	-7.37	-7.45	-7.07	-7.04	-6.77	-6.75
02/05/91	-6.76	-6.71	-6.71	-7.23	-7.29	-7.97	-8.03	-7.55	-7.53	-7.22	-7.18
04/22/91	-5.27	-5.22	-5.23	-5.77	-5.85	-6.57	-6.65	-6.13	-6.13	-5.80	-5.77
07/30/91	-6.53	-6.57	-6.55	-7.00	-7.06	-7.70	-7.76	-7.38	-7.35	-7.09	-7.07
12/27/91	-7.60	-7.57	-7.57	-8.02	-8.08	-8.69	-8.76	-8.33	-8.32	-8.04	-8.02
01/22/92	-7.41	-7.37	-7.36	-7.86	-7.92	-8.56	-8.64	-8.16	-8.15	-7.82	-7.82
05/08/92	-5.84	-5.79	-5.8	-6.32	-6.38	-7.08	-7.15	-6.64	-6.61	-6.25	-6.23
09/29/92	-7.32	-7.36	-7.36	-7.78	-7.85	-8.47	-8.52	-8.14	-8.12	-7.86	-7.85
11/02/92	-7.63	-7.26	-7.26	-7.58	-8.13	-8.71	-8.82	-8.38	-8.40	-8.10	-8.08
01/12 - 01/13/93	-6.28	-6.26	-6.27	-6.79	-6.94	-7.66	-7.97	-7.42	-7.43	-6.99	-6.92

TABLE 1
GROUNDWATER ELEVATION DATA, 1988-1993
(Elevation in feet mean sea level datum)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

DATE	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-33	MW-34	MW-35
10/09/89	-7.47	-7.46	-7.46	---	---	---	---	---	---	---	---
02/21/90	-6.55	-6.55	-6.54	-5.35	-5.01	-5.07	---	---	---	---	---
06/15/90	-6.70	-6.70	-6.69	-5.66	-5.34	-5.37	-5.51	-6.04	-4.21	---	---
09/20/90	-8.05	-8.05	-8.04	-7.04	-6.73	-6.76	-6.88	-7.34	-5.75	---	---
02/05/91	-8.55	-8.55	-8.53	-7.59	-7.31	-7.40	-7.48	-7.93	-7.04	---	---
04/22/91	-7.26	-7.27	-7.25	-6.16	-5.86	-5.90	-6.02	-6.57	-4.63	---	---
07/30/91	-8.39	-8.38	-8.37	-7.32	-7.04	-7.07	-7.19	-7.66	-6.01	-8.34	-8.30
12/27/91	-9.29	-9.30	-9.29	-8.33	-8.10	-8.13	-8.26	-8.70	-7.06	-9.38	-9.39
01/22/92	-9.13	-9.14	-9.13	-8.15	-7.91	-7.94	-8.07	-8.54	-6.84	-9.28	-9.29
05/08/92	-7.69	-7.69	-7.68	-6.72	-6.41	-6.45	-6.58	-7.09	-5.23	-8.38	-7.89
09/29/92	-9.09	-9.09	-9.08	-8.08	-7.83	-7.86	-7.95	-8.39	-6.82	-9.11	-9.11
11/02/92	-9.34	-9.33	-9.33	-8.37	-8.10	-8.13	-8.27	-8.74	-7.13	-9.37	-9.40
01/12 - 01/13/93	-8.53	-8.54	-8.55	-7.24	-6.92	-6.93	-7.15	-7.83	-5.46	-8.76	-8.78

DATE	MW-36	MW-37	MW-38	MW-39	MW-40	MW-41	MW-42	MW-43	MW-44
07/30/91	---	---	---	-13.73	-7.83	-6.66	-5.07	-4.24	---
12/27/91	-10.71	-10.91	-13.05	-14.67	-8.82	-7.66	-6.13	-5.30	---
01/22/92	-10.69	-10.85	-13.02	-14.64	-8.65	-7.49	-5.88	-4.99	---
05/08/92	-9.46	-9.66	-11.97	-13.69	-7.24	-5.98	-4.25	-3.32	---
09/29/92	-10.28	-10.61	-12.84	-14.51	-8.50	-7.41	-5.98	-5.20	---
11/02/92	-10.63	-10.88	-13.07	-14.67	-8.84	-7.70	-6.08	-5.15	-13.13
01/12 - 01/13/93	-10.34	-10.43	-12.74	-14.50	-9.88	-6.46	-4.46	-3.59	-12.77

* Lock-on well cover was vandalized, rendering well inaccessible.
--- Prior to well installation.

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-01	03/03/88	4.0	--	--	--
	04/14/88	5.0	30.0	--	--
	09/20/89	--	--	--	--
	05/10/90	9.0	--	--	--
	09/05/90	--	--	--	--
	01/21/91	--	--	--	--
	04/22/91	--	5.0	130.0	--
	01/29/92	--	8.0	--	--
MW-02	03/03/88	3.0	--	--	--
	04/14/88	--	120	--	--
	09/20/89	--	--	--	--
	05/17/90	1.0	--	20.0	--
	09/11/90	--	--	--	--
	01/22/91	--	--	--	--
	04/22/91	4.0	5.7	140.0	--
	08/01/91	--	--	--	--
	11/07/91	--	--	--	--
	02/07/92	--	--	--	--
	08/25/92	--	--	--	1.0
	01/19/93	--	6.0	12.0	--
MW-03	03/03/88	4.0	--	--	--
	04/14/88	3.0	40.0	--	--
	09/20/89	--	--	--	16.0
	02/13/90	NA	NA	NA	20.0
	05/10/90	9.0	--	--	20.0
	09/05/90	--	--	--	--
	01/22/91	--	--	--	--
	04/23/91	--	1.5	--	--
	08/01/91	--	--	--	--
	01/29/92	--	--	--	--
MW-04	03/03/88	6.0	--	140.0	--
	04/18/88	5.0	10.0	160.0	--
	09/20/89	--	--	34.0	12.0
	02/15/90	NA	NA	NA	10.0
	05/23/90	--	4.5	99.0	--
	09/18/90	--	--	71.0	--
	05/01/91	6.1	--	11.0	--
	02/05/91	--	33.0	200.0	--
	08/14/91	5.0	--	--	--
	11/07/91	5.0	--	--	--
	01/28/92	--	--	--	--
	08/26/92	--	14.0	--	--
	01/20/93	--	14.0	8.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-05	03/04/88	--	10.0	--	--
	04/15/88	--	--	--	--
	09/20/89	9.3	--	159.0	--
	05/17/90	2.0	--	70.0	--
	09/12/90	--	14.0	--	--
	01/22/91	--	11.0	100.0	--
	04/23/91	--	7.2	81.0	--
	08/12/91	--	--	--	--
	11/13/91	--	--	--	--
	01/28/92	--	--	--	--
	01/22/93	--	7.0	42.0	--
MW-06	03/04/88	5.0	--	--	--
	04/15/88	--	40.0	--	--
	09/20/89	--	7.1	39.0	--
	05/17/90	2.0	--	100.0	--
	09/11/90	--	21.0	42.0	--
	01/24/91	7.0	15.0	--	--
	04/23/91	5.8	5.4	40.0	--
	08/12/91	--	--	120.0	1.0
	11/13/91	--	7.0	110.0	--
	01/28/92	--	--	180.0	--
	08/28/92	--	5.0	110.0	--
MW-07	01/22/93	--	--	16.0	--
	03/04/88	4.0	10.0	50.0	--
	04/15/88	9.0	470.0	230.0	--
	09/15/89	--	5.0	405.0	--
	05/23/90	--	111.0	215.0	10.0
	09/07/90	--	15.0	250.0	--
	01/30/91	7.0	200.0	200.0	--
	04/26/91	--	18.0	130.0	--
	08/07/91	--	14.0	150.0	--
	11/13/91	--	15.0	140.0	--
	02/07/92	--	15.0	180.0	--
	08/31/92	--	24.0	--	--
	10/23/92	NA	NA	--	NA
	01/29/92	--	17.0	47.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA.

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-08	03/03/88	--	--	--	--
	04/18/88	5.0	40.0		
	09/20/89	--	--	--	--
	02/13/90	NA	NA	NA	30.0
	05/23/90	--	--	12.0	24.0
	09/13/90	--	--	--	--
	01/30/91	6.0	--	--	70.0
	04/26/91	--	8.8	29.0	--
	08/12/91	--	--	--	--
	11/11/91	--	--	--	--
	01/28/92	--	6.0	--	--
	08/28/92	--	--	--	--
	01/27/93	--	--	19.0	--
MW-11	09/06/89	9.7	27.0	160.0	57.0
	02/15/90	NA	NA	NA	20.0
	05/18/90	--	47.6	76.0	--
	09/17/90	--	47.0	55.0	--
	01/30/91	--	200.0	--	--
	04/26/91	--	38.0	32.0	--
	08/15/91	--	25.0	--	--
	11/07/91	--	19.0	--	--
	01/27/92	--	28.0	--	--
	08/26/92	--	48.0	--	--
MW-12	01/14/93	--	47.0	--	--
	09/11/89	28.0	18.0	15.0	--
	02/15/90	NA	NA	NA	--
	05/22/90	--	10.0	51.0	15.0
	09/18/90	--	10.0	71.0	--
	02/04/91	--	50.0	200.0	--
	05/01/91	--	6.6	78.0	--
	08/15/91	--	5.0	--	--
	11/07/91	--	--	--	--
	01/28/92	--	--	120.0	--
	08/26/92	--	11.0	--	--
MW-13	10/26/92	NA	NA	--	NA
	01/20/93	--	9.0	85.0	--
	09/13/89	18.0	--	14.0	--
	02/15/90	NA	NA	NA	--
	05/25/90	30.0	--	10.0	--
	09/18/90	36.0	--	--	--
	02/05/91	20.0	--	100.0	--
	04/30/91	33.0	--	7.0	--
	08/07/91	40.0	--	--	1.0
	11/07/91	38.0	--	--	--
	02/07/92	43.0	--	--	--
	08/26/92	42.0	--	2.0	--
	01/20/93	21.0	--	6.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-14	09/13/89	--	--	169.0	--
	02/15/90	NA	NA	NA	--
	05/22/90	--	16.0	174.0	--
	09/18/90	--	13.0	160.0	--
	02/04/91	--	21.0	300.0	--
	05/01/91	--	37.0	98.0	--
	08/14/91	6.0	36.0	--	--
	11/22/91	--	16.0	--	--
	02/07/92	--	20.0	--	--
	08/27/92	--	22.0	--	--
	01/20/93	--	36.0	12.0	3.0
MW-15	09/07/89	6.0	--	--	--
	02/07/90	NA	NA	NA	30.0
	05/16/90	4.0	30.0	70.0	--
	09/14/90	5.0	--	52.0	--
	01/24/91	--	12.0	--	--
	04/25/91	--	11.0	51.0	--
	08/05/91	--	18.0	--	--
	11/05/91	--	7.0	--	--
	01/30/92	--	6.0	--	--
	08/27/92	--	--	--	--
	01/25/93	13.0	--	9.6	--
MW-16	09/07/89	6.0	--	--	--
	02/07/90	NA	NA	NA	30.0
	05/16/90	2.0	--	--	--
	09/14/90	--	10.0	--	--
	01/24/91	7.0	11.0	--	--
	04/25/91	--	5.7	20.0	--
	08/13/91	5.0	5.0	--	--
	11/07/91	--	--	--	--
	01/30/92	--	5.0	--	--
	08/27/92	--	9.0	--	--
	01/21/93	--	7.0	--	--
MW-17	09/21/89	--	--	--	--
	02/07/90	NA	NA	NA	30.0
	05/18/90	--	7.2	67.0	12.0
	09/13/90	--	--	50.0	--
	01/25/91	7.0	9.0	200.0	--
	04/29/91	--	6.9	170.0	--
	08/06/91	--	5.0	170.0	--
	11/05/91	--	--	--	--
	01/30/92	--	6.0	110.0	--
	08/27/92	--	7.0	200.0	--
	01/25/93	--	--	34.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-18	09/21/89	--	--	10.0	--
	02/07/90	NA	NA	NA	40.0
	05/18/90	--	5.5	13.0	21.0
	09/13/90	--	--	--	--
	01/25/91	6.0	7.0	--	--
	04/29/91	--	6.5	24.0	--
	08/13/91	6.0	6.0	--	--
	11/05/91	--	--	--	--
	01/30/92	--	--	--	--
	08/27/92	--	7.0	--	--
	01/21/93	--	12.0	--	--
MW-19	09/14/89	--	--	14.0	--
	02/13/90	NA	NA	NA	20.0
	05/14/90	8.0	--	60.0	50.0
	09/07/90	--	--	45.0	--
	01/24/91	10.0	--	--	--
	04/29/91	--	16.0	69.0	--
	08/05/91	--	5.0	--	--
	11/11/91	--	--	120.0	--
	01/30/92	--	5.0	170.0	--
	08/28/92	--	--	370.0	--
	01/25/93	--	8.4	84.0	--
MW-20	09/14/89	--	--	--	--
	02/13/90	NA	NA	NA	--
	05/14/90	8.0	--	--	40.0
	09/07/90	--	--	--	--
	01/24/91	7.0	--	--	--
	04/29/91	--	15.0	5.3	--
	08/14/91	6.0	8.0	--	--
	11/11/91	--	--	--	--
	01/30/92	--	--	--	--
	08/28/92	--	7.0	--	--
	01/25/93	--	9.8	26.0	--
MW-21	09/08/89	8.4	--	15.0	--
	05/15/90	6.0	--	380.0	40.0
	09/07/90	--	29.0	300.0	--
	01/23/91	5.0	7.0	300.0	--
	04/25/91	--	8.4	310.0	--
	08/07/91	--	--	190.0	--
	11/11/91	--	--	400.0	--
	01/30/92	--	5.0	370.0	--
	08/28/92	--	--	350.0	--
	01/29/93	--	--	200.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-22	09/08/89	24.0	--	17.0	--
	05/15/90	9.0	--	--	20.0
	09/07/90	--	--	--	--
	01/23/91	--	--	--	--
	04/25/91	--	6.9	--	--
	08/14/91	6.0	--	--	--
	11/11/91	--	--	--	--
	01/30/92	6.0	5.0	--	1.0
	01/29/93	--	5.5	6.6	--
MW-23	09/08/89	9.7	--	--	--
	05/15/90	3.0	--	450.0	30.0
	09/06/90	--	--	250.0	--
	01/23/91	--	--	400.0	--
	04/23/91	--	6.5	360.0	--
	08/02/91	--	7.0	250.0	--
	11/11/91	--	--	180.0	--
	01/24/92	--	--	470.0	--
	08/28/92	--	--	280.0	--
MW-24	01/22/93	--	6.0	200.0	--
	09/08/89	15.0	--	--	--
	05/15/90	5.0	--	420.0	30.0
	09/06/90	--	--	110.0	--
	01/23/91	--	--	100.0	2.0
	04/24/91	--	2.9	240.0	--
	08/01/91	--	--	300.0	--
	11/13/91	--	--	130.0	--
	01/24/92	--	--	190.0	--
MW-25	01/22/93	--	--	98.0	--
	09/11/89	11.0	--	--	--
	05/16/90	3.0	--	200.0	--
	09/12/90	--	11.0	130.0	--
	01/29/91	8.0	10.0	300.0	--
	04/24/91	--	--	240.0	--
	08/02/91	--	9.0	210.0	--
	11/13/91	--	7.0	250.0	--
	01/23/92	--	5.0	910.0	--
	09/01/92	--	--	760.0	--
	01/27/93	--	5.5	330.0	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-26	09/11/89	11.0	--	--	--
	05/16/90	--	--	200.0	--
	09/12/90	--	--	260.0	--
	01/29/91	--	--	300.0	--
	04/24/91	--	8.0	240.0	--
	08/13/91	--	6.0	250.0	--
	11/13/91	--	--	750.0	--
	01/27/92	--	--	720.0	--
	09/01/92	--	10.0	--	--
	10/23/92	NA	NA	160.0	NA
	01/28/93	--	13.0	110.0	--
MW-27	09/15/89	--	19.0	--	--
	05/21/90	--	--	67.0	23.3
	09/17/90	--	--	49.0	--
	01/29/91	--	8.0	--	--
	04/24/91	--	6.1	38.0	--
	08/13/91	--	--	--	1.0
	11/13/91	--	--	--	--
	01/23/92	--	--	--	--
	09/01/92	--	6.0	--	--
	01/28/93	--	8.3	46.0	--
MW-28	02/15/90	NA	NA	NA	--
	05/25/90	--	4.4	26.0	16.0
	09/19/90	--	49.0	52.0	--
	02/01/91	--	10.0	--	1.0
	04/30/91	--	6.0	32.0	--
	08/13/91	--	5.0	--	2.0
	11/05/91	--	--	--	--
	01/30/92	--	--	--	--
	08/31/92	--	9.0	--	2.0
	01/13/93	--	17.0	--	--
MW-29	02/15/90	NA	NA	NA	20.0
	05/25/90	--	--	15.0	--
	09/06/90	--	--	--	--
	02/01/91	--	--	--	10.0
	04/30/91	--	3.0	58.0	--
	08/15/91	--	--	--	--
	11/05/91	--	--	--	--
	01/30/92	--	--	--	--
	08/31/92	--	--	--	--
	01/14/93	--	--	--	--

TABLE 2
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988-1993
SELECTED METALS-DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	As	Cr	Ni	Pb
	MCL	50	50	100*	50
	Background Concentration ¹	0-20	1-20	1-12	<1-9
MW-30	02/15/90	NA	NA	NA	20.0
	05/24/90	5.0	--	174.0	63.0
	09/05/90	--	--	190.0	--
	02/04/91	--	--	200.0	2.0
	04/30/91	--	7.9	130.0	--
	08/15/91	--	8.0	--	--
	11/05/91	--	6.0	--	--
	01/31/92	--	9.0	--	--
	08/31/92	--	8.0	--	--
	01/14/93	--	6.0	--	--
MW-31	05/24/90	9.0	--	201.0	30.0
	09/19/90	--	--	200.0	--
	02/01/91	--	--	200.0	1.0
	05/01/91	--	13.0	73.0	--
	08/15/91	--	21.0	--	--
	11/22/91	--	16.0	--	--
	01/31/92	--	13.0	--	1.0
	08/31/92	--	--	--	--
	01/21/93	--	--	10.0	--
MW-32	05/24/90	--	7.4	169.0	10.0
	09/19/90	--	--	120.0	--
	02/01/91	--	40.0	200.0	4.0
	05/01/91	--	12.0	65.0	--
	08/16/91	--	--	--	--
	11/22/91	--	--	--	--
	01/29/92	--	--	--	--
	09/04/92	--	--	--	--
	01/26/93	13.0	6.1	46.0	--
MW-33	05/18/90	--	--	17.0	35.0
	09/14/90	--	--	--	--
	01/30/91	8.0	200.0	--	--
	04/30/91	--	3.5	56.0	--
	08/07/91	--	5.0	--	1.0
	11/05/91	--	--	--	--
	01/24/92	--	--	--	--
	08/26/92	--	--	--	--
	01/14/93	--	--	--	--
MW-34	07/02/91	--	7.0	300.0	--
	08/16/91	--	6.0	230.0	--
	11/13/91	--	--	190.0	--
	01/23/92	--	--	160.0	--
	09/01/92	--	5.0	--	16.0
	10/26/92	NA	NA	130	NA
	01/21/93	--	--	83.0	--

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-04	03/03/88	11	4.5	6	1.5	22	--	12	130	42	--	--	--	--	1100	300
	09/20/89	210	--	--	--	--	--	7.1	--	120	--	--	--	--	--	3000
	02/15/90	190	3.5	7.5	2.1	5.3	--	12	250	46	--	--	5.7	--	N/A	N/A
	05/23/90	130	4.9	2.1	6.3	4.1	--	5.8	5.5	45	--	--	4.9	--	--	650
	09/18/90	98	4.1	2.7	4.3	2.4	--	6	30	38	--	--	4.5	--	--	--
	02/05/91	17	--	--	--	1.2	--	6	45	16	--	--	4.2	--	N/A	N/A
	05/01/91	580	--	24	12	--	--	11	15	93	--	--	0.89	--	N/A	N/A
	08/14/91	--	0.6	13	2.5	--	--	13	27	--	--	--	1.4	--	N/A	N/A
	11/07/91	1200	26	8.7	26	--	--	19	40	--	--	--	--	--	N/A	N/A
	01/28/92	940	12	3.4	18	0.6	--	12	16	170	--	--	1.4	--	N/A	N/A
	05/29/92	210	7.5	9.3	6.7	2.4	--	15	110	20	--	--	7.8	--	N/A	N/A
	08/26/92	230	2.4	1.7	4.1	1.3	--	14	120	13	--	1.3	8.6	--	N/A	N/A
	10/20/92	260	--	--	--	--	--	--	32	--	--	--	--	--	N/A	N/A
	01/20/93	180	5.6	4.2	8.9	--	--	7.5	73	12	--	--	5.0	--	N/A	N/A
MW-05	03/04/88	--	--	--	--	--	--	--	--	--	4.9	--	--	--	--	--
	09/20/89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	60
	05/17/90	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--
	09/12/90	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--
	08/12/91	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	01/28/92	--	--	--	--	--	--	--	--	--	1.2	--	--	--	N/A	N/A
	01/22/93	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
MW-06	03/04/88	--	--	--	--	--	--	--	--	--	0.6	--	--	--	--	--
	09/20/89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	05/17/90	--	--	--	--	--	--	--	--	--	1.5	--	--	--	N/A	N/A
	09/11/90	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--
	08/12/91	--	--	--	--	--	--	--	--	--	6.2	--	--	--	N/A	N/A
	01/28/92	--	--	--	--	--	--	--	--	--	2.1	--	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	--	--	--	0.85	--	--	--	N/A	N/A
	01/22/93	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B	T	X	E	1,1,1-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	Chloroform	PCE	TCE	CCL ₄	TPH	TPH/Gas
		1	1000	1,750	680	200	32	5	6	0.5	100	5	5	0.5	NE	NE
MW-07	03/04/88	--	--	--	--	25	--	15	17	1.6	1.9	--	1.0	--	--	--
	09/15/89	--	--	--	--	26	--	15	0.5	3.1	1.1	--	1.1	--	--	50
	02/07/90	--	--	--	--	11	--	9.9	58	--	2.6	--	0.6	--	N/A	N/A
	05/17/90	--	--	--	--	9.7	--	9.2	8.1	--	3	--	--	--	--	--
	09/07/90	--	--	--	--	6.4	--	6.1	19	--	2.5	--	--	--	--	--
	01/30/91	N/A	N/A	N/A	N/A	5.1	--	4.3	15	--	2.6	--	--	--	N/A	N/A
	04/26/91	N/A	N/A	N/A	N/A	4.6	--	4.5	11	--	3.0	--	--	--	N/A	N/A
	08/07/91	--	--	--	--	8.1	--	12	28	--	4.1	--	--	--	N/A	N/A
	02/07/92	--	--	--	--	7.2	--	12	32	--	4.9	--	--	--	N/A	N/A
	06/02/92	--	--	--	--	4.2	--	6.8	21	--	4.1	--	--	--	N/A	N/A
	08/31/92	--	--	--	--	5.2	--	8.5	39	--	4.5	--	--	--	N/A	N/A
	10/23/92	--	--	--	--	3.7	--	5.9	21	--	4.7	--	--	--	N/A	N/A
	01/29/93	--	--	--	--	1.4	--	3.6	9.6	--	1.8	--	--	--	N/A	N/A
MW-08	03/03/88	--	--	--	--	--	--	0.9	--	--	--	0.8	--	--	--	--
	09/20/89	--	2.5	--	--	--	--	--	--	--	--	1.5	--	--	--	--
	05/23/90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/13/90	--	--	--	--	0.6	--	--	3.8	--	--	--	--	--	--	--
	01/30/91	N/A	N/A	N/A	N/A	--	--	--	1.8	--	--	--	--	--	N/A	N/A
	04/26/91	N/A	N/A	N/A	N/A	--	--	--	1.8	--	--	3.2	--	--	N/A	N/A
	08/12/91	--	--	--	--	--	--	--	9.6	--	--	21.0	--	--	N/A	N/A
	11/11/91	N/A	N/A	N/A	N/A	0.7	--	--	2.5	--	--	5.3	--	--	N/A	N/A
	01/28/92	--	--	--	--	--	--	--	1.8	--	--	8.8	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	--	0.71	--	--	--	7.1	--	N/A	N/A
	01/27/93	--	--	--	--	--	--	--	0.61	--	--	3.7	--	--	N/A	N/A
MW-11	09/06/89	--	6.0	--	--	--	--	0.8	--	--	5.1	--	1.7	--	600	120
	02/15/90	--	--	--	--	--	--	--	8.3	--	0.6	--	0.5	--	N/A	N/A
	05/18/90	--	--	--	--	--	--	3.2	--	--	--	0.7	4.2	--	--	--
	09/17/90	--	--	--	--	1.7	--	6.2	18	--	--	--	2.4	--	--	--
	01/30/91	N/A	N/A	N/A	N/A	2.8	--	16	46	--	--	--	2.5	--	N/A	N/A
	04/26/91	N/A	N/A	N/A	N/A	4.5	--	19	62	--	--	--	3.5	--	N/A	N/A
	08/15/91	--	--	--	--	1.8	--	11	--	--	--	--	2.0	--	N/A	N/A
	11/07/91	N/A	N/A	N/A	N/A	1.0	--	7.2	9.9	0.6	--	--	1.1	--	N/A	N/A
	01/27/92	--	--	--	--	1.5	--	11	110	--	--	0.7	3.0	--	N/A	N/A
	06/02/92	--	--	--	--	1.5	0.5	7.6	54	--	--	--	3.8	--	N/A	N/A
	08/26/92	--	--	--	--	0.72	--	8.0	57	--	--	1.3	4.3	--	N/A	N/A
	10/20/92	--	--	--	--	0.51	--	4.7	37	--	--	0.68	2.6	--	N/A	N/A
	01/14/93	--	--	--	--	--	--	2.5	54	--	--	--	2.2	--	N/A	N/A

TABLE 3
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ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-12	09/11/89	--	2.2	--	--	--	--	1.3	--	--	6.4	--	4	--	--	70
	10/13/89	0.8	--	--	--	--	--	4.9	26.3	--	4.5	--	5.7	--	N/A	N/A
	02/15/90	--	--	--	--	--	--	9.6	62	--	1.4	--	9	--	N/A	N/A
	05/22/90	--	--	--	--	--	--	9.2	1.4	--	0.6	--	9	--	--	--
	09/18/90	--	--	--	--	0.88	--	10	24	--	--	--	12	--	--	--
	02/04/91	--	--	--	--	--	--	15	47	--	--	--	14	--	N/A	N/A
	05/01/91	N/A	N/A	N/A	N/A	--	--	12	52	--	--	--	15	--	N/A	N/A
	08/15/91	--	0.6	--	--	0.7	--	13	27	--	--	--	15	--	N/A	N/A
	11/07/91	--	--	--	--	1.4	--	15	28	--	--	--	13	--	N/A	N/A
	01/28/92	0.6	--	--	--	0.8	--	23	120	--	--	0.6	19	--	N/A	N/A
	06/01/92	--	--	--	--	0.8	--	19	61	--	--	--	11	--	N/A	N/A
	08/26/92	--	--	--	--	0.64	--	31	94	--	--	0.93	16	--	N/A	N/A
	10/26/92	--	--	--	--	--	--	26	97	--	--	--	14	--	N/A	N/A
	01/20/93	--	--	--	--	0.60	--	21	78	--	--	--	9.1	--	N/A	N/A
MW-13	09/13/89	5,700	343	147	--	--	0.8	13.2	--	360	--	--	0.6	--	3100	51000
	11/02/89	6,700	210	88	50	--	--	20	24	270	--	--	--	--	N/A	N/A
	02/15/90	10,500	400	1600	150	--	--	40	55	200	--	--	--	--	N/A	N/A
	05/25/90	12,000	250	530	1200	--	--	35	1.8	250	--	--	--	--	2400	46000
	09/18/90	7,300	310	620	410	--	--	27	15	210	--	--	--	--	--	12000
	02/05/91	10,000	390	600	--	0.6	--	36	25	96	--	--	--	--	N/A	N/A
	04/30/91	7,900	260	520	340	0.5	--	17	14	120	--	--	--	--	N/A	N/A
	08/7/91	11,000	440	760	450	1.1	--	24	9.6	108	--	--	1.5	--	N/A	N/A
	11/07/91	41,000	1,600	3,900	180	--	--	160	210	--	--	--	--	--	N/A	N/A
	02/07/92	11,000	630	1,300	780	--	--	34	31	--	--	5.6	--	--	N/A	N/A
	06/04/92	9900	380	500	570	--	--	35	18	160	--	--	--	--	N/A	N/A
	08/26/92	13,000	340	780	520	--	--	39	13	180	--	--	0.8	--	N/A	N/A
	10/27/92	9,600	330	740	500	--	--	34	13	170	--	--	0.91	--	N/A	N/A
	01/20/93	7,300	290	520	340	--	--	8.5	8.8	150	--	--	--	--	N/A	N/A

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B	T	X	E	1,1,1-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	Chloroform	PCE	TCE	CCL ₄	TPH	TPH/Gas
		1	1000	1,750	680	200	32	5	6	0.5	100	5	5	0.5	NE	NE
MW-14	09/13/89	--	12.3	--	--	22	7.1	9.4	15.1	3.7	2.5	--	5.6	--	--	100
	11/02/89	--	--	--	--	20	6.3	9.3	75	7.7	2.5	--	4.7	--	N/A	N/A
	02/15/90	3.6	--	0.6	--	8.9	1.1	9.6	380	1.0	--	--	8.0	--	N/A	N/A
	05/22/90	2.2	--	--	--	4.1	--	5.8	11	1.4	--	--	5.9	--	--	--
	09/18/90	--	--	--	--	2.3	--	5.0	47	--	--	--	5.7	--	--	--
	02/04/91	--	--	--	--	1.3	--	4.4	47	--	--	--	6.2	--	N/A	N/A
	05/01/91	--	--	--	--	0.88	--	3.1	18	--	--	--	4.9	--	N/A	N/A
	08/14/91	0.7	--	--	--	1.6	--	4.8	50	--	--	0.6	9.7	--	N/A	N/A
	11/22/91	--	--	--	--	1.9	--	6.3	150	1.5	--	--	5.6	--	N/A	N/A
	02/07/92	--	--	--	--	3.1	--	12	100	--	0.5	0.6	9.4	--	N/A	N/A
	06/01/92	15	--	--	--	5.1	0.7	28	120	3.7	0.8	--	10	--	N/A	N/A
	08/27/92	--	--	--	--	3.3	--	43	142	--	--	--	12	--	N/A	N/A
	10/26/92	--	--	--	--	--	--	36	200	--	--	--	13	--	N/A	N/A
MW-15	01/20/93	--	--	--	--	1.7	--	20	140	--	--	0.8	7	--	N/A	N/A
	09/07/89	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--
	02/07/90	--	--	--	--	0.5	--	--	5.8	--	--	2.8	--	--	N/A	N/A
	05/16/90	--	--	--	--	--	--	--	--	--	--	3.5	--	--	N/A	N/A
	09/14/90	--	--	--	--	1.1	--	--	0.58	--	--	6.2	--	--	--	--
	01/24/91	N/A	N/A	N/A	N/A	0.7	--	--	1.2	--	--	--	6.8	--	N/A	N/A
	04/25/91	N/A	N/A	N/A	N/A	0.53	--	--	0.82	--	--	--	6.7	--	N/A	N/A
	08/05/91	--	--	--	--	--	--	--	--	--	--	7.8	--	--	N/A	N/A
	11/05/91	N/A	N/A	N/A	N/A	1.3	--	--	2.1	--	--	12	--	--	N/A	N/A
	01/30/92	--	--	--	--	--	--	--	1.6	--	--	10	--	--	N/A	N/A
	08/27/92	--	--	--	--	--	--	--	--	--	--	10	--	--	N/A	N/A
MW-16	01/25/93	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	09/07/89	--	3.9	--	--	0.8	--	0.7	--	--	0.5	--	--	--	--	--
	02/07/90	--	--	--	--	2	--	1.8	29	--	--	--	--	--	N/A	N/A
	05/16/90	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	09/14/90	--	--	--	--	1.3	--	--	2.3	--	--	--	--	--	--	--
	01/24/91	N/A	N/A	N/A	N/A	--	--	--	2.6	--	--	--	--	--	N/A	N/A
	04/25/91	N/A	N/A	N/A	N/A	0.83	--	--	2.8	--	--	--	--	--	N/A	N/A
	08/13/91	--	--	--	--	1.5	--	--	8.3	--	--	--	--	--	N/A	N/A
	11/07/91	N/A	N/A	N/A	N/A	1.6	--	--	5.7	--	--	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	0.6	--	--	9.0	--	--	--	--	--	N/A	N/A
	06/04/92	--	--	--	--	1.9	--	--	2.7	--	--	--	--	--	N/A	N/A
	08/27/92	--	--	--	--	--	--	--	3.9	--	--	--	--	--	N/A	N/A
	10/23/92	--	--	--	--	0.81	--	--	3.2	--	--	--	--	--	N/A	N/A
	01/21/93	--	--	--	--	--	--	--	2.6	--	--	--	--	--	N/A	N/A

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B	T	X	E	1,1,1-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	Chloroform	PCE	TCE	CCl ₄	TPH	TPH/Gas
		1	1000	1,750	680	200	32	5	6	0.5	100	5	5	0.5	NE	NE
MW-17	09/21/89	--	1.3	--	--	1.1	--	0.5	--	--	2.6	--	0.7	--	--	--
	02/07/90	--	--	--	--	0.8	--	0.6	36	--	--	--	0.5	--	N/A	N/A
	05/18/90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/13/90	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--
	01/25/91	--	--	--	--	--	--	--	3.0	--	--	--	--	--	N/A	N/A
	04/29/91	--	--	--	--	--	--	--	3.8	--	--	--	--	--	N/A	N/A
	08/06/91	--	--	--	--	--	--	--	3.7	--	--	--	--	--	N/A	N/A
	11/05/91	N/A	N/A	N/A	N/A	0.6	--	--	2.8	--	--	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	--	--	--	1.2	--	--	--	--	--	N/A	N/A
	08/27/92	--	--	--	--	--	--	--	0.8	--	--	--	--	--	N/A	N/A
	01/25/93	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-18	09/21/89	--	1.3	--	--	1.9	0.8	3.4	0.5	--	1.5	--	9.4	--	--	50
	11/02/89	--	--	--	--	6.9	1.0	7.8	92	--	0.5	--	13	--	N/A	N/A
	02/07/90	--	--	--	--	4	--	4.8	230	--	--	--	8.1	--	N/A	N/A
	05/18/90	--	--	--	--	2.4	--	2.8	3.2	--	--	1.0	10	--	--	--
	09/13/90	--	--	--	--	3.3	--	3.9	19	--	--	--	4.4	--	--	--
	01/25/91	--	--	--	--	0.90	--	1.4	22	--	--	--	2.9	--	N/A	N/A
	04/29/91	--	--	--	--	0.94	--	1.1	20	--	--	--	2.3	--	N/A	N/A
	08/13/91	--	--	--	--	1.5	--	1.2	18	--	--	--	3.8	--	N/A	N/A
	11/05/91	N/A	N/A	N/A	N/A	2.2	3.8	2.0	18	--	--	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	1.0	--	0.8	25	--	--	--	2.8	--	N/A	N/A
	06/01/92	--	--	--	--	1.4	--	0.6	13	--	--	--	2.2	--	N/A	N/A
	08/27/92	--	--	--	--	0.94	--	--	16	--	--	--	3.2	--	N/A	N/A
	10/26/92	--	--	--	--	2.6	--	--	--	--	--	--	3.0	--	N/A	N/A
	01/21/93	--	--	--	--	0.77	--	--	14	--	--	--	1.6	--	N/A	N/A

TABLE 3
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-19	09/14/89	--	--	--	--	--	--	--	--	--	0.9	1	--	--	--	--
	05/18/90	--	--	--	--	--	--	--	--	--	--	1.4	--	--	N/A	N/A
	09/07/90	--	--	--	--	--	--	--	6.8	--	--	1.5	--	--	--	--
	01/24/91	N/A	N/A	N/A	N/A	--	--	--	5.9	--	--	--	1.7	--	N/A	N/A
	04/29/91	N/A	N/A	N/A	N/A	--	--	--	4.2	--	--	--	1.9	--	N/A	N/A
	08/05/91	--	--	--	--	--	--	--	2.4	--	--	3.2	--	--	N/A	N/A
	11/11/91	N/A	N/A	N/A	N/A	--	--	--	3.7	--	--	2.8	--	--	N/A	N/A
	01/30/92	--	--	--	--	--	--	--	2.9	--	--	3.6	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	--	1.5	--	--	2.0	--	--	N/A	N/A
	01/25/93	--	--	--	--	--	--	--	8.9	--	--	1.5	--	--	N/A	N/A
MW-20	09/14/89	--	--	--	--	0.7	--	--	--	--	--	--	--	--	--	--
	05/14/90	--	--	--	--	1.4	--	0.9	--	--	--	--	--	--	N/A	N/A
	09/07/90	--	--	--	--	0.92	--	--	9.6	--	--	--	--	--	--	--
	01/24/91	N/A	N/A	N/A	N/A	--	--	--	9.8	--	--	--	--	--	N/A	N/A
	04/29/91	N/A	N/A	N/A	N/A	--	--	--	8.9	--	--	--	--	--	N/A	N/A
	08/14/91	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	11/11/91	N/A	N/A	N/A	N/A	0.7	--	--	11	--	--	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	0.6	--	--	11	--	--	--	--	--	N/A	N/A
	06/02/92	--	--	--	--	0.8	--	--	7.2	--	--	--	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	--	8.3	--	--	--	--	--	N/A	N/A
	10/23/92	--	--	--	--	--	--	--	7.3	--	--	--	--	--	N/A	N/A
	01/25/93	--	--	--	--	--	--	--	4.0	--	--	--	--	--	N/A	N/A
MW-21	09/08/89	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--
	05/15/90	--	--	--	--	--	--	0.6	--	--	4.2	--	--	--	N/A	N/A
	09/07/90	--	--	--	--	--	--	--	2.1	--	1.9	--	--	--	--	--
	01/23/91	N/A	N/A	N/A	N/A	--	--	--	0.8	--	2.4	--	--	--	N/A	N/A
	04/25/91	N/A	N/A	N/A	N/A	--	--	--	4.7	--	2.5	--	--	--	N/A	N/A
	08/07/91	--	--	--	--	--	--	--	0.9	--	5.1	--	--	--	N/A	N/A
	11/11/91	N/A	N/A	N/A	N/A	--	--	--	--	--	4.8	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	--	--	--	2.7	--	5.1	--	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	--	0.6	--	4.0	--	--	--	N/A	N/A
	01/29/93	--	--	--	--	--	--	--	1.3	--	2.0	--	--	--	N/A	N/A

TABLE 3
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B	T	X	E	1,1,1-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	Chloroform	PCE	TCE	CCL ₄	TPH	TPH/Gas
		1	1000	1,750	680	200	32	5	6	0.5	100	5	5	0.5	NE	NE
MW-22	09/08/89	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--
	02/07/90	--	--	--	--	--	--	--	--	--	0.9	--	--	--	N/A	N/A
	05/15/90	--	--	--	--	--	--	--	--	--	5.0	--	--	--	N/A	N/A
	09/07/90	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--
	01/23/91	N/A	N/A	N/A	N/A	--	--	--	--	--	5.2	--	--	--	N/A	N/A
	04/25/91	N/A	N/A	N/A	N/A	--	--	--	--	--	4.8	--	--	--	N/A	N/A
	08/14/91	--	--	--	--	--	--	--	--	--	3.9	--	--	--	N/A	N/A
	01/30/92	--	--	--	--	--	--	--	--	--	5.8	--	--	--	N/A	N/A
	01/29/93	--	--	--	--	--	--	--	--	--	1.5	--	--	--	N/A	N/A
MW-23	09/08/89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	05/15/90	--	--	--	--	--	--	1.3	--	--	10	--	--	--	N/A	N/A
	09/06/90	--	--	--	--	--	--	0.88	0.5	--	4.2	--	--	--	--	--
	04/23/91	N/A	N/A	N/A	N/A	--	--	--	0.67	--	3.0	--	--	--	N/A	N/A
	08/02/91	--	--	--	--	--	--	--	--	--	3.1	--	--	--	N/A	N/A
	11/11/91	N/A	N/A	N/A	N/A	--	--	--	--	--	4.6	0.7	--	--	N/A	N/A
	01/24/92	--	--	--	--	--	--	--	--	--	2.8	--	--	--	N/A	N/A
	08/28/92	--	--	--	--	--	--	1.2	--	--	4.5	--	--	--	N/A	N/A
	01/22/93	--	--	--	--	--	--	--	--	--	2.2	--	--	--	N/A	N/A
MW-24	09/08/89	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--
	05/15/90	--	--	--	--	--	--	--	--	--	11	--	--	--	N/A	N/A
	09/06/90	--	--	--	--	--	--	--	--	--	4.1	--	--	--	--	--
	09/06/90	--	--	--	--	--	--	--	--	--	4.1	--	--	--	--	--
	08/11/91	--	--	--	--	--	--	--	--	--	3.2	--	--	--	N/A	N/A
	01/24/92	--	--	--	--	--	--	--	--	--	2.5	--	--	--	N/A	N/A
	01/22/93	--	--	--	--	--	--	--	--	--	1.7	--	--	--	N/A	N/A
MW-25	09/11/89	--	4.1	--	--	--	--	1.0	--	--	0.9	--	--	--	--	--
	02/07/90	--	--	--	--	--	--	1.3	7.6	--	1.1	--	--	--	N/A	N/A
	05/16/90	--	--	--	--	--	--	1.3	--	--	1.1	--	--	--	--	--
	09/12/90	--	--	--	--	--	--	1.5	3.1	--	1.3	--	--	--	--	--
	01/29/91	N/A	N/A	N/A	N/A	--	--	1.3	2.3	--	1.1	--	--	--	N/A	N/A
	04/24/91	N/A	N/A	N/A	N/A	--	--	2.1	2.5	--	1.4	--	--	--	N/A	N/A
	08/02/91	--	--	--	--	0.6	--	3.0	5.8	--	1.6	--	--	--	N/A	N/A
	01/23/92	--	--	--	--	2.1	--	6.9	8.7	--	2.2	--	--	--	N/A	N/A
	09/01/92	--	--	--	--	4.4	--	14	22	--	2.8	--	0.65	--	N/A	N/A
	01/27/93	--	--	--	--	2.2	--	10	6.3	0.77	1.6	--	--	--	N/A	N/A

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-26	09/11/89	---	---	---	---	---	---	1.0	---	---	2.6	---	---	---	---	50
	02/07/90	---	---	---	---	---	---	3.2	14	---	1.3	---	---	---	N/A	N/A
	05/16/90	---	---	---	---	---	---	1.6	---	---	1.1	---	---	---	---	---
	09/12/90	---	---	---	---	---	---	2.1	5	---	1.6	---	---	---	---	---
	01/29/91	N/A	N/A	N/A	N/A	---	---	1.6	3.6	---	1.0	---	---	---	N/A	N/A
	04/24/91	N/A	N/A	N/A	N/A	---	---	2.4	3.4	---	1.4	---	---	---	N/A	N/A
	08/13/91	---	---	---	---	0.6	---	4.0	8.1	---	1.5	---	---	---	N/A	N/A
	01/27/92	---	1.4	---	---	1.1	---	4.8	5.1	---	2.0	---	---	---	N/A	N/A
	06/04/92	---	---	---	---	4.4	---	8.6	8.2	0.6	2.7	---	---	---	N/A	N/A
	09/01/92	---	---	---	---	3.7	---	12	19	---	3.6	---	---	---	N/A	N/A
	10/23/92	---	---	---	---	2.4	---	10	9.4	---	3.1	---	---	---	N/A	N/A
	01/28/93	---	---	---	---	3.2	---	13	15	0.9	2.5	---	---	---	N/A	N/A
MW-27	09/15/89	---	---	---	---	---	---	---	---	---	5.5	---	---	---	---	---
	05/21/90	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09/17/90	---	---	---	---	---	---	---	0.99	---	1.1	---	---	---	---	---
	01/29/91	N/A	N/A	N/A	N/A	---	---	---	---	---	0.7	---	---	---	N/A	N/A
	04/24/91	N/A	N/A	N/A	N/A	---	---	---	1.1	---	1.4	---	---	---	N/A	N/A
	08/13/91	---	---	---	---	---	---	---	---	---	0.9	---	---	---	N/A	N/A
	01/23/92	---	---	---	---	---	---	---	0.83	---	1.3	---	---	---	N/A	N/A
	09/01/92	---	---	---	---	---	---	---	---	---	3.0	---	---	---	N/A	N/A
	01/28/93	---	---	---	---	---	---	---	---	---	1.7	---	---	---		
MW-28	02/15/90	---	---	---	---	---	---	5.8	1	---	0.7	---	---	---	N/A	---
	05/21/90	---	---	---	---	---	---	9.5	---	---	---	---	---	---	---	---
	09/19/90	---	---	---	---	---	---	9	4	---	---	---	---	---	---	---
	02/01/91	---	---	---	---	---	---	13	4.3	---	---	---	---	---	N/A	N/A
	04/30/91	---	---	---	---	---	---	8.1	3.9	---	---	---	---	---	N/A	N/A
	08/13/91	---	---	---	---	---	---	13	---	---	---	---	---	---	N/A	N/A
	11/05/91	---	---	---	---	---	---	14	9.4	---	---	---	---	---	N/A	N/A
	01/30/92	---	---	---	---	---	---	17	24	---	---	---	---	---	N/A	N/A
	05/28/92	---	---	---	---	---	---	9.5	6.0	---	---	---	---	---	N/A	N/A
	08/31/92	---	---	---	---	---	---	20	31	---	---	---	---	---	N/A	N/A
	10/22/92	---	---	---	---	---	---	18	21	---	---	---	---	---	N/A	NN/A
	01/13/93	---	---	---	---	---	---	13	22	---	---	---	---	---	N/A	N/A

TABLE 3
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-29	02/15/90	---	---	---	---	8.5	---	10	190	22	1.8	---	0.9	---	N/A	50
	04/23/90	---	---	---	---	5.0	---	14	72	16	1.2	---	0.87	---	N/A	N/A
	05/25/90	6.2	---	---	---	4.6	---	4.1	8.6	14	---	---	---	---	---	---
	09/06/90	---	---	---	---	3.2	---	4.4	38	11	1.3	---	0.76	1.3	---	---
	02/01/91	---	---	---	---	---	---	1.9	33	4.7	---	---	---	---	N/A	N/A
	04/30/91	---	---	---	---	---	---	2.4	16	6.6	0.57	---	---	0.68	N/A	N/A
	08/07/91	---	---	---	---	1.3	---	4.5	29	11	0.9	---	0.9	1.0	N/A	N/A
	11/05/91	---	---	---	---	1.4	---	3.7	21	7.1	1.0	---	0.8	1.1	N/A	N/A
	01/30/92	---	---	---	---	0.7	---	2.0	26	5.2	1.2	---	0.7	1.5	N/A	N/A
	05/29/92	---	---	---	---	1.1	---	4.3	19	---	0.8	---	1.2	---	N/A	N/A
	08/31/92	---	---	---	---	0.91	---	3.9	27	7.9	1.3	---	0.8	---	N/A	N/A
	10/22/92	---	---	---	---	0.87	---	2.3	18	6.1	0.56	---	---	---	N/A	N/A
	01/14/93	---	---	---	---	---	---	1.1	13	3.2	---	---	---	---	---	---
MW-30	02/15/90	---	---	---	---	4.5	2.3	18	820	---	1.5	---	4.8	---	N/A	60
	04/23/90	1.1	---	---	---	30.0	---	12	470	31	---	---	8.2	---	N/A	N/A
	05/24/90	2.4	---	---	---	22.0	3	19	48	4.8	1.1	---	6.8	---	---	60
	09/05/90	1.2	---	---	---	14.0	---	11	150	---	---	---	---	---	---	---
	02/04/91	---	---	---	---	6.3	---	8.2	160	---	---	---	---	---	N/A	N/A
	04/30/91	---	---	---	---	5.9	---	9.0	75	---	---	---	---	---	N/A	N/A
	08/15/91	---	---	---	---	4.4	---	6.8	84	---	---	---	6.4	---	N/A	N/A
	11/05/91	---	---	---	---	8.5	---	11	88	---	---	---	9.4	---	N/A	N/A
	01/31/92	---	---	---	---	1.8	---	7.0	140	---	---	0.8	8.0	---	N/A	N/A
	05/28/92	---	---	---	---	3.0	---	10	61	---	---	---	9.5	---	N/A	N/A
	08/31/92	---	---	---	---	6.9	---	14	130	---	---	---	10	---	N/A	N/A
	10/22/92	---	---	---	---	3.3	---	17	116	---	---	---	10	---	N/A	N/A
	01/14/93	---	---	---	---	1.3	---	6.2	93	---	---	---	6.3	---	N/A	N/A
MW-31	05/24/90	1.1	---	---	---	39	2.7	22	54	0.6	1.7	---	10	---	---	60
	09/19/90	0.63	---	---	---	20	---	15	160	---	---	---	7.6	---	---	---
	02/01/91	---	---	---	---	---	---	7.6	150	---	---	---	---	---	N/A	N/A
	05/01/91	---	---	---	---	5.9	---	12	110	---	---	---	7.3	---	N/A	N/A
	08/15/91	---	---	---	---	6.2	---	10	120	---	---	---	6.6	---	N/A	N/A
	11/22/91	---	---	---	---	6.3	---	17	140	---	---	0.62	9.3	---	N/A	N/A
	01/31/91	---	---	---	---	4.3	0.6	16	310	---	0.6	1.1	12	---	N/A	N/A
	05/28/92	---	---	---	---	3.5	---	10	130	---	---	---	12	---	N/A	N/A
	08/31/92	---	---	---	---	5.5	---	9.6	170	---	---	---	10	---	N/A	N/A
	10/21/92	---	---	---	---	---	---	7.5	121	---	---	---	11	---	N/A	N/A
	01/21/93	---	---	---	---	2.1	---	8.5	82	---	---	---	12	---	N/A	N/A

TABLE 3

SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
 ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
 UNION PACIFIC RAILROAD YARD
 SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-32	05/24/90	--	--	--	--	20	0.9	21	45	--	0.9	0.6	13	--	--	60
	09/19/90	--	--	--	--	15	--	18	180	--	--	--	11	--	--	--
	02/01/91	--	--	--	--	--	--	6.1	130	--	--	--	5.0	--	N/A	N/A
	05/01/91	--	--	--	--	6.4	--	11	160	--	--	--	11	--	N/A	N/A
	08/16/91	--	--	--	--	5.2	--	7.5	140	--	--	--	8.8	--	N/A	N/A
	11/22/91	--	--	--	--	4.0	--	7.4	88	--	--	--	8.9	--	N/A	N/A
	01/29/92	--	--	--	--	3.3	--	8.7	240	--	--	0.9	16	--	N/A	N/A
	05/29/92	--	--	--	--	3.9	--	8.6	90	--	--	--	15	--	N/A	N/A
	09/04/92	--	--	--	--	--	--	7.1	155	--	--	--	11	--	N/A	N/A
	10/22/92	--	--	--	--	--	--	--	96	--	--	--	11	--	N/A	N/A
	01/26/93	--	--	--	--	1.2	--	4.5	58	--	--	--	8.9	--	N/A	N/A
MW-33	05/18/90	--	--	--	--	17	--	8.1	38	--	--	--	1.4	--	--	--
	09/14/90	--	--	--	--	10	--	--	120	--	--	--	--	--	--	--
	01/30/91	--	--	--	--	3.4	--	2.0	31	--	--	--	--	--	N/A	N/A
	04/30/91	--	--	--	--	2.4	--	2.1	33	--	--	--	--	--	N/A	N/A
	08/07/91	--	--	--	--	6.7	--	5.4	85	--	--	--	1.0	--	N/A	N/A
	11/05/91	--	--	--	--	8.1	--	6.2	100	--	--	--	--	--	N/A	N/A
	01/24/92	--	--	--	--	3.0	--	2.7	97	--	--	--	--	--	N/A	N/A
	06/02/92	--	--	--	--	4.4	--	4.6	95	--	--	--	0.8	--	N/A	N/A
	08/26/92	--	--	--	--	3.4	--	7.0	170	--	--	--	1.6	--	N/A	N/A
	10/20/92	--	--	--	--	4.1	--	2.6	131	--	--	--	--	--	N/A	N/A
MW-34	01/14/93	--	--	--	--	--	--	--	6.1	--	--	--	--	--	N/A	N/A
	07/02/91	--	--	--	--	17	1.3	17.0	470	--	1.2	--	15	--	N/A	N/A
	08/16/91	--	--	--	--	24	--	20.0	510	--	--	--	--	--	N/A	N/A
	12/12/91	0.9	--	--	--	18	1.1	28.0	318	1.7	2.3	1.4	26	--	N/A	N/A
	01/23/92	--	--	--	--	19	4.9	25.0	370	2.3	1.7	0.86	20	--	N/A	N/A
	06/03/92	--	--	--	--	11	1.2	21	270	0.6	1.2	--	24	--	N/A	N/A
	09/01/92	--	--	--	--	13	--	25	480	--	--	--	30	--	N/A	N/A
	10/26/92	--	--	--	--	--	--	--	380	--	--	--	31	--	N/A	N/A
MW-35	01/21/93	--	--	--	--	1.3	--	3.3	68	--	--	--	5.6	--	N/A	N/A
	07/02/91	--	--	--	--	6.8	--	4.8	220	--	0.7	--	3.8	--	N/A	N/A
	08/08/91	--	--	--	--	40	--	41	880	--	--	--	19	--	N/A	N/A
	12/12/91	--	--	--	--	2.6	--	2.8	92	--	1.9	0.7	2.6	--	N/A	N/A
	01/23/92	--	--	--	--	5.4	--	5.8	140	--	1.0	--	3.9	--	N/A	N/A
	06/01/92	--	--	--	--	2.4	--	2.4	49	--	0.8	--	4.8	--	N/A	N/A
	09/01/92	--	--	--	--	5.8	--	--	135	--	--	--	--	--	N/A	N/A
	10/26/92	--	--	--	--	--	--	--	94	--	--	--	5.8	--	N/A	N/A
	01/21/93	--	--	--	--	1.3	--	2.8	58	--	--	--	3.7	--	N/A	N/A

TABLE 3
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-36	12/12/91	--	--	--	--	15	--	12	290	1.6	3.4	0.7	8.8	1.4	N/A	N/A
	01/23/92	0.53	1.4	--	--	21	3.0	13	330	2.7	2.6	--	8.9	--	N/A	N/A
	06/01/92	--	--	--	--	12	--	9.6	180	0.7	2.0	--	8.3	--	N/A	N/A
	09/04/92	--	--	--	--	14	--	--	210	--	--	--	--	--	N/A	N/A
	10/21/92	--	--	--	--	--	--	--	110	--	--	--	--	--	--	--
	01/27/93	--	--	--	--	4.5	--	5.0	110	1.1	0.66	--	5.8	--	N/A	N/A
MW-37	12/12/91	--	--	--	--	1.0	--	3.6	9.3	7.1	4.6	0.6	0.6	1.3	N/A	N/A
	01/23/92	--	--	--	--	--	--	4.4	8.5	9.7	3.1	--	--	1.8	N/A	N/A
	06/01/92	--	--	--	--	--	--	2.6	6.0	6.2	3.8	--	0.5	1.5	N/A	N/A
	09/04/92	--	--	--	--	0.95	--	3.6	16	7.4	4.2	--	--	1.4	N/A	N/A
	10/21/92	--	--	--	--	1.1	--	2.9	13	4.9	2.5	--	--	0.84	N/A	N/A
	01/27/93	--	--	--	--	--	--	2.7	9.2	5.5	2.3	--	--	0.61	N/A	N/A
MW-38	12/12/91	--	--	--	--	13	--	9.1	260	4.0	4.2	--	8.6	2.2	N/A	N/A
	01/24/92	--	--	--	--	11	--	5.7	250	2.7	2.8	--	5.7	1.3	N/A	N/A
	06/03/92	--	--	--	--	14	--	8.6	150	2.2	3.6	--	8.7	1.9	N/A	N/A
	09/04/92	--	--	--	--	21	--	--	350	--	--	--	--	--	N/A	N/A
	10/27/92	--	--	--	--	22	--	13	230	--	--	--	14	--	N/A	N/A
	01/26/93	--	--	--	--	10	--	7.3	140	1.7	2.4	--	7.7	1.3	N/A	N/A
MW-39	06/28/91	--	--	--	--	0.6	--	--	0.7	2.9	4.0	--	--	1.8	N/A	N/A
	08/06/91	--	--	--	--	0.6	--	1.0	1.0	2.1	3.3	--	--	2.4	N/A	N/A
	12/12/91	--	--	--	--	1.0	--	1.2	3.2	2.5	4.9	0.6	--	2.4	N/A	N/A
	01/24/92	--	--	--	--	0.7	--	0.8	4.1	1.6	3.1	--	--	1.4	N/A	N/A
	06/03/92	--	--	--	--	1.1	--	1.3	4.1	1.6	3.1	--	--	2.0	N/A	N/A
	09/04/92	--	--	--	--	1.6	--	1.7	12	1.8	4.2	--	--	2.8	N/A	N/A
	10/21/92	--	--	--	--	1.6	--	1.2	7.7	--	2.3	--	--	1.8	N/A	N/A
	01/27/93	--	--	--	--	1.4	--	1.6	10	1.6	2.7	--	--	1.9	N/A	N/A
MW-40	06/28/91	--	--	--	--	4.0	--	19	110	--	--	--	46	--	N/A	N/A
	08/15/91	--	--	--	--	3.8	--	15	140	--	--	--	30	--	N/A	N/A
	11/22/91	--	--	--	--	2.4	--	12	95	--	--	--	27	--	N/A	N/A
	01/29/92	--	--	--	--	4.2	--	25	190	--	0.6	--	40	--	N/A	N/A
	05/29/92	--	--	--	--	5.2	--	25	170	--	0.6	--	38	--	N/A	N/A
	08/31/92	--	--	--	--	8.4	--	35	370	--	--	--	52	--	N/A	N/A
	10/22/92	--	--	--	--	6.9	--	--	220	29	--	--	49	--	N/A	N/A
	01/26/93	--	--	--	--	3.3	--	27	170	--	--	--	32	--	N/A	N/A

TABLE 3
SUMMARY MONITORING WELL GROUNDWATER ANALYTICAL RESULTS, 1988 - 1993
ORGANIC COMPOUNDS - DETECTIONS ONLY (ug/l)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

Monitoring Well	Date Sampled	B 1	T 1000	X 1,750	E 680	1,1,1-TCA 200	1,1,2-TCA 32	1,1-DCA 5	1,1-DCE 6	1,2-DCA 0.5	Chloroform 100	PCE 5	TCE 5	CCL ₄ 0.5	TPH NE	TPH/Gas NE
MW-41	06/28/91	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	08/12/91	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	11/05/91	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	01/31/92	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	05/26/92	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	08/25/92	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	10/20/92	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
	01/20/93	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	N/A
MW-42	06/28/91	--	--	--	--	11	--	110	340	--	2.0	--	4.0	--	N/A	N/A
	08/08/91	6.3	--	--	--	42.0	8.1	370	1500	--	8.7	--	19.0	--	N/A	N/A
	11/07/91	1.2	--	--	--	6.9	1.9	69	270	--	1.4	1.1	3.9	--	N/A	N/A
	02/07/92	1.6	--	--	--	8.7	2.2	100	480	0.7	2.5	1.6	5.5	--	N/A	N/A
	06/04/92	3.3	--	--	--	7.0	2.6	80	220	0.9	2.0	3.4	5.8	--	N/A	N/A
	08/25/92	1.2	--	--	--	5.5	2.6	110	260	1.6	1.9	4.2	7.2	--	N/A	N/A
	10/27/92	--	--	--	--	--	--	110	340	--	--	28	--	--	N/A	N/A
	01/19/93	--	--	--	--	5.3	1.2	60	180	--	1.1	3.0	4.3	--	N/A	N/A
MW-43	06/28/91	--	--	--	--	--	--	330	33	--	--	--	--	--	N/A	N/A
	08/16/91	--	--	--	--	--	--	200	21	--	--	--	--	--	N/A	N/A
	11/07/91	--	--	--	--	--	2.0	170	30	1.9	--	0.6	2.5	--	N/A	N/A
	02/07/92	--	--	--	--	0.7	2.2	220	45	2.3	--	1.4	4.3	--	N/A	N/A
	06/02/92	--	--	--	--	--	2.5	210	32	2.5	--	--	4.7	--	N/A	N/A
	08/25/92	0.6	--	--	--	--	1.9	260	--	2.0	--	1.1	5.4	--	N/A	N/A
	10/22/92	--	--	--	--	--	--	240	28	--	--	--	--	--	N/A	N/A
	01/19/93	--	--	--	--	--	1.0	110	24	1.1	--	0.9	2.8	--	N/A	N/A
MW-44	10/27/92	--	--	--	--	--	--	0.69	2.0	4.3	7.2	--	--	9.6	N/A	N/A
	01/26/93	--	--	--	--	--	--	--	0.96	1.9	3.6	--	--	4.1	N/A	N/A

CCL₄ - Carbon Tetrachloride
MCL - Maximum Contaminant Level, Drinking Water Standard, EPA or DHS (whichever is more stringent)
AL - Drinking Water Action Level recommended by DHS, Listed in the absence of an MCL
+ - Detections of Benzene, Toulene, and Xylene appear to be due to field contamination. Analysis of duplicate sample showed no detections
-- - Not Detected
N/A - Not Analyzed

TABLE 4
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-02	MW-04	MW-05	MW-06	MW-07	MW-08	MW-11
DATE		01/19/93	01/20/93	01/22/93	01/22/93	01/29/93	01/27/93	01/14/93
QA	MCL ug/L							
ARSENIC	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	6.0	14.0	7.0	< 5.0	17.0	< 5.0	47.0
COPPER	1300 *	-	-	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 6.0
MANGANESE	-	-	-	-	-	-	-	-
NICKEL	100	12.0	8.0	42.0	16.0	47.0	19.0	-
NICKEL ICP	100	-	-	-	-	-	-	<100.0
ZINC	-	-	-	-	-	-	-	-

All units reported as ug/L (ppb)

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- = Parameter not analyzed. * = Proposed MCL.

TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-12 01/20/93	MW-13 01/20/93	MW-13 01/20/93 DUPLICATE SAMPLE	MW-14 01/20/93	MW-15 01/25/93	MW-16 01/21/93	MW-17 01/25/93
	MCL ug/L							
ARSENIC	50	< 5.0	21.0	25.0	< 5.0	13.0	< 5.0	< 5.0
CHROMIUM	50	9.0	< 5.0	< 5.0	36.0	< 5.0	7.0	< 5.0
COPPER	1300 *	-	-	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	3.0	< 3.0	< 3.0	< 3.0
MANGANESE	-	-	-	-	-	-	-	-
NICKEL	100	85.0	6.0	8.4	12.0	9.6	< 5.0	34.0
NICKEL ICP	100	-	-	-	-	-	-	-
ZINC	-	-	-	-	-	-	-	-

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24
DATE		01/21/93	01/25/93	01/25/93	01/29/93	01/29/93	01/22/93	01/22/93
QA	MCL ug/L							
ARSENIC	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	12.0	8.4	9.8	< 5.0	5.5	6.0	< 5.0
COPPER	1300 *	-	-	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MANGANESE	-	-	-	-	-	-	-	-
NICKEL	100	< 5.0	84.0	26.0	180.0	6.6	182.0	98.0
NICKEL ICP	100	-	-	-	200.0	-	200.0	-
ZINC	-	-	-	-	-	-	-	-

All units reported as ug/L (ppb)

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-25	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
DATE		01/27/93	01/27/93	01/28/93	01/28/93	01/13/93	01/14/93	01/14/93
QA	MCL ug/L		DUPLICATE SAMPLE					
ARSENIC	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	5.5	< 5.0	13.0	8.3	17.0	< 5.0	6.0
COPPER	1300 *	-	-	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	< 3.0	< 6.0	< 6.0	< 6.0
MANGANESE	-	-	-	-	-	-	-	-
NICKEL	100	270.0	280.0	110.0	46.0	-	-	-
NICKEL ICP	100	330.0	-	-	-	<100.0	<100.0	<100.0
ZINC	-	-	-	-	-	-	-	-

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-31	MW-32	MW-33	MW-34	MW-35	MW-36	MW-37
DATE		01/21/93	01/26/93	01/14/93	01/21/93	01/21/93	01/27/93	01/27/93
QA	MCL ug/L							
ARSENIC	50	< 5.0	13.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	< 5.0	6.1	< 5.0	< 5.0	< 5.0	11.0	< 5.0
COPPER	1300 *	-	-	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 6.0	< 3.0	< 3.0	< 3.0	< 3.0
MANGANESE	-	-	-	-	-	-	-	-
NICKEL	100	10.0	46.0	-	83.0	8.0	93.0	< 5.0
NICKEL ICP	100	-	-	<100.0	-	-	-	-
ZINC	-	-	-	-	-	-	-	-

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-38 01/26/93	MW-38 01/26/93 DUPLICATE SAMPLE	MW-39 01/27/93	MW-39 01/27/93 DUPLICATE SAMPLE	MW-40 01/26/93	MW-41 01/20/93	MW-42 01/19/93
	MCL ug/L							
ARSENIC	50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	7.7	8.0	8.1	8.1	< 5.0	9.0	6.0
COPPER	1300 *	< 50.0	-	-	-	< 50.0	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MANGANESE	-	< 20.0	-	-	-	< 20.0	-	-
NICKEL	100	86.0	87.0	130.0	120.0	110.0	< 5.0	60.0
NICKEL ICP	100	-	-	-	-	-	-	-
ZINC	-	< 50.0	-	-	-	< 50.0	-	-

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-43	MW-44	MW-44	RB-01	RB-02	RB-03	RB-04
DATE		01/19/93	01/26/93	01/26/93	01/20/93	01/22/93	01/26/93	01/29/93
QA	MCL ug/L			DUPLICATE SAMPLE	RINSATE BLANK	RINSATE BLANK	RINSATE BLANK	RINSATE BLANK
ARSENIC	50	< 5.0	< 5.0	22.0	< 5.0	< 5.0	< 5.0	< 5.0
CHROMIUM	50	< 5.0	7.5	11.0	< 5.0	< 5.0	< 5.0	< 5.0
COPPER	1300 *	-	< 50.0	-	-	-	-	-
LEAD	50	< 3.0	< 3.0	< 3.0	9.0	< 3.0	< 3.0	< 3.0
MANGANESE	-	-	43.0	-	-	-	-	-
NICKEL	100	128.0	19.0	15.0	< 5.0	< 5.0	< 5.0	< 5.0
NICKEL ICP	100	130.0	-	-	-	-	-	-
ZINC	-	-	< 50.0	-	-	-	-	-

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TABLE 4 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
SELECTED METALS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		RB-05
DATE		01/29/93
QA	MCL	RINSATE
	ug/L	BLANK
ARSENIC	50	< 5.0
CHROMIUM	50	< 5.0
COPPER	1300 *	-
LEAD	50	< 3.0
MANGANESE	-	-
NICKEL	100	9.1
NICKEL ICP	100	-
ZINC	-	-

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TABLE 5
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		FB-01 01/14/93 FIELD BLANK	FB-02 01/20/93 FIELD BLANK	FB-03 01/22/93 FIELD BLANK	FB-04 01/26/93 FIELD BLANK	FB-05 01/29/93 FIELD BLANK	MW-02 01/19/93	MW-04 01/20/93	MW-05 01/22/93
	MCL ug/L								
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	7.50	< 0.50
1,1-DICHLOROETHENE	6.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	73.00	< 0.50
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	12.00	< 0.50
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	< 0.50	< 0.50	1.40	0.99	1.40	< 0.50	< 0.50	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		FB-01	FB-02	FB-03	FB-04	FB-05	MW-02	MW-04	MW-05
DATE		01/14/93	01/20/93	01/22/93	01/26/93	01/29/93	01/19/93	01/20/93	01/22/93
QA	MCL	FIELD	FIELD	FIELD	FIELD	FIELD			
	ug/L	BLANK	BLANK	BLANK	BLANK	BLANK			
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	5.00	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA	MCL ug/L	MW-06 01/22/93	MW-07 01/29/93	MW-08 01/27/93	MW-11 01/14/93	MW-12 01/20/93	MW-13 01/20/93	MW-13 01/20/93 DUPLICATE SAMPLE	MW-14 01/20/93
1,1,1-TRICHLOROETHANE	200.0	< 0.50	1.40	< 0.50	< 0.50	0.60	< 0.50	< 0.50	1.70
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	3.60	< 0.50	2.50	21.00	8.50	46.00	20.00
1,1-DICHLOROETHENE	6.0	< 0.50	9.60	0.61	54.00	78.00	8.80	7.90	140.00
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	150.00	86.00	< 0.50
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	< 0.50	1.80	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-15 01/25/93	MW-16 01/21/93	MW-17 01/25/93	MW-18 01/21/93	MW-19 01/25/93	MW-20 01/25/93	MW-21 01/29/93	MW-22 01/29/93
	MCL ug/L								
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	< 0.50	0.77	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHENE	6.0	< 0.50	2.60	< 0.50	14.00	8.90	4.00	1.30	< 0.50
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.00	1.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22
DATE		01/25/93	01/21/93	01/25/93	01/21/93	01/25/93	01/25/93	01/29/93	01/29/93
QA	MCL ug/L								
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	1.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	1.60	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA	MCL ug/L	MW-23 01/22/93	MW-24 01/22/93	MW-25 01/27/93	MW-25 01/27/93 DUPLICATE SAMPLE	MW-26 01/28/93	MW-27 01/28/93	MW-28 01/13/93	MW-29 01/14/93
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	2.20	< 0.50	3.20	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	10.00	3.00	13.00	< 0.50	13.00	1.10
1,1-DICHLOROETHENE	6.0	< 0.50	< 0.50	6.30	7.30	15.00	< 0.50	22.00	13.00
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	0.77	< 0.50	0.90	< 0.50	< 0.50	3.20
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	2.20	1.70	1.60	< 0.50	2.50	1.70	< 0.50	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA	MCL ug/L	MW-38 01/26/93	MW-38 01/26/93 DUPLICATE SAMPLE	MW-39 01/27/93	MW-39 01/27/93 DUPLICATE SAMPLE	MW-40 01/26/93	MW-41 01/20/93	MW-42 01/19/93	MW-43 01/19/93
1,1,1-TRICHLOROETHANE	200.0	10.00	5.90	1.40	1.30	3.30	< 0.50	5.30	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.20	1.00
1,1-DICHLOROETHANE	5.0	7.30	5.50	1.60	1.40	27.00	< 0.50	60.00	110.00
1,1-DICHLOROETHENE	6.0	140.00	140.00	10.00	11.00	170.00	< 0.50	180.00	24.00
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	1.70	1.00	1.60	1.50	< 0.50	< 0.50	< 0.50	1.10
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	1.30	0.97	1.90	1.70	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	2.40	1.60	2.70	2.40	< 0.50	< 0.50	1.10	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-38	MW-38	MW-39	MW-39	MW-40	MW-41	MW-42	MW-43
DATE		01/26/93	01/26/93	01/27/93	01/27/93	01/26/93	01/20/93	01/19/93	01/19/93
QA	MCL		DUPLICATE		DUPLICATE				
	ug/L		SAMPLE		SAMPLE				
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.00	0.90
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	7.70	4.70	< 0.50	< 0.50	32.00	< 0.50	4.30	2.80
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA	MCL ug/L	MW-44 01/26/93	MW-44 01/26/93 DUPLICATE SAMPLE	RB-01 01/20/93 RINSATE BLANK	RB-02 01/22/93 RINSATE BLANK	RB-03 01/26/93 RINSATE BLANK	RB-04 01/29/93 RINSATE BLANK	RB-05 01/29/93 RINSATE BLANK	TB-01 01/14/93 TRAVEL CONTROL
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHENE	6.0	0.96	0.94	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	1.90	2.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	4.10	4.30	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	3.60	4.10	< 0.50	0.99	1.10	1.10	1.40	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-44	MW-44	RB-01	RB-02	RB-03	RB-04	RB-05	TB-01
DATE		01/26/93	01/26/93	01/20/93	01/22/93	01/26/93	01/29/93	01/29/93	01/14/93
QA	MCL		DUPLICATE	RINSATE	RINSATE	RINSATE	RINSATE	RINSATE	TRAVEL
	ug/L		SAMPLE	BLANK	BLANK	BLANK	BLANK	BLANK	CONTROL
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		TB-02	TB-03	TB-04	TB-05
DATE		01/20/93	01/22/93	01/26/93	01/29/93
QA	MCL	TRAVEL	TRAVEL	TRAVEL	TRAVEL
	ug/L	CONTROL	CONTROL	CONTROL	CONTROL
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHENE	6.0	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	< 0.50	< 0.50	< 0.50	1.10
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		TB-02	TB-03	TB-04	TB-05
DATE		01/20/93	01/22/93	01/26/93	01/29/93
QA	MCL	TRAVEL	TRAVEL	TRAVEL	TRAVEL
	ug/L	CONTROL	CONTROL	CONTROL	CONTROL
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		FB-01	FB-02	FB-03	FB-04	FB-05	MW-02	MW-04	MW-05
DATE		01/14/93	01/20/93	01/22/93	01/26/93	01/29/93	01/19/93	01/20/93	01/22/93
QA	MCL	FIELD	FIELD	FIELD	FIELD	FIELD			
	ug/L	BLANK	BLANK	BLANK	BLANK	BLANK			
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	180.0	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	8.9	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	5.6	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	4.2	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
 < = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
 MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-06 01/22/93	MW-07 01/29/93	MW-08 01/27/93	MW-11 01/14/93	MW-12 01/20/93	MW-13 01/20/93	MW-13 01/20/93 DUPLICATE SAMPLE	MW-14 01/20/93
	MCL ug/L								
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	7300.0	6000.0	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	340.0	280.0	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	290.0	240.0	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	520.0	430.0	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

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MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22
DATE		01/25/93	01/21/93	01/25/93	01/21/93	01/25/93	01/25/93	01/29/93	01/29/93
QA	MCL ug/L								
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-23	MW-24	MW-25	MW-25	MW-26	MW-27	MW-28	MW-29
DATE		01/22/93	01/22/93	01/27/93	01/27/93	01/28/93	01/28/93	01/13/93	01/14/93
QA	MCL ug/L				DUPLICATE SAMPLE				
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-30 01/14/93	MW-31 01/21/93	MW-32 01/26/93	MW-33 01/14/93	MW-34 01/21/93	MW-35 01/21/93	MW-36 01/27/93	MW-37 01/27/93
	MCL ug/L								
1,2-DICHLOROBENZENE	600 *	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
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MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-23 01/22/93	MW-24 01/22/93	MW-25 01/27/93	MW-25 01/27/93	MW-26 01/28/93	MW-27 01/28/93	MW-28 01/13/93	MW-29 01/14/93
	MCL ug/L				DUPLICATE SAMPLE				
1,1,1-TRICHLOROETHANE	200.0	< 0.50	< 0.50	2.20	< 0.50	3.20	< 0.50	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	< 0.50	< 0.50	10.00	3.00	13.00	< 0.50	13.00	1.10
1,1-DICHLOROETHENE	6.0	< 0.50	< 0.50	6.30	7.30	15.00	< 0.50	22.00	13.00
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 0.50	< 0.50	0.77	< 0.50	0.90	< 0.50	< 0.50	3.20
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	2.20	1.70	1.60	< 0.50	2.50	1.70	< 0.50	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-23 01/22/93	MW-24 01/22/93	MW-25 01/27/93	MW-25 01/27/93 DUPLICATE SAMPLE	MW-26 01/28/93	MW-27 01/28/93	MW-28 01/13/93	MW-29 01/14/93
	MCL ug/L								
CIS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-30	MW-31	MW-32	MW-33	MW-34	MW-35	MW-36	MW-37
DATE		01/14/93	01/21/93	01/26/93	01/14/93	01/21/93	01/21/93	01/27/93	01/27/93
QA	MCL ug/L								
1,1,1-TRICHLOROETHANE	200.0	1.30	2.10	1.20	< 0.50	1.30	1.30	4.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-DICHLOROETHANE	5.0	6.20	8.50	4.50	< 0.50	3.30	2.80	5.00	2.70
1,1-DICHLOROETHENE	6.0	93.00	82.00	58.00	6.10	68.00	58.00	110.00	9.20
1,2-DICHLOROBENZENE	600.0 *	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.10	5.50
1,2-DICHLOROETHENE	-	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.61
CHLOROBENZENE	30.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.66	2.30
CHLOROMETHANE	-	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

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TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-30	MW-31	MW-32	MW-33	MW-34	MW-35	MW-36	MW-37
DATE		01/14/93	01/21/93	01/26/93	01/14/93	01/21/93	01/21/93	01/27/93	01/27/93
QA	MCL ug/L								
CIS-1,3-DICHLOROPROPENE	-	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
DIBROMOCHLOROMETHANE	100.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
METHYLENE CHLORIDE	5.0 *	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TETRACHLOROETHENE	5.0	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	-	< 1.00	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
TRICHLOROETHENE	5.0	6.30	12.00	8.90	< 0.50	5.60	3.70	5.80	< 0.50
TRICHLOROFLUOROMETHANE	150.0	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
VINYL CHLORIDE	0.5	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. -- = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 5 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (METHOD 601)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-38	MW-38	MW-39	MW-39	MW-40	MW-41	MW-42	MW-43
DATE		01/26/93	01/26/93	01/27/93	01/27/93	01/26/93	01/20/93	01/19/93	01/19/93
QA	MCL		DUPLICATE		DUPLICATE				
	ug/L		SAMPLE		SAMPLE				
1,1,1-TRICHLOROETHANE	200.0	10.00	5.90	1.40	1.30	3.30	< 0.50	5.30	< 0.50
1,1,2,2-TETRACHLOROETHANE	1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-TRICHLOROETHANE	32.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.20	1.00
1,1-DICHLOROETHANE	5.0	7.30	5.50	1.60	1.40	27.00	< 0.50	60.00	110.00
1,1-DICHLOROETHENE	6.0	140.00	140.00	10.00	11.00	170.00	< 0.50	180.00	24.00
1,2-DICHLOROBENZENE	600.0 *	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROETHANE	0.5	1.70	1.00	1.60	1.50	< 0.50	< 0.50	< 0.50	1.10
1,2-DICHLOROETHENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-DICHLOROPROPANE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-DICHLOROBENZENE	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-DICHLOROBENZENE	5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMODICHLOROMETHANE	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOFORM	100.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BROMOMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	0.5	1.30	0.97	1.90	1.70	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROBENZENE	30.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CHLOROETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
CHLOROFORM	100.0	2.40	1.60	2.70	2.40	< 0.50	< 0.50	1.10	< 0.50
CHLOROMETHANE	-	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE QA		MW-38 01/26/93	MW-38 01/26/93 DUPLICATE SAMPLE	MW-39 01/27/93	MW-39 01/27/93 DUPLICATE SAMPLE	MW-40 01/26/93	MW-41 01/20/93	MW-42 01/19/93	MW-43 01/19/93
	MCL ug/L								
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		MW-44	MW-44	RB-01	RB-02	RB-03	RB-04	RB-05	TB-01
DATE		01/26/93	01/26/93	01/20/93	01/22/93	01/26/93	01/29/93	01/29/93	01/14/93
QA	MCL		DUPLICATE	RINSATE	RINSATE	RINSATE	RINSATE	RINSATE	TRAVEL
	ug/L		SAMPLE	BLANK	BLANK	BLANK	BLANK	BLANK	CONTROL
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 6 (cont.)
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
AROMATIC COMPOUNDS (METHOD 602)
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE		TB-02	TB-03	TB-04	TB-05
DATE		01/20/93	01/22/93	01/26/93	01/29/93
QA	MCL	TRAVEL	TRAVEL	TRAVEL	TRAVEL
	ug/L	CONTROL	CONTROL	CONTROL	CONTROL
1,2-DICHLOROBENZENE	600 *	< 0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	-	< 0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	5	< 0.5	< 0.5	< 0.5	< 0.5
BENZENE	1	< 0.5	< 0.5	< 0.5	< 0.5
CHLOROBENZENE	30	< 0.5	< 0.5	< 0.5	< 0.5
ETHYL BENZENE	680	< 0.5	< 0.5	< 0.5	< 0.5
TOLUENE	1000	< 0.5	< 0.5	< 0.5	< 0.5
XYLENE	1750	< 0.5	< 0.5	< 0.5	< 0.5

All units reported as ug/L (ppb)

QA = Samples taken as part of the quality assurance program. - = Parameter not analyzed. DATE refers to date sampled.
< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.
MCL = California Department of Health Services (DHS) Maximum Contaminant Level (primary), Title 22 of the California Code of Regulations, Division 4, Chapter 15, "Domestic Water Quality and Monitoring." * = Proposed USEPA MCL.

TABLE 7
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
FIELD PARAMETERS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE	DATE	TEMPERATURE	EC-F	pH-F
		degrees C	umhos/cm	
MW-02	01/19/93	14.7	690	7.54
MW-04	01/20/93	16.9	1030	7.40
MW-05	01/22/93	16.7	1600	7.70
MW-06	01/22/93	17.2	1260	7.80
MW-07	01/29/93	16.2	1200	6.89
MW-08	01/27/93	16.7	1400	6.80
MW-11	01/14/93	16.8	1002	7.82
MW-12	01/20/93	18.3	1320	7.56
MW-13	01/20/93	17.2	1080	6.90
MW-14	01/20/93	17.8	1100	7.60
MW-15	01/25/93	16.7	750	7.00
MW-16	01/21/93	18.3	1200	6.89
MW-17	01/25/93	17.4	650	6.87
MW-18	01/21/93	18.3	1160	6.90
MW-19	01/25/93	16.8	1290	6.48
MW-20	01/25/93	15.9	1490	6.48
MW-21	01/29/93	16.1	1300	6.99
MW-22	01/29/93	17.9	1790	7.18
MW-23	01/22/93	17.3	1200	7.50
MW-24	01/22/93	16.8	1050	7.40
MW-25	01/27/93	16.7	1820	6.80
MW-26	01/28/93	17.2	1690	6.88
MW-27	01/28/93	17.1	1400	6.81
MW-28	01/13/93	15.7	1300	7.42
MW-29	01/14/93	19.9	840	7.60
MW-30	01/14/93	16.9	990	7.10
MW-31	01/21/93	17.8	970	6.80
MW-32	01/26/93	17.7	1080	6.70
MW-33	01/14/93	17.4	330	7.73
MW-34	01/21/93	17.9	700	7.30
MW-35	01/21/93	17.2	810	7.60
MW-36	01/27/93	15.0	1030	6.90
MW-37	01/27/93	15.6	1030	6.85
MW-38	01/26/93	16.7	940	6.50
MW-39	01/27/93	15.4	1030	6.84
MW-40	01/26/93	16.2	1800	6.46
MW-41	01/20/93	17.3	850	7.90

DATE refers to date sampled.

TABLE 7
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
FIELD PARAMETERS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

(cont.)

SAMPLE	DATE	TEMPERATURE	EC-F	pH-F
		degrees C	umhos/cm	
MW-42	01/19/93	16.1	1080	6.81
MW-43	01/19/93	16.9	3650	7.07
MW-44	01/26/93	17.4	1000	7.30

DATE refers to date sampled.

TABLE 8
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
ANIONS and CATIONS
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

SAMPLE DATE	MW-38 01/26/93	MW-40 01/26/93	MW-44 01/26/93
BROMIDE	< 0.1	< 0.1	< 0.1
CALCIUM	88.0	130.0	75.0
CHLORIDE	120.0	66.0	73.0
FLUORIDE	< 0.1	< 0.1	< 0.1
IRON	< 0.3	< 0.3	< 0.3
MAGNESIUM	50.0	88.0	51.0
NITRATE	650.0	26.0	690.0
NITRITE	< 0.1	< 0.1	< 0.1
PHOSPHATE	< 0.2	< 0.2	< 0.2
POTASSIUM	3.2	5.3	7.6
SODIUM	28.0	49.0	23.0
SULFATE	140.0	62.0	54.0

All units reported as mg/L (ppm)

DATE refers to date sampled.

< = Constituent below detection limits. Detection limits may vary depending on interference by other sample constituents.

TABLE 9
1993 FIRST QUARTER MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
MISCELLANEOUS ANALYTES
UNION PACIFIC RAILROAD YARD
SACRAMENTO, CALIFORNIA

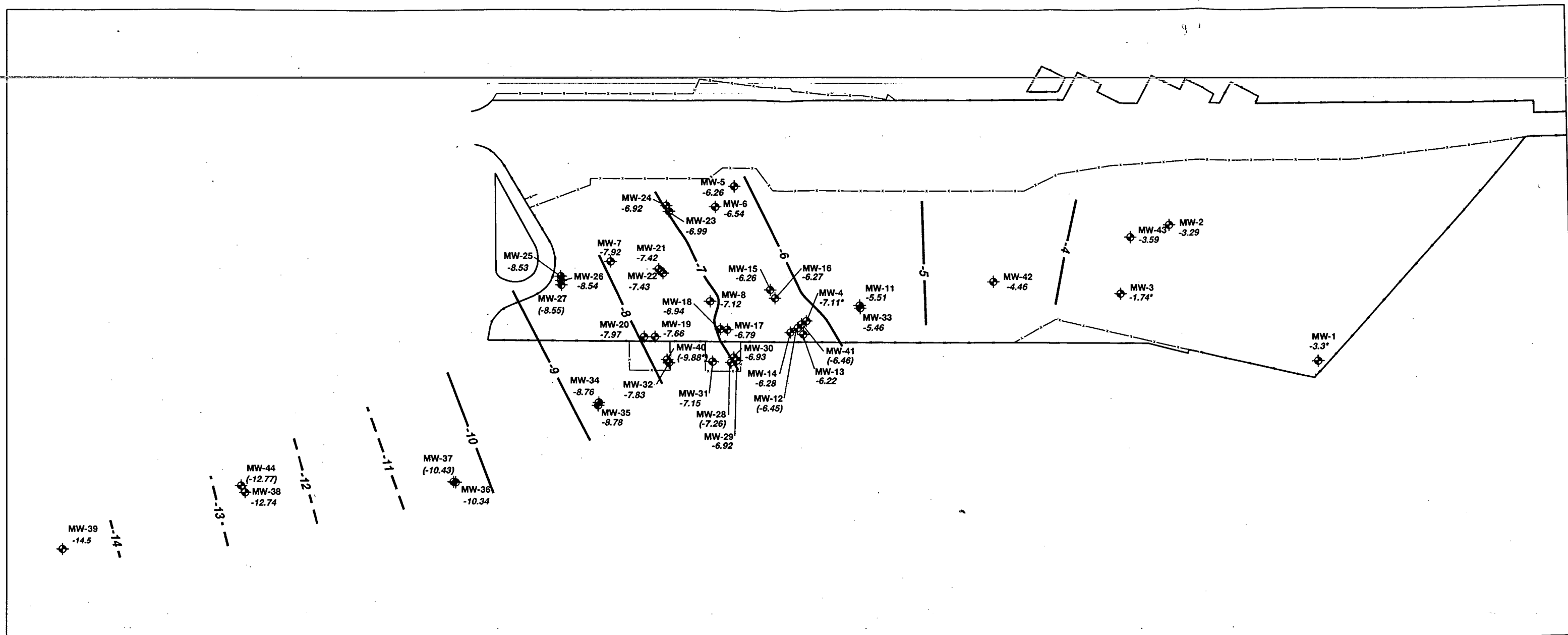
SAMPLE	DATE	ALKALINITY	HARDNESS	TOTAL DISSOLVED- SOLIDS	TURBIDITY	EC-L	pH-L
		mg/L (ppm)	mg/L (ppm)	mg/L (ppm)	NTU	umhos/cm	
MW-38	01/26/93	310	420	570	0.35	910	7.0
MW-40	01/26/93	420	670	910	0.10	1400	7.1
MW-44	01/26/93	280	400	530	0.15	870	7.3

DATE refers to date sampled.

EC-L = Electroconductivity as measured in the lab.

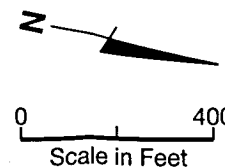
pH-L = pH as measured in the lab.

Figures



EXPLANATION

- — — — — Fence Line
- Property Boundary
- - - - - Approximate Groundwater Contour
- MW-7 Monitoring Well
- 7.92 Groundwater Elevation for First Hydrostratigraphic Zone Wells Feet MSLD
- (-7.26) Groundwater Elevation for Second / Third Hydrostratigraphic Zone Wells in Feet MSLD (not used for contouring)
- Inconsistent Measurement (not used for contouring)



DAMES & MOORE

00173-076-044 SJR 3/26/92 GWJAN93

SHALLOW GROUNDWATER CONTOURS
JANUARY 1993
 Union Pacific Railroad Yard
 Sacramento, California
 APRIL 1993

FIGURE 1

Attachment

1
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ATTACHMENT 1
1993 FIRST QUARTER MONITORING WELL
GROUNDWATER ANALYTICAL LABORATORY REPORTS



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-074-044

Page 1

LABORATORY RESULTS

Date Collected: 01/26/93
Date Analyzed: 02/08/93

Laboratory Job No.: 930186
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:

ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST
LEAD (EPA 7421), 3020 ACID DIGEST
NICKEL (EPA 7521), 3020 ACID DIGEST

MATRIX: WATER

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33709 RB-3	AS	ND	5.0	0.0050
	CR	ND	560	0.0050
	PB	ND	5.0	0.0030
	NI	ND	20	0.0050
33711 MW-55	AS	0.022	5.0	0.0050
	CR	0.011	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.015	20	0.0050
33712 MW-32	AS	0.013	5.0	0.0050
	CR	0.0061	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.046	20	0.025

Approved and Reviewed by:

Debbie Fisher
Debbie Fisher, Project Manager

LABORATORY RESULTS

Page 2

Laboratory Job No.: 930186

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33714	MW-53	AS	ND	5.0	0.0050
		CR	0.0080	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.087	20	0.025
33715	MW-38	AS	ND	5.0	0.0050
		CR	0.0077	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.086	20	0.0050
33716	MW-44	AS	ND	5.0	0.0050
		CR	0.0075	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.019	20	0.0050
33718	MW-17	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.034	20	0.0050
33719	MW-40	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.11	20	0.025
33720	MW-20	AS	ND	5.0	0.0050
		CR	0.0098	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.026	20	0.0050
MB		AS	ND		0.0050
		CR	ND		0.0050
		PB	ND		0.0030
		NI	ND		0.0050

LABORATORY RESULTS

Page 3

Laboratory Job No.: 930186

LABNO	SMPLNO	COMPOUND	FOUND mg/L	SPIKE LEVELS	DET.LIM. mg/L
MBS		AS	0.024	0.025 mg/L	0.0050
		CR	0.030	0.025 mg/L	0.0050
		PB	0.010	0.010 mg/L	0.0030
		NI	0.054	0.050 mg/L	0.0050
MX		AS	ND		0.0050
		CR	ND		0.0050
		PB	ND		0.0030
		NI	ND		0.0050
MS		AS	0.036	SPIKE LEVELS 0.025 mg/L	0.0050
		CR	0.030	0.025 mg/L	0.0050
		PB	0.011	0.010 mg/L	0.0030
		NI	0.053	0.050 mg/L	0.0050
MSD		AS	0.034	0.025 mg/L	0.0050
		CR	0.029	0.025 mg/L	0.0050
		PB	0.0099	0.010 mg/L	0.0030
		NI	0.054	0.050 mg/L	0.0050

NOTE: THE MATRIX SPIKE RECOVERIES FOR ARSENIC WERE HIGH DUE TO THE PRESENCE OF INTERFERING COMPOUNDS IN THE SAMPLE (MX). THE MBS RECOVERY WAS ACCEPTABLE.

LABORATORY RESULTS

Date Collected: 01/26/93
 Date Extracted: 02/02/93
 Date Analyzed: 02/02/93

Laboratory Job No.: 930186
 Date Received: 01/27/93
 Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	33709	DET.	33710	DET.	33711	DET.
	SMP#	RB-3	LIM.	FB-4	LIM.	MW-55	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	4.3	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		1.1	0.50	0.99	0.50	4.1	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	2.2	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50	0.94	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930186

COMPOUNDS:	LAB#	33712	DET.	33713	DET.	33714	DET.
	SMP#	MW-32	LIM.	TB-4	LIM.	MW-53	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	0.97	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	1.6	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		4.5	0.50	ND	0.50	5.5	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	1.0	0.50
1,1-DICHLOROETHENE		58	0.50	ND	0.50	140	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		1.2	0.50	ND	0.50	5.9	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		8.9	0.50	ND	0.50	4.7	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930186

COMPOUNDS:	LAB#	33715	DET.	33716	DET.	33718	DET.
	SMP#	MW-38	LIM.	MW-44	LIM.	MW-17	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		1.3	0.50	4.1	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		2.4	0.50	3.6	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		7.3	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		1.7	0.50	1.9	0.50	ND	0.50
1,1-DICHLOROETHENE		140	0.50	0.96	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		*10	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		* 7.7	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930186

COMPOUNDS:	LAB#	33719	DET.	33720	DET.		DET.
	SMP#	MW-40	LIM.	MW-20	LIM.	MB	LIM.
	dil.		1		1		1
PURGEABLES			ug/L		ug/L		ug/L
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE	27	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE	ND	ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE	170	ND	0.50	4.0	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)	ND	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE	ND	ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE	ND	ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE	ND	ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE	ND	ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE	ND	ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE	ND	ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE	*3.3	ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE	ND	ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE	*32	ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE	ND	ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE	ND	ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Date Collected: 01/26/93
 Date Extracted: 02/02/93
 Date Analyzed: 02/02/93

Laboratory Job No.: 930186
 Date Received: 01/27/93
 Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS 1 ug/L	DET. LIM.	MX 1 ug/L	DET. LIM.	MS 2 ug/L	DET. LIM.
PURGEABLES							
CHLOROBENZENE		24	0.50	ND	0.50	18	1.0
1,1-DICHLOROETHENE		26	0.50	ND	0.50	19	1.0
TRICHLOROETHENE		23	0.50	ND	0.50	17	1.0

COMPOUNDS:	LAB# SMP# dil.	MSD 2 ug/L	DET. LIM.
PURGEABLES			
CHLOROBENZENE		17	1.0
1,1-DICHLOROETHENE		17	1.0
TRICHLOROETHENE		15	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* THESE COMPOUNDS WERE QUANTITATED BY GC/MS.

LABORATORY RESULTS

Date Collected: 01/26/93
 Date Extracted: 02/02/93
 Date Analyzed: 02/02/93

Laboratory Job No.: 930186
 Date Received: 01/27/93
 Date Reported: 02/12/93

ASSAY:
 PURGEABLE AROMATICS IN WATER (EPA 602)

COMPOUNDS:	LAB#	33709	DET.	33710	DET.	33711	DET.	33712	DET.
	SMP#	RB-3	LIM.	FB-4	LIM.	MW-55	LIM.	MW-32	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	33713	DET.	33714	DET.	33715	DET.	33716	DET.
	SMP#	TB-4	LIM.	MW-53	LIM.	MW-38	LIM.	MW-44	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

LABORATORY RESULTS

Laboratory Job No.: 930186

COMPOUNDS:	LAB#	33718	DET.	33719	DET.	33720	DET.		DET.
	SMP#	MW-17	LIM.	MW-40	LIM.	MW-20	LIM.	MB	LIM.
	dil.								
PURGEABLES		1		1		1		1	
		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

LABORATORY RESULTS

Date Collected: 01/26/93
 Date Extracted: 02/02/93
 Date Analyzed: 02/02/93

Laboratory Job No.: 930186
 Date Received: 01/27/93
 Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 2 ug/L
PURGEABLES							
BENZENE		24	0.50	ND	0.50	20	1.0
CHLOROBENZENE		23	0.50	ND	0.50	23	1.0
TOLUENE		23	0.50	ND	0.50	19	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 2 ug/L
PURGEABLES			
BENZENE		19	1.0
CHLOROBENZENE		18	1.0
TOLUENE		19	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE ADDED TO DILUTED SAMPLE.

QA/QC SUMMARY

LABORATORY JOB 930186

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Chlorobenzene	24	25	ND	24	96	N/A
1,1-Dichloro- ethene	26	25	ND	26	104	N/A
Trichloroethene	23	25	ND	23	92	N/A
MS Chlorobenzene	18	20	ND	18	90	5.7
1,1-Dichloro- ethene	19	20	ND	19	95	11
Trichloroethene	17	20	ND	17	85	12
MSD Chlorobenzene	17	20	ND	17	85	N/A
1,1-Dichloro- ethene	17	20	ND	17	85	N/A
Trichloroethene	15	20	ND	15	75	N/A

QA/QC SUMMARY

LABORATORY JOB 930186

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	24	25	ND	24	96	N/A
Chloro-benzene	23	25	ND	23	92	N/A
Toluene	24	25	ND	24	96	N/A
MS Benzene	20	20	ND	20	100	5.1
Chloro-benzene	23	20	ND	23	115	24
Toluene	19	20	ND	19	95	0
MSD Benzene	19	20	ND	19	95	N/A
Chloro-Benzene	18	20	ND	18	90	N/A
Toluene	19	20	ND	19	95	N/A

QA/QC SUMMARY

LABORATORY JOB 930186

EPA METHOD 7521, NICKEL
EPA METHOD 7060, ARSENIC
EPA METHOD 7421, LEAD
EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	0.054	0.050	ND	0.054	108	N/A
MS NICKEL	0.053	0.050	ND	0.053	106	1.9
MSD NICKEL	0.054	0.050	ND	0.054	108	N/A
MBS ARSENIC	0.024	0.025	ND	0.024	96	N/A
MS ARSENIC	0.036	0.025	ND	0.036	144	5.7
MSD ARSENIC	0.034	0.025	ND	0.034	136	N/A
MBS LEAD	0.010	0.010	ND	0.010	100	N/A
MS LEAD	0.011	0.010	ND	0.011	110	7.9
MSD LEAD	0.0099	0.010	ND	0.0099	99	N/A
MBS CHROMIUM	0.030	0.025	ND	0.030	120	N/A
MS CHROMIUM	0.030	0.025	ND	0.030	120	3.4
MSD CHROMIUM	0.029	0.025	ND	0.029	116	N/A



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QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, **D&M Laboratories** reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (**MB**) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (**MBS**) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (**MS**) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, **MS** and **MSD**, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated **MX**, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (**MSD**), along with the **MS**, is used to monitor the precision (**RPD**) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (**RPD**) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about **D&M Laboratories** in general. Please contact a Project Manager for further information.



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93-0186

RECEIVED
D&H LABORATORIES

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name Dan & Moore - Sauto 1993 JAN 27 AM 9:37
Address _____
City, State, Zip _____
Client's or Representative's Signature Paul Dvoran / Mark Eisen
(signature authorizes the work and terms listed below)
All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173-074 -044		PROJECT NAME UP Railway		SAMPLERS (Signature) PRD		NO. OF CON-TAINERS		REMARKS					LAB USE ONLY LAB NO.	
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION									
RB-3	1-26	1550			033721	4	X						033709	
RB-3	1-26	1550			033722	1	X	X	X	X	X			
FB-4	1-26	1550			033723	4	X						033710	
MW-55	1-26	1435			033724	4	X						100% marked "MW-44"	033711
MW-55	1-26	1435			033725	1	X	X	X	X	X		033712	
MW-32	1-26	1200				4	X						033712	
MW-32	1-26	1200				1	X	X	X	X	X		033713	
TB-4	1-26	-				4	X						033713	
MW-53	1-26	1545				1	X	X	X	X	X		033714	
MW-53	1-26	1545				4	X						033715	
MW-38	1-26	1545				4	X						033715	
MW-38	1-26	1545				1	X	X	X	X	X		033716	
MW-44	1-26	1435				4	X						033716	
MW-44	1-26	1435				1	X	X	X	X	X		033717	
MW-77	1-25	1400				4	X						033718	
MW-17	1-25	1400				1	X	X	X	X	X			
MW-40	1-26	1040				4	X						033719	
MW-40	1-26	1040				1	X	X	X	X	X			
MW-20	1-25	1645				4	X							
MW-20	1-25	1645				1	X	X	X	X	X		033720	

SAMPLES RECEIVED IN GOOD CONDITION
NO BROKEN OR LEAKING CONTAINERS

Relinquished by: (Signature) <u>Paul Dvoran</u>	DATE 1-26	TIME 1752	Received by: (Signature) <u>Mark Eisen</u>	General Remarks: <u>Lab quote # 1451 dated 12/2/92</u> <u>13°C Temp BLANK</u>
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	



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Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-074-044

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LABORATORY RESULTS

Date Collected: 01/25/93
Date Analyzed: 01/27/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:
pH (EPA 9040)

LABNO	SMPLNO	pH
33656	MW-44	7.3
33657	MW-40	7.1
33658	MW-38	7.0

Approved and Reviewed by:

Debbie Fisher
Debbie Fisher, Project Manager

LABORATORY RESULTS

Date Collected: 01/25/93
Date Extracted: 02/03/93
Date Analyzed: 02/03/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:
ALKALINITY (EPA 310.1)

ALKALINITY, CACO3 mg/L

LABNO	SMPLNO	HYDROXIDE ALK (OH ⁻) as CACO3	CARBONATE ALK (CO3 ⁻) as CACO3	BICARB ALK (HCO3 ⁻) as CACO3 (TOTAL)	BICARBONATE DET. LIMIT	SPIKE LEVEL
33656	MW-44	0	0	280	5	
33657	MW-40	0	0	420	5	
33658	MW-38	0	0	310	5	
	MB	0	0	ND	5	
	MBS	0	0	51	5	50 mg/L
	MX	0	0	164	5	
	MD	0	0	167	5	

L A B O R A T O R Y R E S U L T S

Date Collected: 01/25/93
Date Analyzed: 01/27/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:
CONDUCTANCE (EPA 9050)

LABNO SMPLNO	CONDUCTANCE umhos/cm	CONDUCTANCE DET. LIMIT
33656 MW-44	870	10
33657 MW-40	1400	10
33658 MW-38	910	10
MB	ND	10
MX	910	10
MD	920	10

LABORATORY RESULTS

Date Collected: 01/25/93
Date Analyzed: 01/29/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY: TOTAL DISSOLVED SOLIDS (EPA 160.1)

LABNO	SMPLNO	FOUND mg/L	DET. LIM. mg/L
33656	MW-44	530	10
33657	MW-40	910	10
33658	MW-38	570	10
	MB	ND	10
	MBS	110	10
	MX	260	10
	MD	260	10

NOTE: MBS WAS SPIKED AT 100 mg/L.

L A B O R A T O R Y R E S U L T S

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Laboratory Job No.: 930181

Date Received: 01/27/93

Date Reported: 02/12/93

Date Collected: 01/25/93

ASSAY:
TURBIDITY (EPA 180.1)

LABNO SMPLNO	NTU	DET. LIM.
-----	-----	-----
33656 MW-44	0.15	0.05
33657 MW-40 PRESERVED	0.10	0.05
33657 MW-40 UNPRESERVED **	0.10	0.05
33658 MW-38	0.35	0.05

** SAMPLE RECEIVED TWO HOURS PAST HOLDING TIME.

NOTE: THE ABOVE ANALYSIS WAS PERFORMED BY NET PACIFIC, INC.

LABORATORY RESULTS

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Date Collected: 01/25/93
Date Analyzed: 02/09/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:

ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST
LEAD (EPA 7421), 3020 ACID DIGEST
NICKEL (EPA 7521), 3020 ACID DIGEST
SODIUM (EPA 7770)
POTASSIUM (EPA 7610)

MATRIX: WATER

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33653 MW-51	AS	0.025	5.0	0.0050
	CR	ND	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.0084	20	0.0050
33654 MW-15	AS	0.013	5.0	0.0050
	CR	ND	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.0096	20	0.0050
33655 MW-19	AS	ND	5.0	0.0050
	CR	0.0084	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.084	20	0.0050
33656 MW-44	NA	23		0.20
	K	7.6		0.30
33657 MW-40	NA	49		0.40
	K	5.3		0.10

LABORATORY RESULTS

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Laboratory Job No.: 930181

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33658	MW-38	NA	28		0.20
		K	3.2		0.10
	MB	AS	ND		0.0050
		CR	ND		0.0050
		PB	ND		0.0030
		NI	ND		0.0050
		NA	ND		0.020
		K	ND		0.030
	MBS	AS	0.055	SPIKE LEVELS 0.050 mg/L	0.0050
		CR	0.053	0.050 mg/L	0.0050
		PB	0.021	0.020 mg/L	0.0030
		NI	0.053	0.050 mg/L	0.0050
		NA	11	10 mg/L	0.20
		K	10	10 mg/L	0.30
	MX	AS	ND		0.0050
		CR	0.0084		0.0050
		PB	ND		0.0030
		NI	0.084		0.0050
		NA	28		0.20
		K	3.2		0.10
	MS	AS	0.049	SPIKE LEVELS 0.050 mg/L	0.025
		CR	0.053	0.050 mg/L	0.025
		PB	0.020	0.020 mg/L	0.0030
		NI	0.12	0.050 mg/L	0.025
		NA	39	10 mg/L	0.40
		K	14	10 mg/L	0.30
	MSD	AS	0.045	0.050 mg/L	0.025
		CR	0.054	0.050 mg/L	0.025
		PB	0.018	0.020 mg/L	0.0030
		NI	0.12	0.050 mg/L	0.025
		NA	39	10 mg/L	0.40
		K	14	10 mg/L	0.30

LABORATORY RESULTS

Date Collected: 01/25/93
Date Analyzed: 02/02/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY:METAL SCAN BY ICP(EPA 6010)

LABNO	SMPLNO-ID	RESULTS	CA STLC LEVEL	DET. LIM.
-----	-----	-----	-----	-----
33656	MW-44 WATER			
	CA	75 mg/L		0.50 mg/L
	CU	ND	25	0.050 mg/L
	FE	ND		0.30 mg/L
	MG	51 mg/L		1.0 mg/L
	MN	0.043 mg/L		0.020 mg/L
	ZN	ND	250	0.050 mg/L
	HARDNESS (Ca, Mg)	400 mgCaCO3/L	50-150*	5.4 mgCaCO3/L
33657	MW-40 WATER			
	CA	130 mg/L		0.50 mg/L
	CU	ND	25	0.050 mg/L
	FE	ND		0.30 mg/L
	MG	88 mg/L		1.0 mg/L
	MN	ND		0.020 mg/L
	ZN	ND	250	0.050 mg/L
	HARDNESS (Ca, Mg)	670 mgCaCO3/L	50-150*	5.4 mgCaCO3/L
33658	MW-38 WATER			
	CA	88 mg/L		0.50 mg/L
	CU	ND	25	0.050 mg/L
	FE	ND		0.30 mg/L
	MG	50 mg/L		1.0 mg/L
	MN	ND		0.020 mg/L
	ZN	ND	250	0.050 mg/L
	HARDNESS (Ca, Mg)	420 mgCaCO3/L	50-150*	5.4 mgCaCO3/L

LABORATORY RESULTS

Laboratory Job No.: 930181

LABNO	SMPLNO-ID	RESULTS		DET. LIM.	
-----	-----	-----		-----	-----
MB WATER					
	CA	ND		0.50	mg/L
	CU	ND		0.050	mg/L
	FE	ND		0.30	mg/L
	MG	ND		1.0	mg/L
	MN	ND		0.020	mg/L
	ZN	ND		0.050	mg/L
HARDNESS (Ca ,Mg)		ND		5.4 mgCaCO3/L	
MBS WATER					
	CA	10.8	mg/L	10.0	mg/L
	CU	2.13	mg/L	2.00	mg/L
	FE	10.9	mg/L	10.0	mg/L
	MG	11.0	mg/L	10.0	mg/L
	MN	2.23	mg/L	2.00	mg/L
	ZN	2.13	mg/L	2.00	mg/L
HARDNESS (Ca ,Mg)		72.2	mgCaCO3/L	66.7	mgCaCO3/L
				5.4 mgCaCO3/L	
MX WATER					
	CA	120	mg/L	0.50	mg/L
	CU	ND		0.050	mg/L
	FE	ND		0.30	mg/L
	MG	4.9	mg/L	1.0	mg/L
	MN	0.044	mg/L	0.020	mg/L
	ZN	ND		0.050	mg/L
HARDNESS (Ca ,Mg)		320	mgCaCO3/L	5.4 mgCaCO3/L	
MS WATER					
	CA	131	mg/L	10.0	mg/L
	CU	2.04	mg/L	2.00	mg/L
	FE	10.3	mg/L	10.0	mg/L
	MG	15.0	mg/L	10.0	mg/L
	MN	2.15	mg/L	2.00	mg/L
	ZN	2.07	mg/L	2.00	mg/L
HARDNESS (Ca ,Mg)		389	mgCaCO3/L	66.7	mgCaCO3/L
				5.4 mgCaCO3/L	

LABNO SMPLNO-ID

RESULTS

DET. LIM.

SPIKE LEVELS

10.0	mg/L	0.50	mg/L
2.00	mg/L	0.050	mg/L
10.0	mg/L	0.30	mg/L
10.0	mg/L	1.0	mg/L
2.00	mg/L	0.020	mg/L
2.00	mg/L	0.050	mg/L

385 mgCaCO3/L

66.7 mgCaCO₃/L

5.4 mgCaCO₃/L

ND=Not Detected

LABORATORY RESULTS

Date Collected: 01/25/93
Date Extracted: 01/27/93
Date Analyzed: 01/27/93

Laboratory Job No.: 930181
Date Received: 01/27/93
Date Reported: 02/12/93

ASSAY: ANION SCAN (EPA 300.0)
MATRIX: WATER

LABNO SMPLNO	RESULTS	DET. LIM.
33656 MW-44		
F	ND	0.10 mg/L
CL	73 mg/L	0.20 mg/L
BR	ND	0.10 mg/L
NO3	690 mg/L	0.10 mg/L
NO2	ND	0.10 mg/L
PO4	ND	0.20 mg/L
SO4	54 mg/L	0.50 mg/L
33657 MW-40		
F	ND	0.10 mg/L
CL	66 mg/L	0.20 mg/L
BR	ND	0.10 mg/L
NO3	26 mg/L	0.10 mg/L
NO2	ND	0.10 mg/L
PO4	ND	0.20 mg/L
SO4	62 mg/L	0.50 mg/L
33658 MW-38		
F	ND	0.10 mg/L
CL	120 mg/L	0.20 mg/L
BR	ND	0.10 mg/L
NO3	650 mg/L	0.10 mg/L
NO2	ND	0.10 mg/L
PO4	ND	0.20 mg/L
SO4	140 mg/L	0.50 mg/L

LABORATORY RESULTS

Laboratory Job No.: 930181

LABNO	SMPLNO	RESULTS	DET. LIM.	
	MB			
F		ND	0.10 mg/L	
CL		ND	0.20 mg/L	
BR		ND	0.10 mg/L	
NO3		ND	0.10 mg/L	
NO2		ND	0.10 mg/L	
PO4		ND	0.20 mg/L	
SO4		ND	0.50 mg/L	
	MBS			SPIKE LEVELS
F		0.87 mg/L	0.10 mg/L	0.75 mg/L
CL		1.0 mg/L	0.20 mg/L	1.0 mg/L
BR		2.9 mg/L	0.10 mg/L	3.0 mg/L
NO3		2.9 mg/L	0.10 mg/L	3.0 mg/L
NO2		2.0 mg/L	0.10 mg/L	2.0 mg/L
PO4		7.2 mg/L	0.20 mg/L	8.0 mg/L
SO4		3.6 mg/L	0.50 mg/L	4.0 mg/L
	MX			
F		ND	0.10 mg/L	
CL		1200 mg/L	0.20 mg/L	
BR		ND	0.10 mg/L	
NO3		110 mg/L	0.10 mg/L	
NO2		ND	0.10 mg/L	
PO4		ND	0.20 mg/L	
SO4		1700 mg/L	0.50 mg/L	
	MS			SPIKE LEVELS
F		280 mg/L	0.10 mg/L	375 mg/L
CL		1700 mg/L	0.20 mg/L	500 mg/L
BR		1400 mg/L	0.10 mg/L	1500 mg/L
NO3		1500 mg/L	0.10 mg/L	1500 mg/L
NO2		ND	0.10 mg/L	NS
PO4		3500 mg/L	0.20 mg/L	4000 mg/L
SO4		3400 mg/L	0.50 mg/L	2000 mg/L

LABORATORY RESULTS

Laboratory Job No.: 930181

LABNO	SMPLNO	RESULTS	DET. LIM.	SPIKE LEVELS
-----	-----	-----	-----	
	MSD			
F		320 mg/L	0.10 mg/L	375 mg/L
CL		1700 mg/L	0.20 mg/L	500 mg/L
BR		1500 mg/L	0.10 mg/L	1500 mg/L
NO3		1600 mg/L	0.10 mg/L	1500 mg/L
NO2		ND	0.10 mg/L	NS
PO4		3600 mg/L	0.20 mg/L	4000 mg/L
SO4		3400 mg/L	0.50 mg/L	2000 mg/L

NOTE: ND = NOT DETECTED
NS = NOT SPIKED

LABORATORY RESULTS

Date Collected: 01/25/93
 Date Extracted: 01/29/93
 Date Analyzed: 01/29/93

Laboratory Job No.: 930181
 Date Received: 01/27/93
 Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	33653	DET.	33654	DET.	33655	DET.
	SMP#	MW-51	LIM.	MW-15	LIM.	MW-19	LIM.
	dil.		1		1		1
PURGEABLES			ug/L		ug/L		ug/L
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		46	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		86	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		7.9	0.50	ND	0.50	8.9	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	1.5	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930181

COMPOUNDS:	LAB#	DET.
	SMP#	MB LIM.
	dil.	1
PURGEABLES		ug/L
BROMODICHLOROMETHANE	ND	0.50
BROMOFORM	ND	0.50
BROMOMETHANE	ND	1.0
CARBON TETRACHLORIDE	ND	0.50
CHLOROBENZENE	ND	0.50
CHLOROETHANE	ND	1.0
CHLOROFORM	ND	0.50
CHLOROMETHANE	ND	1.0
DIBROMOCHLOROMETHANE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,1-DICHLOROETHANE	ND	0.50
1,2-DICHLOROETHANE	ND	0.50
1,1-DICHLOROETHENE	ND	0.50
1,2-DICHLOROETHENE (TOTAL)	ND	0.50
1,2-DICHLOROPROPANE	ND	0.50
CIS-1,3-DICHLOROPROPENE	ND	0.50
TRANS-1,3-DICHLOROPROPENE	ND	0.50
METHYLENE CHLORIDE	ND	1.0
1,1,2,2-TETRACHLOROETHANE	ND	0.50
TETRACHLOROETHENE	ND	0.50
1,1,1-TRICHLOROETHANE	ND	0.50
1,1,2-TRICHLOROETHANE	ND	0.50
TRICHLOROETHENE	ND	0.50
TRICHLOROFLUOROMETHANE	ND	1.0
VINYL CHLORIDE	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930181

Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 2 ug/L
PURGEABLES	-----	-----	-----	-----	-----	-----	-----
CHLOROBENZENE		25	0.50	ND	0.50	16	1.0
1,1-DICHLOROETHENE		27	0.50	ND	0.50	20	1.0
TRICHLOROETHENE		25	0.50	ND	0.50	17	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 2 ug/L
PURGEABLES	-----	-----	-----
CHLOROBENZENE		16	1.0
1,1-DICHLOROETHENE		20	1.0
TRICHLOROETHENE		17	1.0

NOTES: (1) MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

(2) IDENTIFICATION OF COMPOUNDS WAS CONFIRMED BY GC/MS.

* SPIKE ADDED TO DILUTED SAMPLE.

LABORATORY RESULTS

Laboratory Job No.: 930181

Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Date Reported: 02/12/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM.	MX	DET. LIM.	* MS	DET. LIM.
		1	1	1	1	2	2
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PURGEABLES							
BENZENE		22	0.50	ND	0.50	18	1.0
CHLOROBENZENE		22	0.50	ND	0.50	17	1.0
TOLUENE		21	0.50	ND	0.50	17	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM.
		2	
		ug/L	
PURGEABLES			
BENZENE		18	1.0
CHLOROBENZENE		17	1.0
TOLUENE		18	1.0

NOTES: (1) MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

(2) IDENTIFICATION OF COMPOUNDS WAS CONFIRMED BY GC/MS.

* SPIKE ADDED TO DILUTED SAMPLE.

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	22	25	ND	22	88	N/A
Chloro-benzene	22	25	ND	22	87	N/A
Toluene	21	25	ND	21	86	N/A
MS Benzene	18	20	ND	18	90	0
Chloro-benzene	17	20	ND	17	85	0
Toluene	18	20	ND	18	90	0
MSD Benzene	18	20	ND	18	90	N/A
Chloro-Benzene	17	20	ND	17	85	N/A
Toluene	18	20	ND	18	90	N/A

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 7521, NICKEL
EPA METHOD 7060, ARSENIC
EPA METHOD 7421, LEAD
EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	0.053	0.050	ND	0.053	106	N/A
MS NICKEL	0.12	0.050	0.084	0.036	72	0
MSD NICKEL	0.12	0.050	0.084	0.036	72	N/A
MBS ARSENIC	0.055	0.050	ND	0.055	110	N/A
MS ARSENIC	0.49	0.050	ND	0.049	98	11.5
MSD ARSENIC	0.045	0.050	ND	0.045	90	N/A
MBS LEAD	0.021	0.020	ND	0.021	105	N/A
MS LEAD	0.020	0.020	ND	0.020	100	10.5
MSD LEAD	0.018	0.020	ND	0.018	90	N/A
MBS CHROMIUM	0.053	0.050	ND	0.053	106	N/A
MS CHROMIUM	0.053	0.050	0.0084	0.045	90	1.9
MSD CHROMIUM	0.054	0.050	0.0084	0.046	92	N/A

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 7770, SODIUM
EPA METHOD 7610, POTASSIUM
EPA METHOD 6010, CALCIUM
EPA METHOD 6010, COPPER

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS SODIUM	11	10	ND	11	110	N/A
MS SODIUM	39	10	28	11	110	0
MSD SODIUM	39	10	28	11	110	N/A
MBS POTASSIUM	10	10	ND	10	100	N/A
MS POTASSIUM	14	10	3.2	11	110	0
MSD POTASSIUM	14	10	3.2	11	110	N/A
MBS CALCIUM	11	10	ND	11	110	N/A
MS CALCIUM	131	10	120	11	110	1.5
MSD CALCIUM	129	10	120	9	90	N/A
MBS COPPER	2.1	2.0	ND	2.1	105	N/A
MS COPPER	2.04	2.00	ND	2.04	102	0
MSD COPPER	2.04	2.00	ND	2.04	102	N/A

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 6010: IRON, MAGNESIUM, MANGANESE, AND ZINC

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS IRON	11	10	ND	11	110	N/A
MS IRON	10	10	ND	10	100	0
MSD IRON	10	10	ND	10	100	N/A
MBS MAGNESIUM	11	10	ND	11	110	N/A
MS MAGNESIUM	15	10	4.9	10.1	101	0
MSD MAGNESIUM	15	10	4.9	10.1	101	N/A
MBS MANGANESE	2.2	2.0	ND	2.2	110	N/A
MS MANGANESE	2.2	2.0	0.044	2.2	110	4.7
MSD MANGANESE	2.1	2.0	0.044	2.1	105	N/A
MBS ZINC	2.1	2.0	ND	2.1	105	N/A
MS ZINC	2.1	2.0	ND	2.1	105	0
MSD ZINC	2.1	2.0	ND	2.1	105	N/A

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 300.0, ANION SCAN

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS PHOSPHATE	7.2	8.0	ND	7.2	90	N/A
MS PHOSPHATE	3500	4000	ND	3500	88	2.8
MSD PHOSPHATE	3600	4000	ND	3600	90	N/A
MBS SULFATE	3.6	4.0	ND	3.6	90	N/A
MS SULFATE	3400	2000	1700	1700	85	0
MSD SULFATE	3400	2000	1700	1700	85	N/A

QA/QC SUMMARY

LABORATORY JOB 930181

EPA METHOD 310.1, ALKALINITY (BICARBONATE)
EPA METHOD 9050, CONDUCTIVITY
EPA METHOD 160.1, TOTAL DISSOLVED SOLIDS

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS BICAR- BONATE	51	50	ND	51	102	N/A
MX BICAR- BONATE	164	N/A	N/A	N/A	N/A	1.8
MD BICAR- BONATE	167	N/A	N/A	N/A	N/A	N/A
MX CONDC- TIVITY	910	N/A	N/A	N/A	N/A	1.1
MD CONDC- TIVITY	920	N/A	N/A	N/A	N/A	N/A
MBS TOTAL DISSOLVED SOLIDS	110	100	ND	110	110	N/A
MX TOTAL DISSOLVED SOLIDS	260	N/A	N/A	N/A	N/A	0
MSD TOTAL DISSOLVED SOLIDS	260	N/A	N/A	N/A	N/A	N/A



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QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, D&M Laboratories reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (MB) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (MBS) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (MS) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, MS and MSD, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated MX, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (MSD), along with the MS, is used to monitor the precision (RPD) of the method and to indicate possible non homogeneity of the sample matrix.

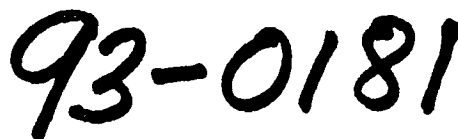
Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.



1993 JAN 27 AM 9:37

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173-074 -044		PROJECT NAME UP Railroad		NO. OF CONTAINERS		REMARKS		LAB USE ONLY LAB NO.	
SAMPLERS (Signature) P.R.D.									
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION				
MW-51	1-25	1115				4	X		033653
MW-51	1-25	1115				1		X X X X	
MW-15	1-25	1155				4	X		033654
MW-15	1-25	1155				1		X X X X	
MW-19	1-25	1710				4	X		033655
MW-19	1-25	1710				1		X X X X	
MW-44	1-26	1435				2			033656
MW-44	1-26	1040				2			033657
MW-38	1-26	1515				2			033658
MW-114	1-26	1435				1			033659
MW-38	1-26	1545				1			033660
MW-40	1-26	1040				1			033661
SAMPLES RECEIVED IN GOOD CONDITION NO BROKEN OR LEAKING CONTAINERS									033662
									033663
									033664
									033665
								033666	
									130°C Temp BLANK

Relinquished by: (Signature)
[Signature]

Relinquished by: (Signature)

Relinquished by: (Signature)

DATE
1-26

DATE

DATE

TIME
1734

TIME

TIME

Received by: (Signature)
[Signature]

Received by: (Signature)

Received by: (Signature)

General Remarks:

General mineral: Bicarb, carb, hydroxide
Alks, Ca, Cl, Cu, Fe, Mg, Mn, ph, Na, SO₄,
Anions Br, Cl, F, NO₂/NO₃, PO₄, SO₄) Anion Scan



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-034-044

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LABORATORY RESULTS

Date Collected: 01/20/93
Date Analyzed: 02/03/93

Laboratory Job No.: 930137
Date Received: 01/22/93
Date Reported: 02/08/93

ASSAY:
ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST
LEAD (EPA 7421), 3020 ACID DIGEST
NICKEL (EPA 7521), 3020 ACID DIGEST

MATRIX: WATER

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33265	MW-13	AS	0.021	5.0	0.005
		CR	ND	560	0.005
		PB	ND	5.0	0.003
		NI	0.006	20	0.005
33266	MW-14	AS	ND	5.0	0.005
		CR	0.036	560	0.005
		PB	0.003	5.0	0.003
		NI	0.012	20	0.005
33267	MW-2	AS	ND	5.0	0.005
		CR	0.006	560	0.005
		PB	ND	5.0	0.003
		NI	0.012	20	0.005
33268	MW-41	AS	ND	5.0	0.005
		CR	0.009	560	0.005
		PB	ND	5.0	0.003
		NI	ND	20	0.005

Approved and Reviewed by

Debbie Fisher

Debbie Fisher, Project Manager

LABORATORY RESULTS

Laboratory Job No.: 930137

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33269	MW-43	AS	ND	5.0	0.005
		CR	ND	560	0.005
		PB	ND	5.0	0.003
		NI	0.128	20	0.05
33270	MW-12	AS	ND	5.0	0.005
		CR	0.009	560	0.005
		PB	ND	5.0	0.003
		NI	0.085	20	0.005
33271	MW-4	AS	ND	5.0	0.005
		CR	0.014	560	0.005
		PB	ND	5.0	0.003
		NI	0.008	20	0.005
33272	MW-42	AS	ND	5.0	0.005
		CR	0.006	560	0.005
		PB	ND	5.0	0.003
		NI	0.060	20	0.005
33275	RB-1	AS	ND	5.0	0.005
		CR	ND	560	0.005
		PB	0.009	5.0	0.003
		NI	ND	20	0.005
	MB	AS	ND		0.005
		CR	ND		0.005
		PB	ND		0.003
		NI	ND		0.005
	MBS	AS	0.02	0.025 mg/L	0.005
		CR	0.03	0.025 mg/L	0.005
		PB	0.022	0.020 mg/L	0.003
		NI	0.030	0.025 mg/L	0.005

SPIKE LEVELS

LABORATORY RESULTS

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Laboratory Job No.: 930137

LABNO	SMPLNO	COMPOUND	FOUND mg/L	DET.LIM. mg/L
MX		AS	0.006	0.005
		CR	0.006	0.005
		PB	ND	0.003
		NI	0.007	0.005
MS		AS	0.025	0.005
		CR	0.030	0.005
		PB	0.020	0.003
		NI	0.037	0.005
MSD		AS	0.025	0.005
		CR	0.030	0.005
		PB	0.020	0.003
		NI	0.039	0.005

SPIKE LEVELS

LABORATORY RESULTS

Date Collected: 01/20/93
Date Analyzed: 01/25/93

Laboratory Job No.: 930137
Date Received: 01/22/93
Date Reported: 02/08/93

ASSAY:
PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	33265	DET.	33266	DET.	33267	DET.
	SMP#	MW-13	LIM.	MW-14	LIM.	MW-2	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		8.5	0.50	20	0.50	ND	0.50
1,2-DICHLOROETHANE		150	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		8.8	0.50	140	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	0.8	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	1.7	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	7.0	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930137

COMPOUNDS:	LAB#	33268	DET.	33269	DET.	33270	DET.
	SMP#	MW-41	LIM.	MW-43	LIM.	MW-12	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND 0.50		ND 0.50		ND 0.50	
BROMOFORM		ND 0.50		ND 0.50		ND 0.50	
BROMOMETHANE		ND 1.0		ND 1.0		ND 1.0	
CARBON TETRACHLORIDE		ND 0.50		ND 0.50		ND 0.50	
CHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
CHLOROETHANE		ND 1.0		ND 1.0		ND 1.0	
CHLOROFORM		ND 0.50		ND 0.50		ND 0.50	
CHLOROMETHANE		ND 1.0		ND 1.0		ND 1.0	
DIBROMOCHLOROMETHANE		ND 0.50		ND 0.50		ND 0.50	
1,4-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,3-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,1-DICHLOROETHANE		ND 0.50		110 0.50		21 0.50	
1,2-DICHLOROETHANE		ND 0.50		1.1 0.50		ND 0.50	
1,1-DICHLOROETHENE		ND 0.50		24 0.50		78 0.50	
1,2-DICHLOROETHENE (TOTAL)		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROPROPANE		ND 0.50		ND 0.50		ND 0.50	
CIS-1,3-DICHLOROPROPENE		ND 0.50		ND 0.50		ND 0.50	
TRANS-1,3-DICHLOROPROPENE		ND 0.50		ND 0.50		ND 0.50	
METHYLENE CHLORIDE		ND 1.0		ND 1.0		ND 1.0	
1,1,2,2-TETRACHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
TETRACHLOROETHENE		ND 0.50		0.9 0.50		ND 0.50	
1,1,1-TRICHLOROETHANE		ND 0.50		ND 0.50		0.6 0.50	
1,1,2-TRICHLOROETHANE		ND 0.50		1.0 0.50		ND 0.50	
TRICHLOROETHENE		ND 0.50		2.8 0.50		9.1 0.50	
TRICHLOROFLUOROMETHANE		ND 1.0		ND 1.0		ND 1.0	
VINYL CHLORIDE		ND 1.0		ND 1.0		ND 1.0	

LABORATORY RESULTS

Laboratory Job No.: 930137

COMPOUNDS:	LAB#	33271	DET.	33272	DET.	33273	DET.
	SMP#	MW-4	LIM.	MW-42	LIM.	TB-2	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	1.1	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		7.5	0.50	60	0.50	ND	0.50
1,2-DICHLOROETHANE		12	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		73	0.50	180	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	3.0	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	5.3	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	1.2	0.50	ND	0.50
TRICHLOROETHENE		5.0	0.50	4.3	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 930137

COMPOUNDS:	LAB#	33274	DET.	33275	DET.		DET.
	SMP#	FB-2	LIM.	RB-1	LIM.	MB	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND 0.50		ND 0.50		ND 0.50	
BROMOFORM		ND 0.50		ND 0.50		ND 0.50	
BROMOMETHANE		ND 1.0		ND 1.0		ND 1.0	
CARBON TETRACHLORIDE		ND 0.50		ND 0.50		ND 0.50	
CHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
CHLOROETHANE		ND 1.0		ND 1.0		ND 1.0	
CHLOROFORM		ND 0.50		ND 0.50		ND 0.50	
CHLOROMETHANE		ND 1.0		ND 1.0		ND 1.0	
DIBROMOCHLOROMETHANE		ND 0.50		ND 0.50		ND 0.50	
1,4-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,3-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROBENZENE		ND 0.50		ND 0.50		ND 0.50	
1,1-DICHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
1,1-DICHLOROETHENE		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROETHENE (TOTAL)		ND 0.50		ND 0.50		ND 0.50	
1,2-DICHLOROPROPANE		ND 0.50		ND 0.50		ND 0.50	
CIS-1,3-DICHLOROPROPENE		ND 0.50		ND 0.50		ND 0.50	
TRANS-1,3-DICHLOROPROPENE		ND 0.50		ND 0.50		ND 0.50	
METHYLENE CHLORIDE		ND 1.0		ND 1.0		ND 1.0	
1,1,2,2-TETRACHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
TETRACHLOROETHENE		ND 0.50		ND 0.50		ND 0.50	
1,1,1-TRICHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
1,1,2-TRICHLOROETHANE		ND 0.50		ND 0.50		ND 0.50	
TRICHLOROETHENE		ND 0.50		ND 0.50		ND 0.50	
TRICHLOROFLUOROMETHANE		ND 1.0		ND 1.0		ND 1.0	
VINYL CHLORIDE		ND 1.0		ND 1.0		ND 1.0	

L A B O R A T O R Y R E S U L T S

Date Collected: 01/20/93
 Date Extracted: 01/20/93
 Date Analyzed: 01/20/93

Laboratory Job No.: 930137
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 1 ug/L
PURGEABLES							
CHLOROBENZENE		25	0.50	ND	0.50	19	1.0
1,1-DICHLOROETHENE		27	0.50	ND	0.50	20	1.0
TRICHLOROETHENE		25	0.50	ND	0.50	18	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 1 ug/L
PURGEABLES			
CHLOROBENZENE		17	1.0
1,1-DICHLOROETHENE		19	1.0
TRICHLOROETHENE		18	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE WAS ADDED TO THE DILUTED SAMPLE.

LABORATORY RESULTS

Date Collected: 01/20/93
Date Analyzed: 01/25/93

Laboratory Job No.: 930137
Date Received: 01/22/93
Date Reported: 02/08/93

ASSAY:
PURGEABLE AROMATICS IN WATER (EPA 602)

COMPOUNDS:	LAB#	33265	DET.	33266	DET.	33267	DET.	33268	DET.
	SMP#	MW-13	LIM.	MW-14	LIM.	MW-2	LIM.	MW-41	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		7300	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		340	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		290	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		520	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	33269	DET.	33270	DET.	33271	DET.	33272	DET.
	SMP#	MW-43	LIM.	MW-12	LIM.	MW-4	LIM.	MW-42	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	180	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	8.9	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	5.6	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	4.2	0.50	ND	0.50

LABORATORY RESULTS

Laboratory Job No.: 930137

COMPOUNDS:	LAB#	33273	DET.	33274	DET.	33275	DET.		DET.
	SMP#	TB-2	LIM.	FB-2	LIM.	RB-1	LIM.	MB	LIM.
	dil.		1		1		1		1
PURGEABLES			ug/L		ug/L		ug/L		ug/L
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

L A B O R A T O R Y R E S U L T S

Date Collected: 01/20/93
 Date Extracted: 01/20/93
 Date Analyzed: 01/20/93

Laboratory Job No.: 930137
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 1 ug/L
PURGEABLES							
BENZENE		24	0.50	ND	0.50	19	1.0
CHLOROBENZENE		24	0.50	ND	0.50	18	1.0
TOLUENE		24	0.50	ND	0.50	19	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 1 ug/L
PURGEABLES			
BENZENE		20	1.0
CHLOROBENZENE		19	1.0
TOLUENE		19	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE WAS ADDED TO THE DILUTED SAMPLE.

QA/QC SUMMARY

LABORATORY JOB 930137

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Chlorobenzene	25	25	ND	25	100	N/A
1,1-Dichloro- ethene	27	25	ND	27	108	N/A
Trichloroethene	25	25	ND	25	100	N/A
MS Chlorobenzene	19	20	ND	19	95	11
1,1-Dichloro- ethene	20	20	ND	20	100	5.1
Trichloroethene	18	20	ND	18	90	0
MSD Chlorobenzene	17	20	ND	17	85	N/A
1,1-Dichloro- ethene	19	20	ND	19	95	N/A
Trichloroethene	18	20	ND	18	90	N/A

QA/QC SUMMARY

LABORATORY JOB 930137

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	24	25	ND	24	96	N/A
Chloro-benzene	24	25	ND	24	96	N/A
Toluene	24	25	ND	24	96	N/A
MS Benzene	19	20	ND	19	95	5.1
Chloro-benzene	18	20	ND	18	90	5.4
Toluene	19	20	ND	19	95	0
MSD Benzene	20	20	ND	20	100	N/A
Chloro-Benzene	19	20	ND	19	95	N/A
Toluene	19	20	ND	19	95	N/A

QA/QC SUMMARY

LABORATORY JOB 930137

EPA METHOD 7521, NICKEL
 EPA METHOD 7060, ARSENIC
 EPA METHOD 7421, LEAD
 EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	0.030	0.025	ND	0.030	120	N/A
MS NICKEL	0.037	0.025	0.007	0.030	120	5.3
MSD NICKEL	0.039	0.025	0.007	0.032	128	N/A
MBS ARSENIC	0.02	0.025	ND	0.02	80	N/A
MS ARSENIC	0.025	0.025	0.006	0.019	76	0
MSD ARSENIC	0.025	0.025	0.006	0.019	76	N/A
MBS LEAD	0.022	0.020	ND	0.022	110	N/A
MS LEAD	0.020	0.020	ND	0.020	100	0
MSD LEAD	0.020	0.020	ND	0.020	100	N/A
MBS CHROMIUM	0.03	0.025	ND	0.03	120	N/A
MS CHROMIUM	0.030	0.025	0.006	0.024	96	0
MSD CHROMIUM	0.030	0.025	0.006	0.024	96	N/A



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
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FAX (707) 763-4065

QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, D&M Laboratories reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (MB) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (MBS) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (MS) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, MS and MSD, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated MX, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (MSD), along with the MS, is used to monitor the precision (RPD) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.

3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245 Fax: (707) 763-4085

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name

Address

City, State, Zip

Client's or Representative's Signature

(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173- 03Y-094		PROJECT NAME UP Rail yard																	
SAMPLERS (Signature) Paul Dnorian						NO. OF CON-TAINERS		REMARKS								LAB USE ONLY LAB NO.			
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION														
MW-13	1-20	1500			-	4	X												
MW-13	1-20	1500			-	1		X	X	X	X								033265
MW-14	1-20	1550			-	4	X												
MW-14	1-20	1550			-	1		X	X	X	X								033266
MW-2	1-19	1205			-	1		X	X	X	X								
MW-2	1-19	1205			-	4	X												033267
MW-41	1-20	1210			-	1		X	X	X	X								
MW-41	1-20	1210			-	4	X												033268
MW-43	1-19	1025			-	4	X												
MW-43	1-19	1025			-	1		X	X	X	X								033269
MW-12	1-20	1435			-	4	X												
MW-12	1-20	1435			-	1		X	X	X	X								033270
MW-4	1-20	1055			-	4	X												
MW-4	1-20	1055			-	1		X	X	X	X								033271
MW-42	1-19	902			-	4	X												
MW-42	1-19	902			-	1		X	X	X	X								033272
TB-2	1-20	-			-	4	X												
FB-2	1-20	1550			-	4	X												033273
RB-1	1-20	1550			-	4	X												
RB-1	1-20	1550			-	1		X	X	X	X								033274
																			033275
																			033276 033277 033278

Relinquished by: (Signature) **[Signature]** DATE **1-21-93** TIME **0730** Received by: (Signature) **[Signature]**

Relinquished by: (Signature) _____ DATE _____ TIME _____ Received by: (Signature) _____

**SAMPLES RECEIVED IN GOOD CONDITION
NO BROKEN OR LEAKING CONTAINERS**

Relinquished by: (Signature) _____ DATE _____ TIME _____ Received by: (Signature) _____

UPS - 9 Liters, 44VUAS

General Remarks: **Quote 1451 dated 12-2-92**

Cooler Temp. BLANK 11°C



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Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-072-042

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LABORATORY RESULTS

Date Collected: 01/29/93
Date Analyzed: 02/08/93

Laboratory Job No.: 930221
Date Received: 01/30/93
Date Reported: 02/16/93

ASSAY:
ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST
LEAD (EPA 7421), 3020 ACID DIGEST
NICKEL (EPA 7521), 3020 ACID DIGEST

MATRIX: WATER

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
34389	MW-21	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.18	20	0.025
34390	RB-4	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	ND	20	0.0050
34391	MW-52	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.28	20	0.050
34392	RB-5	AS	ND	5.0	0.0050
		CR	ND	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.0091	20	0.0050

Approved and Reviewed by:

Debbie Fisher
Debbie Fisher, Project Manager

LABORATORY RESULTS

Laboratory Job No.: 930221

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
34393 MW-27	AS	ND	5.0	0.0050
	CR	0.0083	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.046	20	0.0050
34394 MW-7	AS	ND	5.0	0.0050
	CR	0.017	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.047	20	0.0050
34395 MW-36	AS	ND	5.0	0.0050
	CR	0.011	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.093	20	0.0050
34396 MW-22	AS	ND	5.0	0.0050
	CR	0.0055	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.0066	20	0.0050
34397 MW-37	AS	ND	5.0	0.0050
	CR	ND	560	0.0050
	PB	ND	5.0	0.0030
	NI	ND	20	0.0050
34398 MW-8	AS	ND	5.0	0.0050
	CR	ND	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.019	20	0.0050
34399 MW-26	AS	ND	5.0	0.0050
	CR	0.013	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.11	20	0.025
34400 MW-25	AS	ND	5.0	0.0050
	CR	0.0055	560	0.0050
	PB	ND	5.0	0.0030
	NI	0.27	20	0.050

D & M Laboratories

LABORATORY RESULTS

Laboratory Job No.: 930221

LABNO	SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
34401	MW-39	AS	ND	5.0	0.0050
		CR	0.0081	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.13	20	0.025
34402	MW-54	AS	ND	5.0	0.0050
		CR	0.0081	560	0.0050
		PB	ND	5.0	0.0030
		NI	0.12	20	0.025
MB		AS	ND		0.0050
		CR	ND		0.0050
		PB	ND		0.0030
		NI	ND		0.0050
MBS		AS	0.055	SPIKE LEVELS 0.050 mg/L	0.0050
		CR	0.053	0.050 mg/L	0.0050
		PB	0.021	0.020 mg/L	0.0030
		NI	0.053	0.050 mg/L	0.0050
MX		AS	ND		0.0050
		CR	0.0084		0.0050
		PB	ND		0.0030
		NI	0.084		0.025
MS		AS	0.049	SPIKE LEVELS 0.050 mg/L	0.025
		CR	0.053	0.050 mg/L	0.025
		PB	0.020	0.020 mg/L	0.0030
		NI	0.12	0.050 mg/L	0.025
MSD		AS	0.045	0.050 mg/L	0.025
		CR	0.054	0.050 mg/L	0.025
		PB	0.018	0.020 mg/L	0.0030
		NI	0.12	0.050 mg/L	0.025

LABORATORY RESULTS

Date Collected: 01/29/93
 Date Extracted: 02/03/93
 Date Analyzed: 02/03/93

Laboratory Job No.: 930221
 Date Received: 01/30/93
 Date Reported: 02/16/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	34389	DET.	34390	DET.	34391	DET.
	SMP#	MW-21	LIM.	RB-4	LIM.	MW-52	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		2.0	0.50	1.1	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	3.0	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		1.3	0.50	ND	0.50	7.3	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34392	DET.	34393	DET.	34394	DET.
	SMP#	RB-5	LIM.	MW-27	LIM.	MW-7	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		1.4	0.50	1.7	0.50	1.8	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	3.6	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50	9.6	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	1.4	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34395	DET.	34396	DET.	34397	DET.
	SMP#	MW-36	LIM.	MW-22	LIM.	MW-37	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	0.61	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		0.66	0.50	1.5	0.50	2.3	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		5.0	0.50	ND	0.50	2.7	0.50
1,2-DICHLOROETHANE		1.1	0.50	ND	0.50	5.5	0.50
1,1-DICHLOROETHENE	110		0.50	ND	0.50	9.2	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		4.5	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		5.8	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34398	DET.	34399	DET.	34400	DET.
	SMP#	MW-8	LIM.	MW-26	LIM.	MW-25	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	2.5	0.50	1.6	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	13	0.50	10	0.50
1,2-DICHLOROETHANE		ND	0.50	0.90	0.50	0.77	0.50
1,1-DICHLOROETHENE		0.61	0.50	15	0.50	6.3	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		3.7	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	3.2	0.50	2.2	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34401	DET.	34402	DET.	34403	DET.
	SMP#	MW-39	LIM.	MW-54	LIM.	TB-5	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		1.9	0.50	1.7	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		2.7	0.50	2.4	0.50	1.1	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		1.6	0.50	1.4	0.50	ND	0.50
1,2-DICHLOROETHANE		1.6	0.50	1.5	0.50	ND	0.50
1,1-DICHLOROETHENE		10	0.50	11	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		1.4	0.50	1.3	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34404	DET.		DET.
	SMP#	FB-5	LIM.	MB	LIM.
	dil.		1		1
PURGEABLES			ug/L		ug/L
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		1.4	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0

L A B O R A T O R Y R E S U L T S

Date Collected: 01/29/93
 Date Extracted: 02/04/93
 Date Analyzed: 02/04/93

Laboratory Job No.: 930221
 Date Received: 01/30/93
 Date Reported: 02/16/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM.	MX	DET. LIM.	* MS	DET. LIM.
PURGEABLES		1	1	1	1	2	2
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
CHLOROBENZENE		29	0.50	ND	0.50	21	1.0
1,1-DICHLOROETHENE		27	0.50	1.3	0.50	20	1.0
TRICHLOROETHENE		26	0.50	ND	0.50	21	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM.
PURGEABLES		2	2
		ug/L	ug/L
CHLOROBENZENE		20	1.0
1,1-DICHLOROETHENE		20	1.0
TRICHLOROETHENE		20	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE ADDED TO DILUTED SAMPLE.

L A B O R A T O R Y R E S U L T S

Date Collected: 01/29/93
 Date Extracted: 02/03/93
 Date Analyzed: 02/03/93

Laboratory Job No.: 930221
 Date Received: 01/30/93
 Date Reported: 02/16/93

ASSAY:
 PURGEABLE AROMATICS IN WATER (EPA 602)

COMPOUNDS:	LAB#	34389	DET.	34390	DET.	34391	DET.	34392	DET.
	SMP#	MW-21	LIM.	RB-4	LIM.	MW-52	LIM.	RB-5	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	34393	DET.	34394	DET.	34395	DET.	34396	DET.
	SMP#	MW-27	LIM.	MW-7	LIM.	MW-36	LIM.	MW-22	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	34397	DET.	34398	DET.	34399	DET.	34400	DET.
	SMP#	MW-37	LIM.	MW-8	LIM.	MW-26	LIM.	MW-25	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	34401	DET.	34402	DET.	34403	DET.	34404	DET.
	SMP#	MW-39	LIM.	MW-54	LIM.	TB-5	LIM.	FB-5	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

LABORATORY RESULTS

Laboratory Job No.: 930221

COMPOUNDS:	LAB#	DET.
	SMP#	MB LIM.
	dil.	1
PURGEABLES		ug/L
BENZENE		ND 0.50
CHLOROBENZENE		ND 0.50
1,2-DICHLOROBENZENE		ND 0.50
1,3-DICHLOROBENZENE		ND 0.50
1,4-DICHLOROBENZENE		ND 0.50
ETHYL BENZENE		ND 0.50
TOLUENE		ND 0.50
XYLENE		ND 0.50

L A B O R A T O R Y R E S U L T S

Date Collected: 01/29/93
 Date Extracted: 02/04/93
 Date Analyzed: 02/04/93

Laboratory Job No.: 930221
 Date Received: 01/30/93
 Date Reported: 02/16/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM.	MX	DET. LIM.	* MS	DET. LIM.
		1	1	1	1	2	2
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PURGEABLES							
BENZENE		25	0.50	ND	0.50	19	1.0
CHLOROBENZENE		24	0.50	ND	0.50	19	1.0
TOLUENE		25	0.50	ND	0.50	19	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM.
		2	
		ug/L	
PURGEABLES			
BENZENE		19	1.0
CHLOROBENZENE		18	1.0
TOLUENE		18	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE ADDED TO DILUTED SAMPLE.

QA/QC SUMMARY

LABORATORY JOB 930221

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Chlorobenzene	29	25	ND	29	116	N/A
1,1-Dichloro- ethene	27	25	ND	27	108	N/A
Trichloroethene	26	25	ND	26	104	N/A
MS Chlorobenzene	21	20	ND	21	105	4.9
1,1-Dichloro- ethene	20	20	0.67	19	95	0
Trichloroethene	21	20	ND	21	105	4.9
MSD Chlorobenzene	20	20	ND	20	100	N/A
1,1-Dichloro- ethene	20	20	0.67	19	95	N/A
Trichloroethene	20	20	ND	20	100	N/A

QA/QC SUMMARY

LABORATORY JOB 930221

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	25	25	ND	25	100	N/A
Chloro-benzene	24	25	ND	24	96	N/A
Toluene	25	25	ND	25	100	N/A
MS Benzene	19	20	ND	19	95	0
Chloro-benzene	19	20	ND	19	95	5.4
Toluene	19	20	ND	19	95	5.4
MSD Benzene	19	20	ND	19	95	N/A
Chloro-Benzene	18	20	ND	18	90	N/A
Toluene	18	20	ND	18	90	N/A

QA/QC SUMMARY

LABORATORY JOB 930221

EPA METHOD 7521, NICKEL
EPA METHOD 7060, ARSENIC
EPA METHOD 7421, LEAD
EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	0.053	0.050	ND	0.053	106	N/A
MS NICKEL	0.12	0.050	0.084	0.036	72	0
MSD NICKEL	0.12	0.050	0.084	0.036	72	N/A
MBS ARSENIC	0.055	0.050	ND	0.055	110	N/A
MS ARSENIC	0.049	0.050	ND	0.049	98	8.4
MSD ARSENIC	0.045	0.050	ND	0.045	90	N/A
MBS LEAD	0.021	0.020	ND	0.021	105	N/A
MS LEAD	0.020	0.020	ND	0.020	100	10.5
MSD LEAD	0.018	0.020	ND	0.018	90	N/A
MBS CHROMIUM	0.053	0.050	ND	0.053	106	N/A
MS CHROMIUM	0.053	0.050	0.0084	0.045	90	1.9
MSD CHROMIUM	0.054	0.050	0.0084	0.046	92	N/A



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, D&M Laboratories reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (MB) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (MBS) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (MS) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, MS and MSD, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated MX, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (MSD), along with the MS, is used to monitor the precision (RPD) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.



Telephone: (707) 763-8245 FAX: (707) 763-4085

RECEIVED
D&M LABORATORIES

SAMPLE CHAIN OF CUSTODY / WORK ORDER

1993 JAN 30 4 9 36

(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173-072 -042		PROJECT NAME UP Rail Yard		SAMPLERS (Signature) PRD		NO. OF CONTAINERS	REMARKS					LAB USE ONLY LAB NO.	
S.A. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION								
MW-21	1-29	935				1		X	X	X	X		034389
MW-21	1-29	935				4	X						
MW-4	1-28	1120				1		X	X	X	X		034390
MW-4	1-28	1120			1 broken VOA	4	X						
MW-52	1-28	1120				1		X	X	X	X		034391
MW-52	1-28	1120			1 broken VOA	4	X	X	X	X	X		
MW-5	1-28	1325				1		X	X	X	X		034392
MW-5	1-28	1325			1 broken VOA	4	X						
MW-27	1-28	1325				1		X	X	X	X		034393
MW-27	1-28	1325				4	X						
MW-7	1-29	815				1		X	X	X	X		034394
MW-7	1-29	815				4	X						
MW-36	1-27	1020				1		X	X	X	X		034395
MW-36	1-27	1020				4	X						
MW-22	1-29	1135				1		X	X	X	X		034396
MW-22	1-29	1135			1 broken VOA	4	X						
MW-37	1-27	1110				1		X	X	X	X		034397
MW-37	1-27	1110			2 broken VOAs	4	X						
MW-8	1-27	1530				1		X	X	X	X		034398
MW-8	1-27	1530			1 broken VOA	4	X						

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

DATE
1-29

DATE

DATE

TIME
1450

TIME

TIME

Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

General Remarks:
Quote 1451
dated 12-2-92
UPS-14 Liters water



3700 Lakeville Highway, Petaluma, CA 94952

P.O. Box 808024, Petaluma, CA, 94975-8024

Telephone: (707) 763-8245 FAX: (707) 763-4068

93-0221

RECEIVED
D&M LABORATORIES

SAMPLE CHAIN OF CUSTODY / WORK ORDER

1993 JAN 30 AM 9:36
PhoneClient's Name Dames & Moore Sacto

Address _____

City, State, Zip _____

Client's or Representative's Signature Paul Dvoran

(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173-072 -042		PROJECT NAME UP Rail Yard				NO. OF CON- TAINERS	REMARKS					LAB USE ONLY LAB NO.
SAMPLERS (Signature) PRD												
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION							
MW-21	1-29	935				1	X	X	X	X	034389	
MW-21	1-29	935				4	X					
RB-4	1-28	1120				1	X	X	X	X	034390	
RB-4	1-28	1120			1 broken VOA	4	X					
MW-52	1-28	1120				1	X	X	X	X	034391	
MW-52	1-28	1120			1 broken VOA	4	X	X	X	X	034392	
RB-5	1-28	1325				1	X	X	X	X	034392	
RB-5	1-28	1325			1 broken VOA	4	X					
MW-27	1-28	1325				1	X	X	X	X	034393	
MW-27	1-28	1325				4	X					
MW-7	1-29	815				1	X	X	X	X	034394	
MW-7	1-29	815				4	X					
MW-36	1-27	1020				1	X	X	X	X	034395	
MW-36	1-27	1020				4	X					
MW-22	1-29	1135				1	X	X	X	X	034396	
MW-22	1-29	1135			1 broken VOA	4	X					
MW-37	1-27	1110				1	X	X	X	X	034397	
MW-37	1-27	1110			2 broken VOAS	4	X					
MW-8	1-27	1530				1	X	X	X	X	034398	
MW-8	1-27	1530			1 broken VOA	4	X					

Relinquished by: (Signature)

DATE

TIME

Received by: (Signature)

General Remarks:

Relinquished by: (Signature)

DATE

TIME

Received by: (Signature)

Relinquished by: (Signature)

DATE

TIME

Received by: (Signature)

Quote 1451
dated 12-2-92

UPS-14 Liters WATER

55 VOAS



3700 Lakeville Highway, Petaluma, CA 94954
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Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-012-044

Page 1

LABORATORY RESULTS

Date Collected: 01/22/93
Date Analyzed: 02/03/93

Laboratory Job No.: 930147
Date Received: 01/22/93
Date Reported: 02/08/93

ASSAY:
ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST
LEAD (EPA 7421), 3020 ACID DIGEST
NICKEL (EPA 7521), 3020 ACID DIGEST

MATRIX: WATER

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33339 RB-2	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	ND	20	0.005
33340 MW-23	AS	ND	5.0	0.005
	CR	0.006	560	0.005
	PB	ND	5.0	0.003
	NI	0.182	20	0.005
33341 MW-24	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	0.098	20	0.005

Approved and Reviewed by:

Debbie Fisher

Debbie Fisher, Project Manager

LABORATORY RESULTS

Page 2

Laboratory Job No.: 930147

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
33342 MW-6	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	0.016	20	0.005
33343 MW-5	AS	ND	5.0	0.005
	CR	0.007	560	0.005
	PB	ND	5.0	0.003
	NI	0.042	20	0.005
33344 MW-35	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	0.008	20	0.005
33345 MW-34	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	0.083	20	0.005
33346 MW-31	AS	ND	5.0	0.005
	CR	ND	560	0.005
	PB	ND	5.0	0.003
	NI	0.010	20	0.005
33347 MW-18	AS	ND	5.0	0.005
	CR	0.012	560	0.005
	PB	ND	5.0	0.003
	NI	ND	20	0.005
33430 MW-16	AS	ND	5.0	0.005
	CR	0.007	560	0.005
	PB	ND	5.0	0.003
	NI	ND	20	0.005

LABORATORY RESULTS

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Laboratory Job No.: 930147

LABNO	SMPLNO	COMPOUND	FOUND mg/L	DET.LIM. mg/L
MB		AS	ND	0.005
		CR	ND	0.005
		PB	ND	0.003
		NI	ND	0.005
MBS		SPIKE LEVELS		
		AS	0.049 0.050 mg/L	0.005
		CR	0.053 0.050 mg/L	0.005
		PB	0.022 0.025 mg/L	0.003
MX		NI	0.049 0.050 mg/L	0.005
		AS	ND	0.005
		CR	ND	0.005
		PB	ND	0.003
MS		NI	ND	0.005
		SPIKE LEVELS		
		AS	0.055 0.050 mg/L	0.005
		CR	0.058 0.050 mg/L	0.005
MSD		PB	0.020 0.025 mg/L	0.003
		NI	0.054 0.050 mg/L	0.005
		AS	0.052 0.050 mg/L	0.005
		CR	0.056 0.050 mg/L	0.005
		PB	0.020 0.025 mg/L	0.003
		NI	0.051 0.050 mg/L	0.005

LABORATORY RESULTS

Date Collected: 01/22/93
 Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Laboratory Job No.: 930147
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	33337	DET.	33338	DET.	33339	DET.
	SMP#	FB-3	LIM.	TB-3	LIM.	RB-2	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM	1.4	0.50		ND	0.50	0.99	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930147

COMPOUNDS:	LAB#	33340	DET.	33341	DET.	33342	DET.
	SMP#	MW-23	LIM.	MW-24	LIM.	MW-6	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		2.2	0.50	1.7	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930147

COMPOUNDS:	LAB#	33343	DET.	33344	DET.	33345	DET.
	SMP#	MW-5	LIM.	MW-35	LIM.	MW-34	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	2.8	0.50	3.3	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	58	0.50	68	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	1.3	0.50	1.3	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	3.7	0.50	5.6	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930147

COMPOUNDS:	LAB#	33346	DET.	33347	DET.	33430	DET.
	SMP#	MW-31	LIM.	MW-18	LIM.	MW-16	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		8.5	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		82	0.50	14	0.50	2.6	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		2.1	0.50	0.77	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		12	0.50	1.6	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930147

COMPOUNDS:	LAB#	DET.
	SMP#	MB LIM.
	dil.	1
PURGEABLES		ug/L
BROMODICHLOROMETHANE	ND	0.50
BROMOFORM	ND	0.50
BROMOMETHANE	ND	1.0
CARBON TETRACHLORIDE	ND	0.50
CHLOROBENZENE	ND	0.50
CHLOROETHANE	ND	1.0
CHLOROFORM	ND	0.50
CHLOROMETHANE	ND	1.0
DIBROMOCHLOROMETHANE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,1-DICHLOROETHANE	ND	0.50
1,2-DICHLOROETHANE	ND	0.50
1,1-DICHLOROETHENE	ND	0.50
1,2-DICHLOROETHENE (TOTAL)	ND	0.50
1,2-DICHLOROPROPANE	ND	0.50
CIS-1,3-DICHLOROPROPENE	ND	0.50
TRANS-1,3-DICHLOROPROPENE	ND	0.50
METHYLENE CHLORIDE	ND	1.0
1,1,2,2-TETRACHLOROETHANE	ND	0.50
TETRACHLOROETHENE	ND	0.50
1,1,1-TRICHLOROETHANE	ND	0.50
1,1,2-TRICHLOROETHANE	ND	0.50
TRICHLOROETHENE	ND	0.50
TRICHLOROFLUOROMETHANE	ND	1.0
VINYL CHLORIDE	ND	1.0

L A B O R A T O R Y R E S U L T S

Date Collected: 01/22/93
 Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Laboratory Job No.: 930147
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM.	MX	DET. LIM.	*MS	DET. LIM.
		1		1		2	
PURGEABLES		ug/L		ug/L		ug/L	
CHLOROBENZENE		25	0.50	ND	0.50	16	1.0
1,1-DICHLOROETHENE		27	0.50	ND	0.50	20	1.0
TRICHLOROETHENE		25	0.50	ND	0.50	17	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM.
		2	
PURGEABLES		ug/L	
CHLOROBENZENE		16	1.0
1,1-DICHLOROETHENE		20	1.0
TRICHLOROETHENE		17	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE ADDED TO DILUTED SAMPLE.

LABORATORY RESULTS

Date Collected: 01/22/93
 Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Laboratory Job No.: 930147
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLE AROMATICS IN WATER (EPA 602)

COMPOUNDS:	LAB#	33337	DET.	33338	DET.	33339	DET.	33340	DET.
	SMP#	FB-3	LIM.	TB-3	LIM.	RB-2	LIM.	MW-23	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	33341	DET.	33342	DET.	33343	DET.	33344	DET.
	SMP#	MW-24	LIM.	MW-6	LIM.	MW-5	LIM.	MW-35	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

LABORATORY RESULTS

Laboratory Job No.: 930147

COMPOUNDS:	LAB#	33345	DET.	33346	DET.	33347	DET.	33430	DET.
	SMP#	MW-34	LIM.	MW-31	LIM.	MW-18	LIM.	MW-16	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	DET.
	SMP#	MB LIM.
	dil.	1
PURGEABLES		ug/L
BENZENE		ND 0.50
CHLOROBENZENE		ND 0.50
1,2-DICHLOROBENZENE		ND 0.50
1,3-DICHLOROBENZENE		ND 0.50
1,4-DICHLOROBENZENE		ND 0.50
ETHYL BENZENE		ND 0.50
TOLUENE		ND 0.50
XYLENE		ND 0.50

LABORATORY RESULTS

Date Collected: 01/22/93
 Date Extracted: 01/26/93
 Date Analyzed: 01/26/93

Laboratory Job No.: 930147
 Date Received: 01/22/93
 Date Reported: 02/08/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 2 ug/L
PURGEABLES							
BENZENE		22	0.50	ND	0.50	18	1.0
CHLOROBENZENE		22	0.50	ND	0.50	17	1.0
TOLUENE		21	0.50	ND	0.50	17	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 2 ug/L
PURGEABLES			
BENZENE		18	1.0
CHLOROBENZENE		17	1.0
TOLUENE		18	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

IDENTIFICATION OF COMPOUNDS WAS CONFIRMED BY GC/MS.

* SPIKE ADDED TO DILUTED SAMPLE.

QA/QC SUMMARY

LABORATORY JOB 930147

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Chlorobenzene	25	25	ND	25	100	N/A
1,1-Dichloro- ethene	27	25	ND	27	108	N/A
Trichloroethene	25	25	ND	25	100	N/A
MS Chlorobenzene	16	20	ND	16	80	0
1,1-Dichloro- ethene	20	20	ND	20	100	0
Trichloroethene	17	20	ND	17	85	0
MSD Chlorobenzene	16	20	ND	16	80	N/A
1,1-Dichloro- ethene	20	20	ND	20	100	N/A
Trichloroethene	17	20	ND	17	85	N/A

QA/QC SUMMARY

LABORATORY JOB 930147

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	22	25	ND	22	88	N/A
Chloro-benzene	22	25	ND	22	88	N/A
Toluene	21	25	ND	21	84	N/A
MS Benzene	18	20	ND	18	90	0
Chloro-benzene	17	20	ND	17	85	0
Toluene	17	20	ND	17	85	5.7
MSD Benzene	18	20	ND	18	90	N/A
Chloro-Benzene	17	20	ND	17	85	N/A
Toluene	18	20	ND	18	90	N/A

QA/QC SUMMARY

LABORATORY JOB 930147

EPA METHOD 7521, NICKEL
EPA METHOD 7060, ARSENIC
EPA METHOD 7421, LEAD
EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	0.049	0.050	ND	0.049	98	N/A
MS NICKEL	0.054	0.050	ND	0.054	108	5.7
MSD NICKEL	0.051	0.050	ND	0.051	102	N/A
MBS ARSENIC	0.049	0.050	ND	0.049	98	N/A
MS ARSENIC	0.055	0.050	ND	0.055	110	5.6
MSD ARSENIC	0.052	0.050	ND	0.052	104	N/A
MBS LEAD	0.022	0.025	ND	0.022	88	N/A
MS LEAD	0.020	0.025	ND	0.020	80	0
MSD LEAD	0.020	0.025	ND	0.020	80	N/A
MBS CHROMIUM	0.053	0.050	ND	0.053	106	N/A
MS CHROMIUM	0.058	0.050	ND	0.058	116	3.5
MSD CHROMIUM	0.056	0.050	ND	0.056	112	N/A



3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, **D&M Laboratories** reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (**MB**) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (**MBS**) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (**MS**) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, **MS** and **MSD**, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated **MX**, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (**MSD**), along with the **MS**, is used to monitor the precision (**RPD**) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (**RPD**) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

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SAMPLE CHAIN OF CUSTODY / WORK ORDER

RECEIVED
OZM LABORATORIES

Client's Name James E Moore - Saeto

1993 JAN 23 PM 12:12

Address

City, State, Zip

Client's or Representative's Signature Paul Dworkin / Mark Eisen

(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO. 00173-012 -044		PROJECT NAME UP Railyard				NO. OF CON-TAINERS						REMARKS	
SAMPLERS (Signature) Paul Dworran												LAB USE ONLY LAB NO.	
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION								
RB-Z	1-22	1515			SEE Smpl. # 33339 (same as)	4	X						033338
FB-3	1-22	1452				4	X						033337
TB -3	1-22	-				4	X						033338
RB-Z	1-22	1515				1		X	X	X	X		033339
MW-23	1-22	1515				4	X						033340
MW-23	1-22	1515				1		X	X	X	X		
MW-24	1-22	1402				4	X						033341
MW-24	1-22	1402				1		X	X	X	X		
MW-6	1-22	1300				4	X						033342
MW-6	1-22	1300				1		X	X	X	X		
MW-5	1-22	910				4	X						033343
MW-5	1-22	910				1		X	X	X	X		
MW-35	1-21	1715				4	X						033344
MW-35	1-21	1715				1		X	X	X	X		
MW-34	1-21	1615				4	X						033345
MW-34	1-21	1615				1		X	X	X	X		
MW-31	1-21	1505				4	X						033346
MW-31	1-21	1505				1		X	X	X	X		
MW-18	1-21	1405				4	X						033347
MW-18	1-21	1405				1		X	X	X	X		

Relinquished by: (Signature) <i>[Signature]</i>	DATE 1-22-93	TIME 1630	Received by: (Signature) <i>[Signature]</i>	General Remarks: Lab quote # 1451 dated 12/2/92
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	

10-11T. Waters

SAMPLES RECEIVED IN GOOD CONDITION
NO BROKEN OR LEAKING CONTAINERS

00 Lakeville Highway, Petaluma, CA 94952
P.O. Box 808024, Petaluma, CA, 94975-8024
Phone: (707) 763-8245 FAX: (707) 763-406

93-0147

RECEIVED
D&M LABORATORIES

1953 JAN 23 PM 12:12

Client's Name

dress

City, State, Zip

Parent's or Representative's Signature

Signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

[illegible]



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Telephone: (707) 763-8245
FAX (707) 763-4065

Mark Eisen
Dames & Moore
8801 Folsom Blvd - Suite 200
Sacramento, CA 95826

Client Code: DAMM14
Survey # UPRR
Project/Release # 00173-064-044

Page 1

LABORATORY RESULTS

Date Collected: 01/14/93
Date Analyzed: 01/19/93

Laboratory Job No.: 930095
Date Received: 01/15/93
Date Reported: 01/22/93

ASSAY: METAL SCAN BY ICP(EPA 6010)

LABNO	SMPLNO-ID	RESULTS	DET. LIM.
-----	-----	-----	-----
32983	MW-33 WATER NI	ND	CA STLC LEVEL 20 0.10 mg/L
32984	MW-30 WATER NI	ND	CA STLC LEVEL 20 0.10 mg/L
32985	MW-11 WATER NI	ND	CA STLC LEVEL 20 0.10 mg/L
32986	MW-29 WATER NI	ND	CA STLC LEVEL 20 0.10 mg/L
32987	MW-28 WATER NI	ND	CA STLC LEVEL 20 0.10 mg/L
	MB WATER NI	ND	0.10 mg/L
	MBS WATER NI	2.02 mg/L	SPIKE LEVEL 2.00 mg/L 0.10 mg/L
	MX WATER NI	ND	0.10 mg/L

Approved and Reviewed by:

Debbie Fisher

Debbie Fisher, Project Manager

LABORATORY RESULTS

Laboratory Job No.: 930095

LABNO	SMPLNO-ID	RESULTS	DET.	LIM.
-----	-----	-----	-----	-----
	MS WATER			
	NI	2.02 mg/L		0.10 mg/L
	MSD WATER			
	NI	2.00 mg/L		0.10 mg/L

ND=Not Detected

LABORATORY RESULTS

Page 3

Date Collected: 01/14/93
Date Analyzed: 01/18/93

Laboratory Job No.: 930095
Date Received: 01/15/93
Date Reported: 01/22/93

ASSAY:
LEAD (EPA 7421), 3020 ACID DIGEST
ARSENIC (EPA 7060), 3020 ACID DIGEST
CHROMIUM (EPA 7191), 3020 ACID DIGEST

MATRIX: WATER

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
32983 MW-33	PB	ND	5.0	0.006
	AS	ND	5.0	0.005
	CR	ND	560	0.005
32984 MW-30	PB	ND	5.0	0.006
	AS	ND	5.0	0.005
	CR	0.006	560	0.005
32985 MW-11	PB	ND	5.0	0.006
	AS	ND	5.0	0.005
	CR	0.047	560	0.005
32986 MW-29	PB	ND	5.0	0.006
	AS	ND	5.0	0.005
	CR	ND	560	0.005
32987 MW-28	PB	ND	5.0	0.006
	AS	ND	5.0	0.005
	CR	0.017	560	0.005

LABORATORY RESULTS

Page 4

Laboratory Job No.: 930095

LABNO	SMPLNO	COMPOUND	FOUND mg/L	DET.LIM. mg/L
MB		PB	ND	0.006
		AS	ND	0.005
		CR	ND	0.005
MBS			SPIKE LEVELS	
		PB	0.010	0.010 mg/L 0.006
		AS	0.022	0.025 mg/L 0.005
MX		CR	0.022	0.025 mg/L 0.005
		PB	ND	0.006
		AS	ND	0.005
MS		CR	ND	0.005
			SPIKE LEVELS	
		PB	0.012	0.010 mg/L 0.006
MSD		AS	0.022	0.025 mg/L 0.005
		CR	0.025	0.025 mg/L 0.005
		PB	0.012	0.010 mg/L 0.006
MSD		AS	0.022	0.025 mg/L 0.005
		CR	0.025	0.025 mg/L 0.005
		PB	0.012	0.010 mg/L 0.006

LABORATORY RESULTS

Laboratory Job No.: 930095

COMPOUNDS:	LAB#	32986	DET.	32987	DET.	32988	DET.
	SMP#	MW-29	LIM.	MW-28	LIM.	TB-1	LIM.
	dil.	1		1		1	
PURGEABLES		ug/L		ug/L		ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		1.1	0.50	13	0.50	ND	0.50
1,2-DICHLOROETHANE		3.2	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		13	0.50	22	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

LABORATORY RESULTS

Laboratory Job No.: 930095

COMPOUNDS:	LAB#	32989	DET.	DET.
	SMP#	FB-1	LIM.	MB LIM.
	dil.	1	1	
PURGEABLES		ug/L	ug/L	
BROMODICHLOROMETHANE	ND	0.50	ND	0.50
BROMOFORM	ND	0.50	ND	0.50
BROMOMETHANE	ND	1.0	ND	1.0
CARBON TETRACHLORIDE	ND	0.50	ND	0.50
CHLOROBENZENE	ND	0.50	ND	0.50
CHLOROETHANE	ND	1.0	ND	1.0
CHLOROFORM	ND	0.50	ND	0.50
CHLOROMETHANE	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50	ND	0.50
1,1-DICHLOROETHANE	ND	0.50	ND	0.50
1,2-DICHLOROETHANE	ND	0.50	ND	0.50
1,1-DICHLOROETHENE	ND	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE	ND	0.50	ND	0.50
METHYLENE CHLORIDE	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE	ND	0.50	ND	0.50
TETRACHLOROETHENE	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE	ND	0.50	ND	0.50
TRICHLOROETHENE	ND	0.50	ND	0.50
TRICHLOROFLUOROMETHANE	ND	1.0	ND	1.0
VINYL CHLORIDE	ND	1.0	ND	1.0

LABORATORY RESULTS

Date Collected: 01/14/93
Date Extracted: 01/20/93
Date Analyzed: 01/20/93

Laboratory Job No.: 930095
Date Received: 01/15/93
Date Reported: 01/22/93

ASSAY:
PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM. 1 ug/L	MX	DET. LIM. 1 ug/L	* MS	DET. LIM. 1 ug/L
PURGEABLES							
CHLOROBENZENE		25	0.50	ND	0.50	19	1.0
1,1-DICHLOROETHENE		27	0.50	ND	0.50	20	1.0
TRICHLOROETHENE		25	0.50	ND	0.50	18	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM. 1 ug/L
PURGEABLES			
CHLOROBENZENE		17	1.0
1,1-DICHLOROETHENE		19	1.0
TRICHLOROETHENE		18	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE WAS ADDED TO THE DILUTED SAMPLE.

LABORATORY RESULTS

Date Collected: 01/14/93
 Date Extracted: 01/20/93
 Date Analyzed: 01/20/93

Laboratory Job No.: 930095
 Date Received: 01/15/93
 Date Reported: 01/22/93

ASSAY:
 PURGEABLE AROMATICS IN WATER (EPA 602)

COMPOUNDS:	LAB#	32983	DET.	32984	DET.	32985	DET.	32986	DET.
	SMP#	MW-33	LIM.	MW-30	LIM.	MW-11	LIM.	MW-29	LIM.
	dil.	1		2		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	1.0	ND	0.50	ND	0.50

COMPOUNDS:	LAB#	32987	DET.	32988	DET.	32989	DET.		DET.
	SMP#	MW-28	LIM.	TB-1	LIM.	FB-1	LIM.	MB	LIM.
	dil.	1		1		1		1	
PURGEABLES		ug/L		ug/L		ug/L		ug/L	
BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
ETHYL BENZENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
TOLUENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50
XYLENE		ND	0.50	ND	0.50	ND	0.50	ND	0.50

L A B O R A T O R Y R E S U L T S

Date Collected: 01/14/93
 Date Extracted: 01/20/93
 Date Analyzed: 01/20/93

Laboratory Job No.: 930095
 Date Received: 01/15/93
 Date Reported: 01/22/93

ASSAY:
 PURGEABLES IN WATER (EPA 602)

COMPOUNDS:	LAB# SMP# dil.	MBS	DET. LIM.	MX	DET. LIM.	* MS	DET. LIM.
PURGEABLES		1	1	1	1	1	1
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
BENZENE		24	0.50	ND	0.50	19	1.0
CHLOROBENZENE		24	0.50	ND	0.50	18	1.0
TOLUENE		24	0.50	ND	0.50	19	1.0

COMPOUNDS:	LAB# SMP# dil.	* MSD	DET. LIM.
PURGEABLES		1	1
		ug/L	ug/L
BENZENE		20	1.0
CHLOROBENZENE		19	1.0
TOLUENE		19	1.0

NOTE: MBS WAS SPIKED AT 25 ug/L.

MS AND MSD WERE SPIKED AT 20 ug/L.

* SPIKE WAS ADDED TO THE DILUTED SAMPLE.



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The Matrix Spike Duplicate (MSD), along with the MS, is used to monitor the precision (RPD) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.

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P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245 Fax: (707) 763-4065

SAMPLE CHAIN OF CUSTODY / WORK ORDER

Client's Name Dames & Moore - ~~Sacto~~ Sacramento Phone Eisen

Address _____
City, State, Zip _____

Client's or Representative's Signature Paul Allen
(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

[illegible]

QA/QC SUMMARY

LABORATORY JOB 930095

EPA METHOD 6010, NICKEL
EPA METHOD 7060, ARSENIC
EPA METHOD 7421, LEAD
EPA METHOD 7191, CHROMIUM

I.D.	RESULTS (MG/L)	SPIKE AMOUNT (MG/L)	AMOUNT IN SAMPLE (MG/L)	AMOUNT RECOV. (MG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS NICKEL	2.02	2.00	ND	2.02	101	N/A
MS NICKEL	2.02	2.00	ND	2.02	101	1.0
MSD NICKEL	2.00	2.00	ND	2.00	100	N/A
MBS ARSENIC	0.022	0.025	ND	0.022	88	N/A
MS ARSENIC	0.022	0.025	ND	0.022	88	0
MSD ARSENIC	0.022	0.025	ND	0.022	88	N/A
MBS LEAD	0.010	0.010	ND	0.010	100	N/A
MS LEAD	0.012	0.010	ND	0.012	120	0
MSD LEAD	0.012	0.010	ND	0.012	120	N/A
MBS CHROMIUM	0.022	0.025	ND	0.022	88	N/A
MS CHROMIUM	0.025	0.025	ND	0.025	100	0
MSD CHROMIUM	0.025	0.025	ND	0.025	100	N/A

QA/QC SUMMARY

LABORATORY JOB 930095

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Chlorobenzene	25.3	25	ND	25.3	101	N/A
1,1-Dichloro- ethene	26.6	25	ND	26.6	106	N/A
Trichloroethene	25.4	25	ND	25.4	102	N/A
MS Chlorobenzene	19.1	20	ND	19.1	95	11
1,1-Dichloro- ethene	20.2	20	ND	20.2	101	4.6
Trichloroethene	17.7	20	ND	17.7	88	3.3
MSD Chlorobenzene	17.2	20	ND	17.2	86	N/A
1,1-Dichloro- ethene	19.3	20	ND	19.3	96	N/A
Trichloroethene	18.3	20	ND	18.3	91	N/A

QA/QC SUMMARY

LABORATORY JOB 930095

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MBS Benzene	24.0	25	ND	24.0	96	N/A
Chloro-benzene	24.2	25	ND	24.2	96	N/A
Toluene	24.1	25	ND	24.1	96	N/A
MS Benzene	18.8	20	ND	18.8	94	5.2
Chloro-benzene	18.2	20	ND	18.2	91	5.3
Toluene	18.6	20	ND	18.6	93	3.2
MSD Benzene	19.8	20	ND	19.8	99	N/A
Chloro-Benzene	19.2	20	ND	19.2	96	N/A
Toluene	19.2	20	ND	19.2	97	N/A



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Client Code: DAMM14
Survey #
UPRR-SACRAMENTO
Project/Release # 00173-072-044

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LABORATORY RESULTS

Date Collected: 12/30/92
Date Analyzed: 12/31/92

Laboratory Job No.: 923712
Date Received: 12/31/92
Date Reported: 01/04/93

ASSAY:
PURGEABLES IN WATER (EPA 601)

COMPOUNDS:	LAB#	32191	DET.		DET.
	SMP#	PURGE H2O	LIM.	MB	LIM.
	dil.		1	1	
PURGEABLES			ug/L		ug/L
BROMODICHLOROMETHANE		ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	ND	0.50
CHLOROETHANE		ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	ND	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50

Approved and Reviewed by:

Debbie Fisher

Debbie Fisher, Project Manager

LABORATORY RESULTS

Laboratory Job No.: 923712

COMPOUNDS:	LAB# SMP# dil.	32191 PURGE H2O	DET. LIM.	DET. LIM.
		1 ug/L	1 ug/L	
PURGEABLES				
METHYLENE CHLORIDE		ND	1.0	ND 1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND 0.50
TETRACHLOROETHENE		ND	0.50	ND 0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND 0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND 0.50
TRICHLOROETHENE		ND	0.50	ND 0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND 1.0
VINYL CHLORIDE		ND	1.0	ND 1.0

LABORATORY RESULTS

Laboratory Job No.: 923712

COMPOUNDS:	LAB# SMP# dil.	MX	DET. LIM.	MS	DET. LIM.	MSD	DET. LIM.
PURGEABLES		1 ug/L		1 ug/L		1 ug/L	
BROMODICHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
BROMOFORM		ND	0.50	ND	0.50	ND	0.50
BROMOMETHANE		ND	1.0	ND	1.0	ND	1.0
CARBON TETRACHLORIDE		ND	0.50	ND	0.50	ND	0.50
CHLOROBENZENE		ND	0.50	22	0.50	23	0.50
CHLOROETHANE		ND	1.0	ND	1.0	ND	1.0
CHLOROFORM		ND	0.50	ND	0.50	ND	0.50
CHLOROMETHANE		ND	1.0	ND	1.0	ND	1.0
DIBROMOCHLOROMETHANE		ND	0.50	ND	0.50	ND	0.50
1,4-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,3-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROBENZENE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1-DICHLOROETHENE		ND	0.50	26	0.50	22	0.50
1,2-DICHLOROETHENE (TOTAL)		ND	0.50	ND	0.50	ND	0.50
1,2-DICHLOROPROPANE		ND	0.50	ND	0.50	ND	0.50
CIS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
TRANS-1,3-DICHLOROPROPENE		ND	0.50	ND	0.50	ND	0.50
METHYLENE CHLORIDE		ND	1.0	ND	1.0	ND	1.0
1,1,2,2-TETRACHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TETRACHLOROETHENE		ND	0.50	ND	0.50	ND	0.50
1,1,1-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
1,1,2-TRICHLOROETHANE		ND	0.50	ND	0.50	ND	0.50
TRICHLOROETHENE		ND	0.50	27	0.50	25	0.50
TRICHLOROFLUOROMETHANE		ND	1.0	ND	1.0	ND	1.0
VINYL CHLORIDE		ND	1.0	ND	1.0	ND	1.0

NOTES: (1) MBS, MS AND MSD WERE SPIKED AT 20 ug/L WITH 1,1-DICHLOROETHENE, TRICHLOROETHENE AND CHLOROBENZENE.

(2) IDENTIFICATION OF COMPOUNDS WAS CONFIRMED BY GC/MS.

LABORATORY RESULTS

Date Collected: 12/30/92
Date Analyzed: 12/31/92

Laboratory Job No.: 923712
Date Received: 12/31/92
Date Reported: 01/04/93

ASSAY: EPA 5030/602
MATRIX: LIQUID

LABNO SMPLNO-ID	RESULTS mg/L	DET. LIM. mg/L
32191 PURGE H2O		
BENZENE	ND	0.0005
TOLUENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
XYLENES	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
MB		
BENZENE	ND	0.0005
TOLUENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
XYLENES	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
MX		
BENZENE	ND	0.0005
TOLUENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
XYLENES	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005

LABORATORY RESULTS

Laboratory Job No.: 923712

ASSAY: EPA 5030/602

MATRIX: LIQUID

LABNO SMPLNO-ID	RESULTS mg/L	DET. LIM. mg/L
-----	-----	-----
MS		
BENZENE	0.022	0.0005
TOLUENE	0.023	0.0005
ETHYLBENZENE	ND	0.0005
XYLENES	ND	0.0005
CHLOROBENZENE	0.022	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
MSD		
BENZENE	0.022	0.0005
TOLUENE	0.023	0.0005
ETHYLBENZENE	ND	0.0005
XYLENES	ND	0.0005
CHLOROBENZENE	0.023	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005

NOTE: MBS, MS AND MSD WERE SPIKED AT 0.020 mg/L.

QA/QC SUMMARY

LABORATORY JOB 923712

EPA METHOD 602

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MS Benzene	0.022	0.020	ND	0.022	110	0
Chloro-Benzene	0.022	0.020	ND	0.022	110	4.4
Toluene	0.023	0.020	ND	0.023	115	0
MSD Benzene	0.022	0.020	ND	0.022	110	N/A
Chloro-Benzene	0.023	0.020	ND	0.023	115	N/A
Toluene	0.023	0.020	ND	0.023	115	N/A

QA/QC SUMMARY

LABORATORY JOB 923712

EPA METHOD 601

I.D.	RESULTS (UG/L)	SPIKE AMOUNT (UG/L)	AMOUNT IN SAMPLE (UG/L)	AMOUNT RECOV. (UG/L)	PERCENT RECOVERY	PERCENT R.P.D.
MS Chlorobenzene	22	20	ND	22	110	4.4
1,1-Dichloro- ethene	26	20	ND	26	130	16.7
Trichloroethene	27	20	ND	27	135	7.7
MSD Chlorobenzene	23	20	ND	23	115	N/A
1,1-Dichloro- ethene	22	20	ND	22	110	N/A
Trichloroethene	25	20	ND	25	125	N/A



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QUALITY CONTROL REPORT

In order to provide you with the means of assessing the quality of the data in our report, D&M Laboratories reports the results of Quality Control samples analyzed with your samples.

The Quality Control samples provide the following QC information:

The Method Blank (MB) monitors the level of contamination introduced by reagents or glassware. A minimum of one MB is run per batch of 20 samples or less.

The Method Blank Spike (MBS) measures the accuracy of analytical techniques and is not subject to matrix effects. A minimum of one MBS is run per batch of 20 samples or less.

The Matrix Spike (MS) measures the accuracy of the method for a matrix type. Due to the high variability within matrix types and the necessity of batching samples from varied sources, matrix spike information from one sample is not necessarily relevant to other samples on the batch. A minimum of two matrix spikes, MS and MSD, are run per batch of 20 samples or less. The sample selected for the matrix spike is designated MX, and may or may not have been submitted by the recipient of this report.

The Matrix Spike Duplicate (MSD), along with the MS, is used to monitor the precision (RPD) of the method and to indicate possible non homogeneity of the sample matrix.

Equations used for determining percent recovery and relative percent difference (RPD) are as follows:

$$\text{MBS \% Recovery} = (\text{MBS result} / \text{MBS spike level}) \times 100$$

$$\text{MS \% Recovery} = [(\text{MS result} - \text{MX result}) / \text{MS spike level}] \times 100$$

$$\text{RPD} = \{ | \text{MS result} - \text{MSD result} | / [(\text{MS result} + \text{MSD result}) / 2] \} \times 100$$

We continue to strive to improve the quality of service to our clients. We welcome any questions or comments you may have about this information, or about D&M Laboratories in general. Please contact a Project Manager for further information.



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RUSH 92-3712

RECEIVED

DEC 1 1992

RECEIVED

DEC 1 1992

SAMPLE CHAIN OF CUSTODY / WORK ORDER 59

DEC 1 1992

Phone (916) 387-8800

Client's Name DAMES & MOORE

Address 8801 FOLSOM BLVD #200

City, State, Zip SACRAMENTO CA 95826

Client's or Representative's Signature [Signature]

(signature authorizes the work and terms listed below)

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pick up samples.

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS		LAB USE ONLY LAB NO.		
00173-072-044		L0022 - SACRAMENTO								
SAMPLERS (Signature)		STATION LOCATION								
STA. NO.	DATE	TIME	COMP	GRAB						
OCT 92 RIDGE Hg.	12/30	16:00		X	OCT 92 RIDGE WATG	4	X			032191
										032192
										032193
										032194
										032195
										032196
RUSH 24 hr. DR.										
SAMPLES RECEIVED IN GOOD CONDITION NO BROKEN OR LEAKING CONTAINERS										
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		General Remarks:				
<u>[Signature]</u>		12/30/92	17:00	<u>[Signature]</u>		SEND RESULTS TO SAC				
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		OFFICE ATTN: MARK EISEN				
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)						

FED XP (4 VOA H2O)